

**Proceeding book of :**



# ICMEM IBS 2017

International Conference on Management in Emerging Market  
International Conference on Innovation in Business and Strategy

**“TOWARD SUSTAINABLE AND ENTREPRENEURIAL  
BUSINESS ECOSYSTEM FOR INCLUSIVE GROWTH  
AND INNOVATION IN EMERGING MARKETS”**

**Nusa dua, Bali  
26 - 28 July 2017**

**Editors:**

**R.A.Nasution, M.S.Purwanegara, S.Novani, S.Rustiadi**

**Penerbit Consultancy and Continuing Education SBM ITB**

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Proceeding of the International Conference on Management in Emerging Economies and International Conference on Innovation in Business and Strategy 2017 “Toward Sustainable and Entrepreneurial Business Ecosystem for Inclusive Growth and Innovation in Emerging Markets”

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## PREFACE

Welcome to join us in 2<sup>nd</sup> International Conference on Management in Emerging Markets and International Conference on Innovation in Business and Strategy (2<sup>nd</sup> ICMEM-ICIBS) in Bali on July 2017. This ICMEM-ICIBS 2017 will focus on "Toward Sustainable and Inclusive Entrepreneurial Business Ecosystem for Growth and Innovation in Emerging Markets". This occasion also marked a historic moment for the international collaboration to organize joint conference between School of Business and Management Institut Teknologi Bandung (ITB) and Universiti Teknologi Malaysia (UTM) International Business School.

It is very important to discuss this issue, since 2017 is very specific to the world economy, many system changes and the world economic order that would happen, will have broad impact for the world economy.

System and trade order that has been running will undergo massive overhaul. Technology will continue to drive spending. Financial services in emerging markets will expand their reach nicely, aided by technological innovations. A number of positive developments will animate global finance in 2017. This conference not only serves as a platform towards formation of new partnership between business entities and academicians but also enhances existing alliances. It is our aspiration that participants will benefit through sharing of expertise, engaging in fruitful discussions and expanding their networks.

In addition, there were parallel sessions of oral presentation and poster presentation which explores more than 261 research results that were divided into several tracks, namely: (1) Accounting; (2) Agriculture Supply Chain; (3) Cooperative Ecosystem for Inclusive Growth; (4) Corporate Entrepreneurship Strategy; (5) Creative Industries Dynamics and Challenge; (6) Creative and Innovation; (7) Digital Innovativeness for Business; (8) Digital Transformation in Emerging Markets; (9) Economic and Farmer Rural Development; (10) Financial Literation and Inclusion; (11) Halal Supply Chain; (12) Hospital Operation Management; (13) Inclusive Ecosystem Business; (14) Internationalization from and to Emerging Markets; (15) Investment and Financial Risk Management; (16) Islamic Banking and Finance; (17) Management of Innovation; (18) Marketing Theory and Practices for Emerging Market; (19) Modeling and Simulation for Business Decision; (20) New Product Development; (21) Public Policies and Regulations in Creative Industries and Clusters; (22) Redefining Company Strategy for Emerging Market; (23) Service Ecosystem on Business Innovation; (24) Social Interaction; (25) Strategic Operation Management; (26) SME's Entrepreneurship as an Innovation Driver; and (27) The e-Marketing Role in Emerging Market and Entrepreneurship.

In the end we also gratitude to the support of sponsors, organizing committee, steering committee, participants, and all parts for their contributions in the successful completion of ICMEM-ICIBS 2017 and in this Proceedings. Hopefully, our cooperation can be developed in the future to bring a better academic and business environment and beneficial to business, government, and society.



Sincerely,

Conference Chair of ICMEM-ICIBS 2017



Prof. Sudarso Kaderi Wiryono  
Dean of School of Business and Management  
Institut Teknologi Bandung



Prof. Dr. Wan Khairuzzaman Wan  
Dean of International Business School  
University Teknologi Malaya

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# **INNOVATION DRIVEN ENTERPRISE, SUSTAINABLE BUSINESS AND FIRM FINANCIAL PERFORMANCE**

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## **ABSTRACT**

Innovation should be followed by profitable commercialization to have a sustainable business. Teece (1986) identified that it is often not the innovator who introduces a new process, product, or service, who profits most from an innovation, but suppliers, cooperators, customers and competitors. In emerging market especially in Indonesia, it is challenging to do innovation due to the lack of infrastructure. This paper explores innovation driven enterprises relationship with firm financial performance measures by firm profitability. To identify the innovation driven enterprise-financing capabilities and innovation, we used company age, R&D expense, sales, sales growth, debt ratio and retained earnings as independent variable. Firm profitability performance measure by return on asset (ROA). R&D expenses of innovation driven enterprise has a positive correlation with firm financial performance. Sales and retained earnings have a positive correlation with R&D expense. However, company age, debt ratio and sales growth has a weak negative correlation with corporate innovation activities. Retained earnings have a positive correlation and the biggest determinant firm profitability. It is shown that innovation driven enterprise in Indonesia financing their innovation with retained earnings (internal financing) not debt (external financing).

**Keyword:** Innovation, sustainable business, financial performance, R&D expense

# ANALYSIS OF FINANCIAL STATEMENT AND BUSINESS ENVIRONMENT TO IMPROVE BANK PROFITABILITY (A CASE AT BPR TR)

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## EXTENDED ABSTRACT

This study analyzes the financial statements and business environment of banks, especially in rural bank to be able to increase their profitability. BPR TR has been operating for 45 years in Bandung, but in the last six years showed a decline in profitability. In this study using two methods of data collection: primary data with interviews and secondary data by obtaining financial statement data on OJK official website and study literature. The data is processed to determine the cause of the decline in profitability and ways to boost profitability. The analysis is divided into two: external environmental analysis with PESTEL and Porter's Five Forces and internal environment analysis by finding out strength, weakness and analysis ratio of financial statements. Further analysis is conducted on financial data with weighted average cost of fund, analysis idle funds, and common size method. Based on that analysis, that resulted three recommendations. First, companies need to release larger credits because the company has a large idle fund (17% -59%), lower the cost of funds by replacing the proportion 10% of savings deposits and 90% of time deposits. Then the last recommendation is to conduct an analysis of employee expense. This recommendation will focus on the next five years.

**Keywords:** *profitability, cost of funds, idle funds*

## INTRODUCTION

The banking industry is a very common and close to daily life. And banking facilities can give many benefits to society. Opportunities of the banking industry, especially rural bank is very large, considering there are still many Indonesian society who do not understand about banking industry. This paper performs an analysis focusing on a rural bank called BPR TR located in Bandung. BPR TR has been operating for 45 years and has an office centered in the center of Bandung. The analysis focuses on the profitability of BPR TR, because according to the last six-years data from 2011 to 2016, BPR TR has decreased profit. This is inversely related to similar industry data. Based on the last six-years data obtained from the Bank Indonesia official web, shows that rural banks in West Java have increased from total assets, third party funds and funds disbursement. This indirectly shows that rural banks in West Java have increased.

To prove the decline in profitability is calculated on the five profitability ratios of ROA, ROE, BOPO, Net Profit Margin, and Gross Profit Margin. Based on the five profitability ratios show decrease from year to year. Therefore, this study aims to improve the profitability of BPR TR.

To be able to provide recommendations on the management of BPR TR required a good method. In this paper the analytical method used is divided into two parts: the analysis on the external business environment by doing PESTEL Analysis and Porter's Five Forces Analysis. While the analysis on the internal business environment with the analysis of strength and weakness of BPR TR and analysis of financial statements. For the analysis of financial statements use profitability ratios as a tool to measure the level of profitability of the company. The whole method above is done to know BPR TR SWOT Analysis. To know what strengths the company has, the weakness of the company, the opportunities that exist in the market, and the threats faced by the company.

After that is done a more in-depth analysis of the financial statements of BPR TR by performing cost of fund calculations by weighted average cost of fund method, and analysis of the number of idle funds owned by the company. From that method, can be given recommendation to improve profitability of BPR TR.

Based on the analysis, BPR TR has strong experience in banking business especially in rural bank, because it has been operating for 45 years in Bandung, besides BPR TR has high deposit interest rate compared to other randomly selected rural bank. But the weakness of BPR TR is less than optimal marketing activities. On the other hand, the opportunity to develop for rural banks is very large, because there are still many people who have not been understand by the banking industry, especially for MSMEs that become target market rural banks. But the rural bank itself has many rivals where rivals come from other rural banks and from non-rural banks that start serving credit to MSMEs. In addition, the development of rural banks is closely related to the state of the economy conditions, so that if economic conditions decline then the development of rural banks will decrease.

From the financial side, based on the calculation of profitability ratios known that there is a decrease in profitability of BPR TR in the last six years. In addition, from the cost of fund calculation results, it is known that BPR TR has cost of funds of 6.797% up to 6.9% in the last six years. While the result of the calculation of the idle fund amount, it is generated that the company has idle funds of 17.26% up to 59.41% in the last six years. And based on analysis of common size financial report

note that biggest cost after interest expense is administrative and general expense. Where administrative and general expenses contain costs associated with employees such as salaries, benefits, bonuses, etc.

## LITERATURE REVIEW

Financial statement analysis, K.R. Subramanyam and John J. Wild (2009:14) is a collection of analytical process that are part of business analysis. These separate processes share a common bond in that they all use financial statement information, to varying degrees, for analysis purposes. While financial statement does contain information on a company's business plan, analysis of a company's business environment and strategy is sometimes viewed outside of conventional financial statement analysis. Therefore, financial statement analysis should be, and is viewed as an important and integral part of business analysis and all of its component analysis.

Based on the theory of K.R. Subramanyam and John J. Wild show that financial statement analysis is an important process of business analysis because it contains information about business plans, and business strategy. James C. Van Horne in Kasmir (2013), ratio is an index that connects two accounting numbers and is obtained by dividing one number with another number. Financial ratios are used to evaluate the company's financial condition and performance. From the results of this financial ratio will be seen the health condition of the company concerned.

Generally, there are several ways to increase a company profits, its increase sales and reduce costs. Increase sales can do with two ways that by increasing the quantity of sales or enables high product prices. And costs can be reduced by doing the efficiency of operational activities, reduce activity or process that can lead to charges or even sell or terminate the process that raises costs but does not add value to the company. This general step is expected can increase company profits.

## METHODOLOGY

In general, this paper discusses the case business where the purpose of this paper is to provide solutions to help corporate management, which in this case is BPR TR to be able to solve their business problems. BPR TR has problems on profitability. So, the main focus in this paper is the financial problem of BPR TR.

In this paper the data used comes from the primary data, obtained by interviews to one of the commissioners of BPR TR and observations made on the location of the office, the condition of the BPR TR office, and the condition of the BPR in general in Bandung. From the results of this interview the author did not get much data especially financial data. The data obtained only some supporting data. This happens because the source asks the author to use data that already exists in public only. Given that banking data is confidential and customer data is protected by law. The result of observation on BPR TR and other BPR in Bandung can be input for the researcher in doing analysis on this paper. The second data collection method is with secondary data. Secondary data is obtained from various sources such as the internet and regulation. For financial report data obtained from OJK official website. Banking financial statements are easy to obtain due to the regulation that all banks should publish their financial statements on OJK and also BI official web.

In processing the data researcher using the formula based on existing theory. In the company's external environmental analysis, the researcher uses data from observations and other secondary data to be able to perform analysis on the company's external environment. The analysis of the company's external scope, carried out by the method described in Thomas L. Wheelen and J. David Hunger (2010: 147) and Gregory G. Dess, G.T. Lumpkin, Alan B. Eisner 2006: 51 is PESTEL (politic, economic, socio-cultural, technology, environmental, and legal). The second method is with Porter's five forces described in a book written by Thomas L. Wheelen & J. David Hunger (2012: 158) ie bargaining power of supplier, bargaining power of customer, threat of new entrants, rivalry among existing firms, and threat of substitute product or services. Both of these methods look at different perspectives, where PESTEL sees from the corporate environment point of view while Porter's Five Forces looks at the subjects relating to the company. Both of these methods can complement each other resulting in complex analysis.

As for internal analysis, data obtained from interviews, and calculation of financial data based on existing theory. To measure company profitability level, profitability ratio based on theory from Lawrence J. Gitman and Chad J. Zutter (2015: 130). Based on the results of the analysis, it can be summarized in SWOT Analysis. SWOT Analysis describes the company's factors in terms of strength, weakness, opportunity and threat, this analysis will help management to determine the company's strategy. And for further analysis is calculated based on weighted average cost of fund method based on the theory of Taswan's book (2013:46), and the analysis of idle funds based on the theory of Herman Darmawi's book (2014: 43). Other data that are very helpful in conducting the analysis are banking laws, regulations issued by Bank Indonesia and *Otoritas Jasa Keuangan*. The banking industry is closely related to the laws and regulations of Bank Indonesia and the *Otoritas Jasa Keuangan*.

## FINDINGS AND ARGUMENT



As described in the previous sub chapter, the analysis is divided into two: external analysis with PESTEL and Porter's Five Forces and internal analysis with strength and weakness analysis and financial statement analysis. Based on the analysis can be concluded with SWOT analysis as follows:

**Figure 1. SWOT Analysis**

*Reference: Katherina Sularko - May 2017*

From the SWOT analysis in Figure 1 it is known that the strength of BPR TR comes from experience in undergoing rural bank operational activities, high dedication of employees, and BPR TR offers higher deposit rates when compared to the other two randomly selected rural bank in Bandung. But the other side of the BPR TR has weaknesses are high cost of funds and lack of marketing activities. And threats and opportunities also exist in the BPR TR. To deal with the following strategies that suggest to the management of BPR TR:

- SO Strategy: With all the BPR TR's strength, they should do a research to find the saving and loan needs customer especially Bandung society
- ST Strategy: Embrace emotionally with customers (give empathy) so that BPR TR can compete with other competitors.
- WO Strategy: Do marketing training to the employees and do collaboration with other company to communicate BPR TR brand.
- WT Strategy: Do recalculation and improve company efficiency so that can reduce cost of fund and compete with

Strength	Weakness	Opportunity	Threat
<ul style="list-style-type: none"> <li>• BPR TR had the high deposit interest rate</li> <li>• BPR TR directors and employees have a high integrity</li> <li>• BPR TR has much experience in running the rural bank</li> </ul>	<ul style="list-style-type: none"> <li>• BPR TR has a high cost of fund</li> <li>• Lack of marketing activities</li> </ul>	<ul style="list-style-type: none"> <li>• High demand for MSMEs loans</li> <li>• Substantial government support for banking industry</li> </ul>	<ul style="list-style-type: none"> <li>• Highly competitive market from other rural banks and conventional banks.</li> <li>• Instability of the economy conditions affects banking industry development</li> </ul>

other competitors.

Strategy above should be done sequentially and continuously. The first thing that can be done by BPR TR is to conduct research on the need of the customer. After that do marketing training to marketing division employees and do cooperation with other companies to introduce the brand to the customer so as to increase sales. The third step is to make efficiency on the cost that will be calculated further below. And the last step is to always get closer to the customer, so that customers become loyal to BPR TR.

The weighted average cost of fund calculation resulted in the highest amount of 6.9% in 2011 and the lowest amount of 6.797% in 2014. To reduce this cost of fund, the researcher provides a target of 6.791% in the next six years. This can be done by replacing the deposit saving proportion by 10% and the time deposit by 90% of the total third-party funds. From the calculation of idle fund found that BPR TR less optimal in lending, so there are still many idle funds. The highest idle funds occurred in 2016 of 59.41% and the lowest occurred in 2015 of 17.26%. This idle funds should be utilized by channeling to customers in the form of loans so as to provide additional revenue. The third finding is the high administrative and general expense. The highest administrative and general expense occurred in 2016 of 51.85% and the lowest occurred in 2011 of 37.30%. Administrative and general expense is the second largest cost after interest expense. In this post consists of costs to employees such as salaries, benefits, bonuses, etc.

By implementing the above solutions, increasing sales, and cost efficiency, the researcher re-calculates the profitability ratio. From the results of the calculation found that the level of profitability of BPR TR will increase in the next five years.

## CONCLUSIONS

Based on the analysis that has been done, found that the profitability of BPR TR declined in the last six years. Therefore, analysis of internal and external factors to know the business environment of BPR TR. In addition, the calculation using financial report data. From the analysis, there are three main recommendations for BPR TR. The first recommendation is to increase sales by optimally marketing activities, with a target of increasing sales by 3% per year to suppress idle funds. The second recommendation is to reduce the cost of fund by 6.791% with the proportion of 10% saving-deposit and 90% time-deposit at the end of the fifth year, by conducting marketing activities to attract customers to saving deposit. The last recommendation is to conduct an analysis of employee performance in order to provide bonus in accordance with its performance. With these recommendations, the profitability of BPR TR can increase up to five years. Here is the implementation plan in more detail:

	2017	2018	2019	2020	2021
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	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Do Marketing Activity - Increase Funds to Credit																				
Do Marketing Activity - Increase Saving Deposit Composition																				
Analyze Employee Performance																				
Analyze Employee Job Description																				

Figure 2. Implementation Plan  
Reference: Katherina Sularko - May 2017

The above figure describes the implementation plan in the next five years, each year divided into 4 quarters. To increase funds channeled into increase income and increase saving deposit composition (decrease cost of funds) can be done with optimal marketing activities. And to suppress administrative and general expense can be done with employee job description analysis at the beginning of the year and analyze employee performance at the end of each year. By doing the above recommendations, it can improve the profitability of BPR TR in the next five years.

By offering recommendations that have been given, projected the level of profitability of BPR TR will increase. This is shown by the increase in profitability ratios, as follows:

**Table 1. Projected Profitability Ratio**

	2016	2017	2018	2019	2020	2021
<b>ROA</b>	0.86	0.95	1.42	1.92	2.45	2.81
<b>BOPO</b>	88.77	88.11	84.09	80.31	76.76	75.12
<b>ROE</b>	4.6	5.40	7.53	9.61	11.86	13.18
<b>Net profit margin</b>	8.43	10.01	14.09	17.91	21.49	23.17
<b>Gross profit margin</b>	11.22	11.89	15.91	19.69	23.24	24.88

Reference: Katherina Sularko - May 2017

From the calculation of projected profitability ratio above, it is known that the profitability of BPR TR increases every year. From the last year 2016, then increased in the next five years (2017 to 2021). Where ROA, ROE, net profit margin, and gross profit margin increase, and BOPO decreases. BOPO shows that operating costs are decreasing against operating income, and other ratios indicate that the profitability of BPR TR increases.

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## CORPORATE DEBT RESTRUCTURING OF PT BAKRIE SUMATERA PLANTATIONS

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### EXTENDED ABSTRACT

PT Bakrie Sumatera Plantations (BSP) an Indonesia-based company engaged in agribusiness and related services. Since 2012, BSP never record a net profit due to its high interest costs and the decreasing average selling prices of their products. As of 2016, BSP's interest costs amounted of IDR 859 billion, which accounted for 55% of its revenue. In 2017, BSP will have the maturity gap of IDR 9.09 trillion, non-payment of this matured obligations could lead BSP to an event of default, and the creditors may file for bankruptcy proceedings. This research aims to help BSP to solve their financial distress and avoid bankruptcy risk through debt restructuring. The alternative solutions to solve this problem are debt rescheduling, debt for equity swap, debt for assets swap, and refinancing. From the pro forma of financial statement, debt equity swap with the proportion of 93.5% of debt from Credit Suisse, Verdant Capital, and Equity-linked redeemable notes converted into equity, gives the best result for the company. After the debt for equity swap process, the financial condition of the company expected to improve which described by "safe zone" Altman Z"-Score in 2017.

**Keywords:** : bankruptcy, debt restructuring, debt for equity swap, financial distress

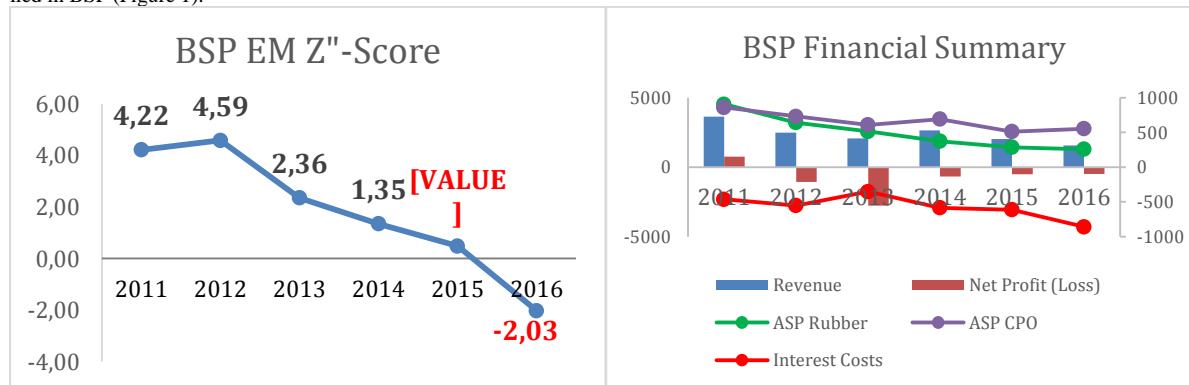
### INTRODUCTION

This paper performs an analysis regarding the financial condition of PT Bakrie Sumatera Plantations Tbk (BSP), an Indonesia-based company engaged in agribusiness and related services. The analysis focuses on the ability of the company to meet their obligations because based on BSP Maturity Gap Profile 2016 (Table 1), in 2017 BSP will have the deficit of IDR 9.09 trillion between their financial assets and liabilities. BSP also received a notice letter from Credit Suisse which required the company to settle the unpaid principal and interest, and BSP already experienced an event of default due to non-payment of interest of equity-linked notes since 2014. BSP need to fulfill their obligations, non-payment of this matured obligations could lead BSP to an event of default, and the creditors may file for bankruptcy proceedings.

**Table 1. BSP Financial Instruments Profile**

BSP Financial Instruments Profile 2016					
In Billion Rupiah	Up to 3 Months	Between 3 and 12 months	Between 1 and 2 years	More than 2 years	Total
Total Financial Assets	1,141.13	1.24	3,422.22	102.93	4,667.51
Total Financial Liabilities	9,019.85	1,208.89	863.24	2,255.63	13,347.60
Financial Deficit	(7,878.71)	(1,207.65)	2,558.98	(2,152.70)	(8,680.09)

The lower average selling prices of BSP products combined with high interest cost lead to decreasing revenue and net income. BSP consecutively record net loss in the last 5 years. As of 2016, BSP interest costs totaled IDR 859 billion which amounted 55% of their total revenue. The continuous loss also affects the BSP capital structure, as of 2016 BSP debt to equity ratio is 11.27, implied a high financial risk lied in BSP (Figure 1).



**Figure 1. BSP Altman Z"-Score and Financial Summary**

The research scope limited to BSP as the parent company of its subsidiaries. It will conduct based on publicly available financial data, particularly in the period of 2011 – 2016. The pro forma financial statement would be projected up to 2023, based on assumptions and historical data, and assumed there is no extraordinary events happens in the future that may affect the operations of BSP. The debt restructuring process would be depends on the creditor and shareholder decision, thus scenario analysis would be provided to find the optimal solution for BSP based on the ability to yield positive net income and cash flow. And this research focus to solve the financial problem faced by BSP.

## LITERATURE REVIEW

Altman Z-Score (Altman, 2000) is a formula used to predict the probability of a company who facing financial distress will go into bankruptcy within two years. This formula originally developed based on a small sample of manufacturing firms. Altman selected five variable that classified into five standard ratio categories: liquidity, profitability, leverage, solvency, and activity. Ratios that doing the best overall job together in the prediction of corporate bankruptcy then would systematically weighted as the Z-score formula. In 2000, Altman revised the formula and adapting the model for non-manufacturers company and emerging market. The model analyzed the characteristics and accuracy of a company without X5 – Sales/Total Assets. Altman try to minimize the potential industry effect which is more likely to take place when such an industry-sensitive variable as asset turnover is included.

$$\text{Altman EM Z'' - Score} = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

where:

$X_1$  = Working Capital/Total Assets

$X_2$ , Retained Earnings/Total Assets

$X_3$ , EBIT/Total Assets

$X_4$ , Market Value of Equity/Book Value of Total Liabilities

The interpretations of Z''-Score and EM Z''-Score are:

$Z'' > 2.6$  – “Safe” Zone, the company is considered safe based on the financial figures only.

$1.1 < Z'' < 2.6$  – “Gray” Zone. Caution should be taken for the company. There is a good chance the company going bankrupt within two years.

$Z'' < 1.1$  – “Distress” Zone. The company probably headed for bankruptcy.

## METHODOLOGY

This paper discusses a business case study of financial distress faced by BSP and analyze the root cause of this problem and further provide the optimal solutions for BSP to help them solve this business problems. In this paper, the data mostly acquired from BSP annual reports and public expose. The other data acquired from various sources that publicly available. The research conducted from analyze the external condition of plantations industry using the PESTEL (Gupta, 2013) and Porter’s five forces (Porter, 2008) analysis, and continue to analyze the internal condition of BSP using the financial ratio analysis, common-size analysis, risk analysis, corporate governance, and Altman Z''-Score (Altman, 2000). From those analyses, the root cause of the financial distress was obtained. Further, pro forma of financial statement is presented to gives the overview about the prospect of BSP.

## FINDINGS AND ARGUMENT

From the external and internal analyses, root cause of financial distress faced by BSP is described in fish bone diagram (Figure 2).

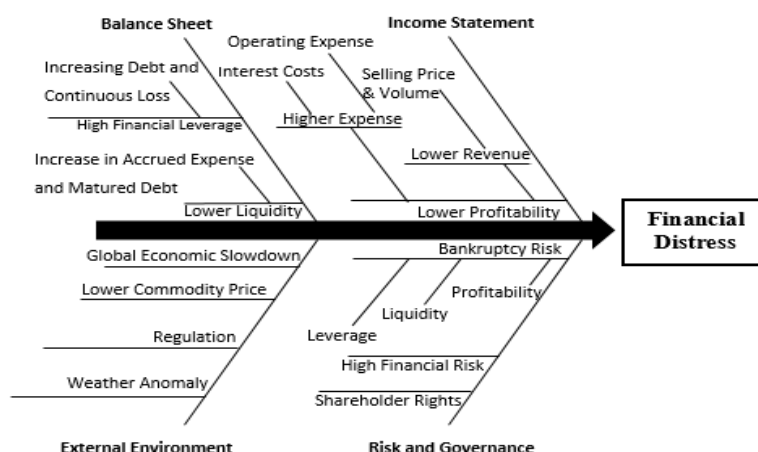


Figure 2. BSP Fish Bone Diagram

From the fish bone diagrams, the cause of BSP financial distress comes from lower average selling price of BSP products, higher interest costs, increasing matured debt, continuous loss, weather anomaly, and adverse regulation for the company.

In this research, the solution would focus to resolve BSP financial distress that could lead BSP to bankruptcy. To solve this issue. The alternative solutions that provided to solve this issue are Debt Rescheduling, Debt for Equity Swap (DES), Debt for Asset Swap (DAS), and Refinancing. Through debt restructuring process, BSP expected to reduce or extend their debt so they can improve their performance and

avoids bankruptcy. Table 2 presented the alternatives solution and their impact on BSP financial performance. Optimal solution had chosen based on those criteria provided on Table 2.

**Table 2. Alternatives Solutions and Impact on BSP Financial Performance**

Alternatives Solutions	Impact on BSP Financial Performance					
	Net Income	Cash flow	Altman Z''-Score	ROA	ROE	Cash at end of year
Debt Rescheduling	Negative (2017 – 2020), Positive 2021 Onwards	Positive in 2017, Negative in 2018 onwards	Distress	-0.57%	-6.69%	Positive in 2017, Negative in 2018 onwards
50% Debt for Equity Swap	Positive	Negative in 2017, 2018, 2020.	Distress	1.32%	2.79%	Negative
75% Debt for Equity Swap	Positive	Negative in 2017 & 2020	Grey	2.04%	3.56%	Negative until 2022
93.5% Debt for Equity Swap	Positive	Positive	Safe	2.47%	3.90%	Positive
Debt for Asset Swap	Negative in 2017, Positive in 2018 onwards	Negative in 2018, 2020, and 2023	Distress	-5.04%	-41.42%	Positive in 2017, Negative in 2018 onwards
Refinancing	Negative in 2017 – 2020, Positive in 2021 onwards	Positive in 2017, Negative in 2018 onwards	Distress	-1.20%	-15.16%	Positive in 2017, Negative in 2018 onwards

Among those alternatives, DES with 93.5% conversion of debt to equity found to be the most optimal solution based on its ability to improve BSP performance, described in net income, cash flow, and Altman Z''-Score. In 93.5% DES, 93.5% of debt from Credit Suisse, Verdant Capital, and Equity-linked notes will be converted into BSP equity. There will be no change in total assets since there is no assets used to pay the debts. The interest rate will be the same, but due to lower principal, the interest costs of BSP will be reduced. In this scenario, BSP total debt will be reduced by IDR 6,805.12 billion, from IDR 13,502.62 billion to IDR 6,697.50 billion, while the equity will increase by the same amount from IDR 1,197.69 to IDR 8,002.81 billion. This amount will be converted into 7,795,096,071 number of shares at the price of IDR 873/share<sup>1</sup>. The total shares after the swap will be 9,167,143,209, and the public ownership will be diluted up to 85% if the current shareholders does not exercise the pre-emptive rights. The total assets of BSP will remain the same before and after the DES process.

BSP expected to generate positive operating profit since the DES does not affect the operational of the company. Changes in income statement is the interest costs BSP need to pay the creditor. DES affect the principal of the loan, hence with higher DES conversion ratio the lower interest costs of BSP. From statement of cash flow, with this scenario BSP could consistently record positive cash flow and maintain their positive Cash and Cash Equivalents at End of year from 2017 onward.

## CONCLUSIONS

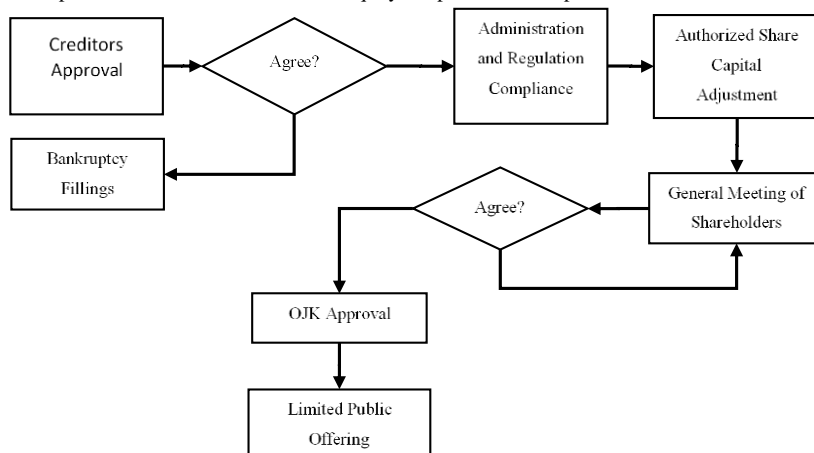
The conclusions of this research are as follows:

1. The condition of plantation industry still has a good prospect in the future shown from PESTEL analysis that describes there are still many opportunities in this industry. The opportunities for plantation industry comes from stable political conditions in Indonesia that can attracts foreign investors, global economic recovery that could increase demand, innovation and technology developments. But there are also many threats for this industry, especially in issues of environmental, weather anomaly, adverse regulation, social issues, and the uncertainty in commodity prices.
2. From Porter's Five Forces analysis, the highlight is from high threat of substitute due to healthier lifestyle of society and the substitute products getting cheaper and from high competitive rivalry within the industry due to the increasing number of plantation company in Indonesia.
3. Financial condition of BSP is very worrying, illustrated by the very low liquidity of the company and the high financial leverage that leads to greater financial risk. In addition, the BSP ability to fulfill their obligation is also very low which described by the negative interest coverage ratio in 2016. In terms of profitability, BSP has not been able to generate profits since 2012 due to lower ASP and higher interest cost of the company. From the company's cash flow, cash generated from operating activities is decreasing due to the sale of assets conducted by the company since 2012 so that the company's ability to generate revenue is reduced. BSP conducted the sale of assets to fulfill their obligations in paying off their debt. In terms of corporate governance, using the corporate governance self-assessment checklist by FCGI and PwC, BSP score categorized as good but can still be improved especially on the rights of shareholders.
4. From the analysis, it can be concluded that the cause of financial distress experienced by BSP comes from:
  - a. High financial leverage
  - b. Low liquidity
  - c. Decreasing profitability
  - d. Adverse regulations
  - e. Weather anomalies

<sup>1</sup> Based on BSP Book Value per Share in 2016. Market Value also can be used, and won't change the conclusion because will only affect the number of shares issued and the dilution to the shareholders

5. The solution proposed to solve BSP's financial problems is by restructuring their debt through debt for equity swap. Debt portion that converted into equity is 93.5% of total debt from Credit Suisse, Equity-linked notes, and Verdant Capital. This process can reduce the amount of BSP's debt by IDR 6.81 trillion, and also reduce the interest expense of the company. This DES process is done by issuing 7,795,096,071 new shares with a price of IDR 873/share. Current shareholders will be diluted up to 85% if they do not exercise their rights, and the creditors will be the standby buyers on this offering. After undergo this DES process, BSP expected to improve their financial performance.

Based on previous practices, the solution of debt for equity swap should be implemented in BSP based on the flow chart on Figure 3.



**Figure 3. Flow Chart of Implementation Plan**

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## ACTORS IN FISH SUPPLY CHAIN AND CRITERIA FOR SUPPLY CHAIN TRACEABILITY: A LITERATURE REVIEW

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### EXTENDED ABSTRACT

As fish has become a staple food source in the world, there has become a need to regulate its distribution in each country. Usage of supply chain to handle the regulation, judging from past cases, would have several issues related to the food safety and quality. These issues can be handled through the implementation of traceability in the system. To implement traceability in a supply chain, it is necessary to determine actors of the supply chain and their roles in meeting the criteria of supply chain traceability. In this paper, a review on existing researched related to traceability in fish or seafood supply chain is conducted. From 33 journal articles found in the ScienceDirect database, 12 articles were selected and analyzed. The result is actors of fish supply chain defined in the research, along with issues and findings related to traceability implementation and the actors' role. Discussion of possible issues for the implementation of traceability and possibility of future researches are also presented.

**Keywords:** fish supply chain, supply chain actors, traceability, traceability criteria

### INTRODUCTION

Fish has been a staple food source for various countries in the world, especially in Europe and Asia. However, fishes are highly perishable, thus making their careful handling and distribution a need. To better regulate the handling and distribution of fish, each country has their own system, both private-owned and government-owned. Those systems follow the form of an integrated supply chain with various actors involved. The usage of supply chain to distribute fish, however, has a number of issues. Some of them are maintaining the quality of the fish while being distributed in the supply chain, and the ease to conduct product recalls in the case of some being found unsafe from contamination. Recently, in United Kingdom, quite a lot of frozen meat and fish products are being recalled due to repackaging in unapproved premises ("Unsafe" frozen meat and fish products being recalled", 2017). This can be done because the distribution of food products in United Kingdom, especially fish, is already implementing traceability in their supply chain.

According to Farm to Fork Traceability ISO 22000 (Chrysoschoidis et al., 2009), traceability is the ability to trace the history, application or location of that which is under consideration. Thus, in a fish supply chain, traceability means the ability to trace the source of a fish product and track the distribution of said product, along with the treatment which has been received by the product during its movement in the supply chain. The matter of traceability itself has become a growing concern recently, especially due to the increased awareness of food safety in the consumers. European Union has even released a few regulation concerning the matter, namely EC 1224/2009 and EU 1379/2013.

Learning from the experiences in previous systems fish supply chain, to ensure the quality of fish products distributed in the supply chain, and also to handle various future risks, a fish supply chain needs to be improved with traceability aspects. As a food supply chain is composed of interconnected actors working to make food available (Dani, 2015), it is important to determine the actors along with their roles and interactions to support traceability aspect in the system. While there are several literature reviews regarding food traceability in the view of supply chain management (Ringsberg, 2014; Bradu et al., 2014; Karlsen et al., 2013), currently there is none found that focuses on the matter of the actors of fish supply chain and their role in implementing traceability.

That leads to the question of: what is the role of each actor in a fish supply chain to support traceability, and what problems they might face in doing so? Thus, the purpose of this paper is to conduct a review on existing researches about fish supply chain that has implemented traceability aspects in their system, focused on the actors of the fish supply chain and their roles in fulfilling the criteria of traceability. Result of the review is expected to contribute in defining several issues related to the actors of fish supply chain in supporting traceability of the supply chain. The researches reviewed in this paper are gathered from ScienceDirect database using several keywords, and a number of samples are taken to be analyzed according to a designed framework. Detailed methodology of the research can be found in the following section.

### METHODOLOGY

#### SELECTION OF JOURNAL ARTICLES

The researches analyzed in this paper are retrieved from the ScienceDirect database. ScienceDirect is a large database of academic research, especially in science and medic. Currently, it hosts over 14 million publications from over 3800 journals and more than 35000 books published by Elsevier. However, for the literature review in this paper, only journal-type publications are considered. In the initial search for the publications, the keyword of *fish supply chain* AND *traceability* were used. Such keywords were chosen for the reason of focusing on researches about fish supply chain which already has implemented or in the process of testing implementation of traceability in their system. With those keywords, about 689 results were found from various journals and topics.

As the initial result number is considered too big and reviewing all of them would be very inefficient, the keywords were refined into exact phrasing for fish supply chain along with the keyword traceability. However, several important researches actually related to fish supply chain in the initial search are not included in the second search as they are not using the exact phrasing of "*fish supply chain*", but the name of fish types for their supply chain (example: "*tuna supply chain*"). To include those researches, the keywords are refined to include the name of several fish types which are commonly used as food source. Thus, the refined keywords for search criteria becomes "*fish supply chain*" or "*tuna supply chain*" or "*cod supply chain*" or "*salmon supply chain*" or "*mackerel supply chain*" or "*trout supply chain*" or "*bass supply chain*" or "*catfish supply chain*" or "*snapper supply chain*" and traceability. With these keywords, 33 journal articles from 15 publication titles are found. However, one of them is an in-press journal article and later excluded from the selection. The rest of the journal articles go through selection process based on whether they contain a fish or seafood supply chain model, and whether the model has



traceability defined within it. The result of this selection process is 12 papers from 3 publication titles: 6 from Food Control, 2 from Marine Policy, and 4 from Journal of Food Engineering.

### ARTICLE ANALYSIS FRAMEWORK

After collecting samples of the paper in data gathering stage, the next step is to design a framework necessary to conduct analysis on the samples. As the focus of this paper is to study the actors of fish supply chain and their roles in meeting the criteria of traceability in the supply chain, the framework should consider supply chain model in the paper, the actors in the supply chain, and their roles. Thus, a generic model of fish supply chain is taken for the framework, along with the necessary elements in the supply chain to support the flow of material and information.

A generic fish supply chain is presented in figure 1 (Nga, 2010, adopted from Coyle *et.al.* (2003); EAN (2002)). In a fish supply chain, the material and information flow through seven stages: catching and farming, handling and transport of raw materials, processing, transport of fish products, wholesalers, transport, and retailers/customers. Material flow is concerned towards the quality of product going through the supply chain, whereas information flows are related to the information of the product's quality (quality, origin, handling techniques) (Olafsdottir, 2005). As traceability is concerned about where the product is going to and coming from, along with the handling received by the product, the information flows would become the focus in implementing fish supply chain traceability. The importance of learning the actors and their roles in the supply chain to enforce traceability is also related to gaining information on what treatments they are giving to the product when it reaches them, and how they are going to keep said information along with what they received from the actors of previous stage flowing within the supply chain. As there might be some points where the information is lost for several reasons, it is important to determine whether the information loss is vital to the supply chain's traceability.

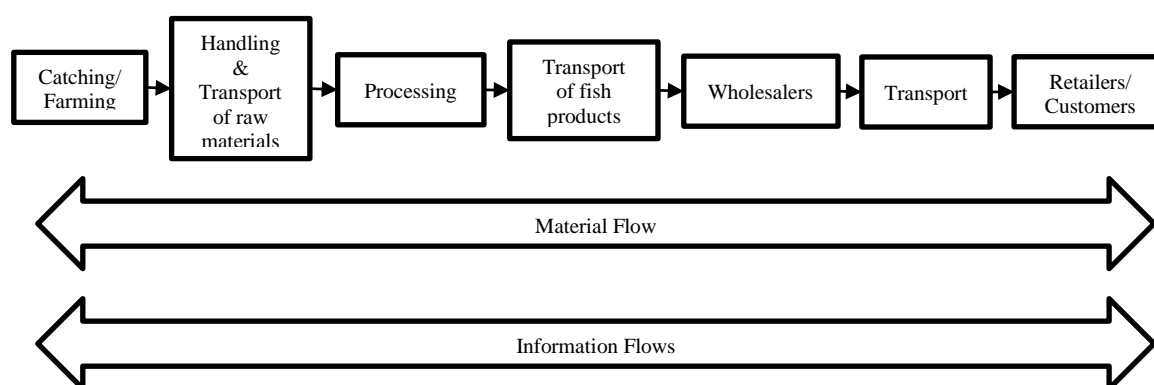


Figure 1. Generic fish supply chain model (Nga, 2010, adopted from Coyle *et.al.* (2003); EAN (2002))

### ARTICLE ANALYSIS FINDINGS

The 12 selected journal articles are analyzed using the framework described in the previous section. From the analysis, it is found that several papers written by the same authors have common supply chain model in their research. Thus, the models are grouped by the authors and the supply chain nodes mentioned in their model, with each model discussed briefly due to the limitation of the paper format. The analysis also consider the criteria of traceability mentioned in each paper, and how the nodes in their supply chain model are meeting the criteria.

Aung and Chang (2014) considered a generic food supply chain model in their paper, with several information on how fish supply chain can be supported through several tools. The supply chain is composed of farmers (catching/farming), factory (processing), warehouse (transport of fish products), supermarket (wholesaler) and consumer. To be able to support traceability, the food supply chain has to include product identification, data to trace, product routing, and traceability tools (Regattieri *et.al.*, 2007). For a fish supply chain, especially the live fish supply chain, the traceability tool which can be used is RFID-enabled system (Hsu *et.al.*, 2008). Other than that, the actors in the supply chain must have both internal traceability and external traceability to implement a whole supply chain traceability. These should also be enforced by the food safety and quality regulations, in order to enforce each actors to actually implement traceability in their system. There is, however, no information found about information loss in the information flows within a supply chain.

Al-Busaidi *et.al* (2016) conducted an analysis on the existing seafood supply chain in the Sultanate of Oman. In the Sultanate of Oman, seafood products source from artisanal fisheries, importers, and commercial fishers. Seafood products obtained through artisanal fisheries are mostly sold in the coastal fish market directly after fishing, for the lack of facilities in vessels to process the products. Commercial fishers and importers sell their products to the wholesale markets or processors. Transportation of the products are managed by the transporters, with some of the trucks they used already have refrigeration and support transportation of products covered with ice within insulated boxes. However, majority of them do not have such support of facilities, even though it is required by the regulations. Processors which fishing vessels and transporters meet the requirements to export their product to international markets will be granted Quality Control certificate by the Fishery Quality Control Centre (FQCC). The traceability in their system is going to be implemented through the labelling of the products before entering local markets – even the ones obtained through the artisanal fisheries. Other than labelling, the issue about facilities in transport nodes is also going to be addressed in a Ministry funded project. However, as they are not yet implemented, there is no information about the effect of implementation and stages where the information on products would be lost.

Donnelly and Olsen (2012) researched the traceability system in the Norwegian fish sector. However, the paper is focused only on one actors with two node roles: the CodTrawl Inc, acting as both the food producer and food processor. The material and information flow in CodTrawl's workflow are considered. From sourcing in the sea, processing on board of the boat, and later shipping, the information of the products are recorded in a traceability system called GTNet, which would automatically upload the products information to the company's website. After implementing the system, it is found that the employee's workload increased in the food control and document handling. However, further development of the system might reduce it, and the prospect of better price is quite satisfying enough for the employees to

receive the increased workload. Important highlight of this research is that while CodTrawl has implemented good traceability practices, as they are recording information even on board the trawler, there is only one customer making use of said information. Thus, it might be important to consider what information the customers need, in order to increase the effectiveness of the information flow within the supply chain.

Duggan and Kochen (2016) considered the Indonesian fisheries supply chain, along with the challenges of implementing traceability in the system. The Indonesia fisheries supply chain follows the generic fish supply chain model: vessel in the catching stage, supplier in the handling and transport of raw materials stage, processing by food processor, distributor, retailer, restaurant, and consumers. In Indonesia, even though there is already international requirements for a traceability system, and packaging which supports traceability is actually mandatory through the regulations, currently it is not possible yet to implement the technology-based traceability used in other countries. This is mostly caused by the lack of infrastructure and facilities needed to support such system, along with the lack of incentives or benefits for the related actors, in the rural areas, the areas in which fisheries have the biggest potential. Another issue is related to the small scale of Indonesian fisheries. As most of the vessels are small-scaled, the number of fishes which can be processed from a single vessel might be too small and making the product processing ineffective. To maintain efficiency, products obtained by each vessels should be collected in one first before being transported to the processing plant. There is also a chance of mislabeling products, a common issue within food traceability system.

Gorospa et.al (2016) mostly focuses on ecosystem approach to fisheries management. According to them, there are several questions which should be answered to better conserve the ecosystem along managing it. Several questions are considered critical for a traceability system. In the point of catch, vessels should consider which species is being caught and how much it is, also the location the fish is being caught. In the point of processing, they should consider the fish' species and the fishery from which the catch came (the ability to trace origin of produce), how long has the fish been kept in storage, and whether the product contain any health hazard or defects. In the point of purchase, it has to be considered if the information on the label is accurate or not. As for the integration of the whole fish supply chain, it is important to consider the information transfer between various supply chain points, and also to allow users from any point of the chain to track where the product is coming from and going to.

Karlsen et.al. has two researches related to the fish supply chain. The first one is in fresh saithe supply chain (Karlsen, Sorensen et.al., 2011; Karlsen et.al., 2012), and the second one in salmon feed supply chain (Karlsen, Donnelly, et.al, 2011; Karlsen & Olsen, 2011; Karlsen et.al.,2012). In the research for fresh saithe supply chain (Karlsen, Sorensen, et.al.,2011), along with the actors of the supply chain, the critical criterion for traceability and fulfillment by the actors were found. Actors of the fresh saithe supply chain are the fishing vessel, sales organization, landing and filleting companies, distribution and landing companies, and supermarket. The critical criterion are standardized identifications, chain traceability procedures and software system, internal traceability procedures and software system, and electronic/automatic recording technology. Critical traceability points in the supply chain are also defined, related to the recording of relationships and unique identification of traceable units, with the number of critical points in relationships recording higher than the one in unique identification (Karlsen et.al., 2012). The research of salmon feed supply chain follows traceability from the feed ingredients supplier (food producers) to the fish feed factory (food processors) to the fish farmers (consumers), also along with the critical traceability points (Karlsen, Donnelly, et.al, 2011; Karlsen & Olsen, 2011; Karlsen et.al.,2012). Highlight of the researches is that implementing efficient traceability in the system may require big investments (Sohal, 1997) related to various types of cost (administrative, material, operational, technology, initial and ongoing costs) (Can-Trace, 2007). Another highlight is that while documentation is highly needed for traceability, companies would not invest for it if they could not identify the benefits of doing such (Karlsen et.al., 2012). Thus, it is important to conduct studies on the benefits and costs of implementing traceability.

Parreño-Marchante et.al. (2014) presented the result of implementing traceability system in aquaculture supply chain, specifically in the node of producers – the fish breeders. Two fish breeding companies were involved in the implementation research, and traceability in the system is supported using RFID system. In the implementation, RFID which can be used to monitor temperatures, is found to be crucial in monitoring the temperature of transporting products from the ongrowing farm to the processing plant. The implementation was also reviewed by consumers of a fish market and a retail in Slovenia, and it is found that they are interested in receiving accurate information about the products – as they generally mistrust the point of sale (retailer or market) and would be more willing to check the information themselves through their smartphones. There are also several key performance indicators defined in the research, mostly for the processing companies.

Randrup et.al. (2012) considered traceability in 3 seafood supply chain cod fillets, plaice fillets, and saithe loins. The supply chains, though, mostly follow the five steps of fishing vessel, auction, producer, wholesaler, and retailer. It is found in the study that tracing the products back to a single fishing vessel is possible. However, the time to trace or track the product vary for each cases. It is also found that other than the time to trace and track, several other factors would affect the cost of product recalls: time to discover the cause, granularity of traceability system, ability of the system to identify and find the affected batches, and value of the product.

Thakur et.al. (2011) focuses on using a framework, the EPCIS system, to manage information considering traceability in the mackerel supply chain from Norway to Japan. The discussion is generally about developing flow diagram of states and events related to the supply chain, in accordance to the standards of EPCIS.

## DISCUSSION

Most of the researches define a fish supply chain identical to the generic one defined in figure 1. The researches with important highlights are focused on actors with biggest roles in the supply chain, especially in handling the information flow. In general, they present the technology tools used by the actors, along with the result of the usage of said technology to the traceability of information on the products. RFID is the technology mostly suggested to be used (Aung and Chang, 2014; Parreño-Marchante et.al., 2014). Others use their own traceability system to record information and determine what kind of information which should be recorded (Donnelly and Olsen, 2012; Karlsen, Donnelly, et.al, 2011; Karlsen & Olsen, 2011; Karlsen et.al.,2012), with one using the basic form of labelling (Al-Busaidi et.al., 2016). Critical criteria for fish supply chain itself is defined in the research of Karlsen, Sorensen et.al. (2011).

The concern of actors is mostly found in the research of Duggan and Kochen (2016). It is highlighted that in rural areas, there might be lack of infrastructures for recording information necessary for the traceability system. Other than that, there is also the concern on how the catching stage in rural areas usually involves small vessels, with fishes they caught being collected first to bigger vessel before being transported to the processing plant. With multiple actors in the catching stage, this might lead to the concern of information flow in this stage, as there might be some information loss during the transport from vessels to the collection vessel, especially if the fish products are treated immediately in the vessels. There are also several other points of possible information loss, called critical traceability points

(Donnelly and Olsen, 2012; Karlsen, Donnelly, et.al, 2011; Karlsen & Olsen, 2011; Karlsen et.al.,2012). As traceability is concerned about information flow, there should be little to none of information loss, and it might become important to find how much information loss in these critical traceability points might affect the traceability of the whole system.

There is also concerns on the high investment necessary for companies to invest in traceability system, which they might not do should they find no benefit in it (Karlsen et.al., 2012). Thus, there should be researches on how the traceability system might become beneficial for them. Mai et.al. (2010) conducted a research on the perceived benefits of traceability from the view of various seafood companies in Europe, Vietnam, and Chile. Most of them find the system benefits in improving product quality and supply chain management, along with reducing customer complaints, liability claims and lawsuits. If presented such benefits to the system, hopefully there will be motivations to invest in the traceability system, similar to the CodTrawl research by Donnelly and Olsen (2012).

It should also be highlighted that the customers, which are the receiving end of the supply chain, are interested in receiving information on their product (Parreño-Marchante et.al., 2014). However, there should be research on what kind of information is being recorded, as there might be some information considered to be important in traceability, but most of the customers do not view this kind of information as something they should consider (Donnelly and Olsen, 2012). This might lead to the question of whether the information contained in the traceability system should be fitted to the customers' need only, or should the customers also be educated on the important information in fish traceability system to better implement food safety.

## CONCLUSIONS AND FUTURE RESEARCHES

Fish supply chain, both originating from fisheries and farms, generally follows the generic model of a food supply chain. Implementing traceability in the supply chain is generally done through data-recording technologies, such as RFID, which requires the supply chain actors to keep information flowing within the supply chain. Several critical criteria for implementing traceability in the supply chain are critical criterion are standardized identifications, chain traceability procedures and software system, internal traceability procedures and software system, and electronic/automatic recording technology. Traceability would enable customer to find information on the products by themselves, thus decreasing their mistrust towards the point of sales. Implementing traceability in a particular fish supply chain, though, would meet several challenges, especially related to actors, technologies, infrastructure, and facilities.

There are several future researches which could be done related to this result. Firstly, there is the need to determine what kind of information should be recorded in the supply chain traceability system. Secondly, it is also important to determine the facilities needed to support the system, which ones are ready to be used and which ones still need to be provided. Then, as it is necessary to find the workflow changes needed to support traceability, there needs to be study on the workflow of actors in the supply chain, especially in the involvement of multiple actors in one supply chain activity. Along with the workflow, it is also mandatory to gather information on the actors' view towards the workflow changes needed to support traceability, and what might become their motivation to actually follow the changes. Finally, there is also a need to design the traceability system for the supply chain and test the implementation of the system, also educating the actors on the system and evaluating result of the implementation.

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## CROP SCHEDULING OPTIMIZATION MODEL TO SUPPORT PRODUCTION SYSTEMS ON VEGETABLE SUPPLY CHAIN

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### EXTENDED ABSTRACT

Production system planning is one of the supply chain's strategies to fulfill the market demand. One of the key elements on production system planning for multi-commodities is a crop rotation. Recently, Katata Farmer Group is cooperating with Giant Supermarket towards a new product called fresh every day's product that worth Rp 5.000,- per pack. Nevertheless, Katata has a problem with production planning to fulfill the market demand. The aim of this study is to make an optimal crop scheduling models on carrot, kenya bean, tomato, and potato which can be used to fulfill the market demand and maximize the profit. The method of this research using a modeling-system approach, by developing mathematic models with linear programming method which can be used to determine crop rotation's decisions in certain time and certain land. The result of this study shows that there are three combinations of crop rotation on optimal production planning which are the rotation between tomato - kenya bean, kenya bean - carrot, and potato - kenya bean. The total land area that required for this model is 1.708 Hectare. Total profit that can be earned by farmers by using this model is worth Rp 437.279.110,-

**Keywords:** Production System, Vegetable Crop Rotation, Linear Programming, Optimization Models, Production Planning Models.

### INTRODUCTION

Indonesia underwent to an increase in expenditure per capita for vegetables in 2011-2015 which its average from year to year reached Rp. 26.045 per month (BPS, 2016). At that time, vegetables mostly supplied by West Java with 23% of total vegetables supply in Indonesia since there are a lot of sentra sayuran in West Java. One of popular sentra sayuran is Pangalengan sub-district. Pangalengan sub-district also known as agribusiness cluster instead of sentra sayuran. According to the Porter (1998), clusters are a geographic concentration of interconnected company and institutions in a particular field that embraces an array of the entities and industries that important to the competition. Clusters include services, machinery, the specialized input's suppliers, government, other institutions such as universities, trade associations that provide specialized training, education, information, research, and technical support. They also often extend downstream to channels and customers.

Katata Farmer Group is one of the stakeholders that involve in agribusiness clusters in Pangalengan sub-district. Cluster has become one of the tools for business training, information center, and supply chains input reinforcement in Katata Farmer Group. Katata Farmer Group has been guiding by Universitas Padjadjaran through Agribusiness Laboratory (Agrilogics). Direct mentoring by agrilogics aims to help farmers and small vegetable producers to supply their products to structured markets with the collaboration between university, private or industry sector, and government. Collaboration between small scale producers and structured markets is alternative to mitigate price fluctuations since there was a price agreement. Due to Katata Farmer Group's involvement on agribusiness cluster, Katata could cooperate with Giant Supermarket as their vegetable supplier. Since there was a broad market opportunity, market uncertainty, and solution for the off-grade product then in middle 2016, Giant Supermarket increases the demand for a new product that worth Rp 5.000,- per pack and known as the fresh everyday product.

Katata Farmer Group still has the problems with production planning to match the demand based on the new product's demand. The data from Giant shows that Katata has decreased their service level about 50 percent from November to December. The solution to overcome these obstacles, Katata Farmer Group should improve their supply chain by making an optimal production system scheduling plan. Scheduling should be done based on pull strategy in supply chain management. The pull state of demand encourages the company to develop a particular product in response to demand pull action through planning (Preusser, 2008). Production system planning in agriculture consists the cropping, harvest, storage, and delivery management. In general, the vegetable production systems is the process of cultivation, starting from land preparation to harvest. Crop rotation is part of the vegetable production system that has significance meaning to the production result. Jumin (1998) stated that crop rotation is a systematic arrangement of crop sequence in the certain land. According to Mohler (2009), a good crop rotation is the ability to square up the farming based on market opportunities, logistics management, operations management, and biological plant selection. Thus, the purpose of this research is to determine optimal crop scheduling for carrot, tomato, potato, and kenya that will realize the maximum profit result considering the constraints of market, system production, and technology.

### LITERATURE REVIEW

Agri-supply chain management recognizes as the main concept of agroindustry competition. Global agribusiness network requires supply chain management approach since there was a product, process, and information flow increment from upstream to downstream. Supply chain management could be one of the solutions to adjust value chain's development and distribution to the modern specification, uncertain environment, and rapid changes in market characteristics. One of supply chain management approach is scheduling. Scheduling is the integration for every process in operation units. Scheduling in supply chain management used for the consideration of decision making. It includes the planting and harvesting schedule and the effective resources allocation. The important things for minimizing cost and maximizing profit are the planting time, types of plants, fertilizer optimization, water uses, manpower scheduling, and post harvesting operation (Ahumada and Villalobos, 2009). A crop rotation schedule is a planting calendar that indicates the exact time for each crop should be planted. The crop rotation schedule (planting calendar) can be converted into a crop production schedule (harvesting calendar) that indicates the amount (in mass, volume, units or other appropriate measure) of each crop production per period. Crops belonging to the same botanic family can not be planted in sequence (Santos, et al., 2009).

The scheduling is the final result from a mathematical optimization models. A mathematical optimization models consists of the objective function that represent the goal of decision making and a set of constraints that represent the limited resources to meet a given objective. The function is in the form of equations or inequalities that will produce the best results for problems in which the quality of any answer can be expressed as a numerical value. In the other words, the basic goal of the optimization process is to find values of the variables that minimize or maximize the objective function while satisfying the constraints. This result is called an optimal solution (Hossein, 1994).

## METHODS

Several agricultural and related management problems can be stated as mathematical models that can be solved through the use of computational techniques. This has helped several industries to improve their productivity and solve many operational problems. Dolores L. García, Alexis M. Ruiz, et. al. (2016) have design of an annual harvest and inventory plan for fruits and vegetables. They solve a linear programming model to represent agricultural activities for vegetable harvesting, storage, and inventory planning, minimizing the total costs of these activities. Optimization and planning methods to show the functionality and importance of planning tools for food from farming supply chain.

This research using a modeling system approach, by developing mathematic models with linear programming method which can be used to determine crop rotation's decisions in certain time and certain land. After discovering the mathematical model, the exact techniques that can generate the optimal objective function value for a solution need to be determined. The next step is to solve the model problem using the help of a computer program LINGO 16.0. LINGO is a software designed to efficiently build and solve linear, nonlinear, and integer optimization models. This software can optimize all the objectives with different constraints exist. The output of the optimization model generated by LINGO is a planting schedule for potatoes, carrots, baby kenya bean, and tomatoes.

## FINDINGS AND ARGUMENT

The existing production plan that applied in Katata Farmers Group for the new product was the replica of the regular product where the product procurement is obtained from the off grade of the regular product that makes Katata couldn't fulfill the demand. So, a mathematic model was developed to match the demand based on the system production. Since the system is very complexed, then to formulate the models should using several approaches. The combination of rotation's approach should deliberate the crop rotation theory. Wiranata Abdi sukmana (2010) stated that crop rotation is applied to the plant with different family on one land area in a certain time sequence that aimed for breaking the life cycle of pests and plant diseases. The combination's approach also should consider the cycle of each commodity that will make farmer easier on harvesting time. On the table of the combination of rotation's approach, there's no possibility of tomatoes and potatoes since two of them is under one family.

Tabel 1. The Combination of Rotation's Approach

Combination Number	Commodity I	Commodity II	Land area (max(I))	Production I	Production II	Total Cycle
1	Kenya bean	Tomato	150.4	64.47	160.47	33
2	Kenya bean	Carrots	361.1	154.7368	386.8	27
3	Kenya bean	Potato	154.7	66.32	442.1	29
4	Tomato	Carrot	361.1	385.1	386.84	36
5	Carrot	Potato	361.1	386.84	1031.6	32

After the combination of rotation was developed between four commodities, then mathematic models was built for objective function in form of minimization. Since every commodity have their own plant spacing and productivity that will produce the different volume in one land. So, the aim of this models is to minimize the amount of over supply towards the four

commodities in one land to match the demand. The constraints also built based on the production result with the different condition on each combination

The objective function for this models is:

$$\text{Min} \quad Z = o^1 + o^2 + o^3 + o^4$$

Constraint:

a.

$$\begin{aligned} o^1 &= (y_2 \cdot (qp_2^1 - d^1) \cdot tk^2) + (y_4 \cdot (qp_4^1 - d^1) \cdot tk^4) + (y_5 \cdot (qp_5^1 - d^1) \cdot tk^5) \\ o^2 &= (y_3 \cdot (qp_3^2 - d^2) \cdot tk^3) + (y_5 \cdot (qp_5^2 - d^2) \cdot tk^5) \\ o^3 &= (y_1 \cdot (qp_1^3 - d^3) \cdot tk^1) + (y_2 \cdot (qp_2^3 - d^3) \cdot tk^2) + (y_3 \cdot (qp_3^3 - d^3) \cdot tk^3) \\ o^4 &= (y_1 \cdot (qp_1^4 - d^4) \cdot tk^1) + (y_4 \cdot (qp_4^4 - d^4) \cdot tk^4) \end{aligned}$$

b.

$$\begin{aligned} qp^1 &= (y_2 \cdot qp_2^1) + (y_4 \cdot qp_4^1) + (y_5 \cdot qp_5^1) \\ qp^2 &= (y_3 \cdot qp_3^2) + (y_5 \cdot qp_5^2) \\ qp^3 &= (y_1 \cdot qp_1^3) + (y_2 \cdot qp_2^3) + (y_3 \cdot qp_3^3) \\ qp^4 &= (y_1 \cdot qp_1^4) + (y_4 \cdot qp_4^4) \end{aligned}$$

c.

$$\begin{aligned} o^1 &\geq 0 \\ o^2 &\geq 0 \\ o^3 &\geq 0 \\ o^4 &\geq 0 \end{aligned}$$

d.

$$\begin{aligned} qp^1 &\geq d^1 \\ qp^2 &\geq d^2 \\ qp^3 &\geq d^3 \\ qp^4 &\geq d^4 \end{aligned}$$

e.

$$y_1, y_2, y_3, y_4, y_5 \dots (1, 0)$$

Definition of subscripts, parameters and variables:

- $d^1$  = Carrot quantity demand volume from Giant
- $d^2$  = Potato quantity demand volume from Giant
- $d^3$  = Kenya bean demand volume from Giant
- $d^4$  = Tomoato demand volume from Giant
- $o_t^1$  = carrots' over supply volume
- $o_t^2$  = potatoes' over supply volume
- $o_t^3$  = kenya bean's over supply volume
- $o_t^4$  = tomatoes' over supply volume
- $qp^1$  = Carrot's quantity of harvest volume
- $qp^2$  = Potato's quantity of harvest volume
- $qp^3$  = Kenya bean's quantity of harvest volume
- $qp^4$  = Tomato's quantity of harvest volume
- $tk^1$  = required time for planting and harvesting of combination 1 is 33 weeks
- $tk^2$  = required time for planting and harvesting of combination 2 is 27 weeks
- $tk^3$  = required time for planting and harvesting of combination 3 is 29 weeks
- $tk^4$  = required time for planting and harvesting of combination 4 is 36 weeks
- $tk^5$  = required time for planting and harvesting of combination 5 is 32 weeks
- $y_1$  = The First Combination of Rotations
- $y_2$  = The Second Combination of Rotations
- $y_3$  = The Third Combination of Rotations
- $y_4$  = The Fourth Combination of Rotations
- $y_5$  = The Fifth Combination of Rotations

The result shows the three optimal combinations which are the combination 1, 2, and 3. The three of the five combination can produce the minimum amount of the oversupply harvest volume rather than other possibilities. With this three combination, farmers are being helped to optimize their output on fulfilling Giant Supermarkets demand. This three combination, technically, will be plant in the different land area in a year. The crop scheduling of the first combination require tomato to be planted first from land blocks 1 until 33 and kenya bean will be planted from week 22 after the harvesting time of tomato. The second combination require kenya bean to be planted first from land blocks 1 until 27 and carrots will be planted from week 13 after the harvesting time of kenya bean. The third combination require potato to be planted first from land blocks 1 until 29 and kenya bean will be planted from week 18 after the harvesting time of the potato. The constraints of this three combination are the using of the typical kind of a small land area for each blocks and the oversupply volume of kenya bean.

The three combination also in accordance with soil nutrient consideration. According to the Moore (1989), there are three classification of plants nutrient which are soil builders, heavy feeders, and light feeders. The four commodities classified into different nutrient needs. Kenya bean is the soil builders that will improve the soil's nutrient, tomato is the heavy feeders that will spend more nutrients, and carrot is the light feeders that needed more nutrients than the others. So, since the kenya bean is in the three combinations, the model will balance to restore the soil nutrients. Beside of that, the model shows the exact time and amount of lack or over supply volume in Katata. It will help farmers to accommodate the lack volume of supply at the beginning of the planting period and selling the oversupply product as a their supply chain management strategy. As Chow et al(2008) stated that supply chain management is a holistic and strategic approach to demand, procurement, operations, customer engagement, logistics, and process management. From the persepective of yield models and result, most of research has been developed for greenhouse technology (Ahumada, 2009 ; Jones et al, 1991). So, this research is an alternative to determine the expected volume to be harvested based on each block productivity per week without using a greenhouse.

### Case 1: Kenya Bean

Based on optimization model's result, the needed of kenya bean can be fulfilled by the three combinations. Total required land area is 1.708 hectares with total 89 blocks land area and the total production for one year is 25.452 kg. From LINGO 16.0's output, it is found that optimization model will produce kenya bean from week 11 and Katata Farmer Group can forecast both oversupply and lack of supply quantities as the strategy of stock management.

**Table 2. Kenya Bean's Production Based on Optimization Model**

Combination No	Harvest Time (t)	Supply quantity/week (kg)	Demand quantity/week (kg)	Mismatch the supply & demand / week (kg)
II	Week 1 – 9	0	183.75	-183.75
II	Week 10	147	183.75	-36.75
II	Week 11	294	183.75	+ 110.25
II	Week 12 - 26	441	183.75	+ 257.25
II dan III	Week 27	504	183.75	+ 320.25
II dan III	Week 28	567	183.75	+ 383.25
II dan III	Week 29 & 30	630	183.75	+ 446.25
I, II, dan III	Week 31	665	183.75	+ 481.25
I, II, dan III	Week 32	700	183.75	+ 516.25
I, II, dan III	Week 33-...	735	183.75	+ 551.25

### Case 2: Tomato

The needed of tomato can be fulfilled by the first combination between tomato and kenya bean. Total required land area is 0.209 hectares with total 33 blocks land area and each block consist 86.333 meters land area. The optimization models will produce tomato from week 16 and will produce 18.114 kg in a year.

**Table 3. Tomato's Kenya Bean Production Based on Optimization Model**

Combination No	Harvest Time (t)	Supply quantity/week (kg)	Demand quantity/week (kg)	Mismatch the supply & demand / week (kg)
I	Week 1 - 15	0	525	-525
I	Week 16	88	525	-437
I	Week 17	175	525	-350
I	Week -18	263	525	-262
I	Week -19	350	525	-175
I	Week 20	438	525	-87
I	Week 21-....	525	525	Supply match the demand

### Case 3: Carrot

The demand for carrots can have fulfilled by the second combination of rotation. Total land area that needed to fulfill the Giant Supermarket's demand is 0.97 ha with total 27 blocks land area and each block consist 361,1 meters. This optimization models will produce carrots from week 27 that equals to 9.555 kg in a year.



**Tabel 4. Carrot's Production Based on Optimization Models**

Combination No	Harvest Time (t)	Supply quantity/week (kg)	Demand quantity/week (kg)	Mismatch the supply & demand / week (kg)
II	Week 1 - 26	0	367.5	-367.5
II	Week 27-.....	367.5	367.5	Supply match the demand

**Case 4: Potato**

According to the optimization models, the demand for potatoes can have fulfilled by the third combination with kenya bean as a plant rotation. Total land area that required to fulfill the demand continuously is 0.45 ha which equals to 29 block land area and each block has 154.7 meters land area. Katata can produce 15.120 kg potatoes in a year.

**Tabel 5. Potato's Production Based on Optimization Models**

Combination No	Harvest Time (t)	Supply quantity/week (kg)	Demand quantity/week (kg)	Mismatch the supply & demand / week (kg)
III	Week 1 - 16	0	420	-420
III	Week 17 -.....	420	420	Supply match the demand

**CONCLUSIONS**

The result of optimization models is the decisions variable of harvest time, the total land area that required for this model, and the pattern of crop rotation model. This model can be a strategy to help the farmers by planting and harvesting vegetables per each week appropriately to market needed. This also could be the strategy to improve Katata's service level since the requirement to increase their service level is by fulfilling the Giant Supermarket's demand. There are three patterns of crop rotation (1) the combination of tomato and baby kenya bean (2) the combination of carrot and baby kenya bean, and (3) the combination of potato and kenya bean. Farmers should apply this combination at the same time to fulfill the market demand. The profit's result of this model reaches Rp 437.279.110,- in which kenya bean as the biggest profit contributor.

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# Framework of Supply Chain Performance Measurement of Indonesia's Chemical Industry Using SCOR Model and DMAIC Method

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## EXTENDED ABSTRACT

Indonesia's chemical industry is faced with the challenge of increasing its supply chain competitiveness, while the chemical industry in Indonesia generally still does not have a holistic performance measurement system in its supply chain. The objective of this research is to develop the framework of supply chain performance measurement of the chemical industry using SCOR and DMAIC models. The research stages are the selection of chemical industry supply chain indicators, benchmarking of indicators, development of the framework for supply chain performance measurement for Indonesia's chemical industry, and the improvement of the supply chain performance. The implementation was carried out at the cases in the market leader company which produces textile dyes product in Indonesia. The result of expert consensus recommends 28 indicators of the industrial chemical supply chain. The best in class for each supply chain performance indicator become the performance target on the performance measurement framework which is developed. The results of measuring the performance of the chemical industry supply chain in the textile dyes product showed good performance at flexibility aspect, medium at cost, reliability, and asset management cost aspect, and low at responsiveness aspect. There were three critical to quality (CTQ) for responsiveness aspects; these are demand analysis, raw material issue, and breakdown machine. The recommended improvements are to provide training on demand analysis, to improve communication with the regional party, to provide alternative vendors, raw material scheduling, procurement of buffer stock for raw material critical, and scheduling preventive maintenance.

**Keywords:** : supply chain performance, chemical industry, SCOR model, DMAIC

## INTRODUCTION

The manufacturing industry is believed to be a leverage of non-oil industry growth in Indonesia. The leading sectors include the chemical, pharmaceutical, and traditional medicine industries; metallic stuff industry and electrical apparatus; food and beverage industry; and machine and apparatus industry. Two industry groups projected to have relatively high growth in the year 2016 are the chemical industry with growth of 8.5 - 8.7 percent and food and beverage industry which increase up to 7.4 - 7.8 percent (Ministry of Industry, 2016). The growth of the chemical industry is triggered by the increasing of the chemicals material needs from the various industrial groups such as the plastics industry which was predicted to rise about 8 percent and cement around 10 to 14 percent.

The number of the company which works in the commodity of chemical material and stuff from chemical material keeps on rising started from 889 units in the year of 2008 up to 1,002 units in the year of 2014. But in the first semester in the year of 2015, the chemical sector business grew only as much as 2 percent. There was a contraction compared to the previous year which reached as high as 10 percent (year on year). Although productivity in the chemical sector was weakening in the first semester of 2015, but investment interest did not decline recorded in the third quarter in the year of 2015; basic chemical, chemical and pharmaceutical industries were included in the three fields of business with the largest investment growth. The trend of investment development and the chemical industry performance contrasted to each other since this business was hampered by the reliance on imported raw materials. To anticipate the level of competition in the field of the chemical industry then the company is now not enough to only improve the performance of the company but need to pay attention to the performance of supply chain (Lambert *et al.*, 1998; Swartwood, 2003).

There are three companies classified as the market leader for textile dyes in Indonesia with a total market share of 87 percent. Generally, the market leader company of textile dye in Indonesia did not have a holistic performance measurement system in its supply chain. Performance measurement conducted so far is still based on departmental performance so it is considered less effective and less efficient. The supply chain measuring system adopted by the company does not currently represent the company's global supply chain performance because it focuses only on internal activities but does not pay attention to the performance of activities related to the company's logistics and supply chain.

The development of supply chain performance measurement system needs to take into account the specific characters of the supply chain that will be measured (Xu *et al.*, 2016; Cook *et al.*, 2010; Gunasekaran *et al.*, 2004; Kocaoğlu *et al.*, 2013, Sillanpaa & Kess, 2011). One approach to performance measurement in the supply chain is the SCOR (Supply Chain Operation Reference) method. SCOR is one of the reference models of supply chain operations capable of mapping the supply chain parts (Steward, 1997). The supply chain performance aspect which is measured with SCOR method is grouped into five categories. They are reliability, responsiveness, flexibility, cost, and asset (apics.org, 2017). According to Mathieu

& Pal (2011), SCOR is very good to assess supply chain performance for mass production, not for project work. According to Rotaru & Wilkin (2014), SCOR method is not only able to assess supply chain performance but also can be a tool in determining supply chain risk management.

To make an improvement on performances that is still not optimal in the supply chain, DMAIC (Define, Measure, Analyze, Improve, and Control) might be applied. DMAIC is one of the six sigma methodologies (Senthilkumar *et al.*, 2012). Six sigma in the organization means the measuring quality to achieve perfection. Six sigma in the organization means the measurement of quality of achieving perfection. DMAIC in a six sigma quality improvement program is a systematic cycle. Swartwood (2003) mentioned that Lean and Six Sigma combination can produce improvements effectively, but still have weaknesses in the selection of relatively subjective dimensions. Mazolla *et al.* (2007) added that SCOR model on problem definition can be improved by the Lean Six Sigma method because the SCOR model is a structured methodology to determine the targeted improvement of the supply chain system. Lang (2012) said that six sigma applications are not only for quality management but also in the development of business strategy. Mishra & Sharma (2014) in their research introduced hybrid framework SIPOC+DMAIC to improve supply chain management.

The objective of this research is to develop a framework of performance measuring in chemical industry supply chain. It adopted SCOR approach and provide recommendations will drive improvement of supply chain performance in the chemical industry.

## METHODOLOGY

The design of this study combines qualitative and quantitative approaches. The data used in this research were primary and secondary data. Primary data was obtained through an interview with the experts which directly related to the supply chain activity. While the secondary data were obtained from the DSM, Finance, Quality, and Warehouse department in the case at one of the textile dyes company. The operational approach on the SCOR method refers to Supply Chain Council (2016).

The research stages are combining literature study approach, expert interview for validation and consensus for Indonesia's chemical industry supply chain performance indicators, development of chemical industry supply chain performance management framework with SCOR approach, analysis of supply chain performance of chemical industry case on textile dye products, identification performance aspects that require improvement based on analysis gap using DMAIC, and recommendation of performance *improvement* on the textile dyes product of the company's supply chain.

The assessment of supply chain performance by utilizing SCOR was broken down into 3 levels where each level was treated as follows:

- Level 1. Top level defines coverage for the five processes on the core management of SCOR model including plan, source, make, deliver, and return in the company's supply chain and how their performance can be measured.
- Level 2. Configuration level defines the form of planning and execution processes in the material flow, by using standard categories such as stock, make-to-order, and engineer-to-order. The company's supply chain could be configured at this level out of the 30 categories of core process.
- Level 3. Level element process defines the business process which was used for the transactions of order sales, order purchase, processing order, refund right, inventory replacement and forecasting. This level contains the definition of a process element, input, output, the metric of each single process element and references (benchmark and best practice).

After gaining the score for each metric, then benchmark was carried out to see the achievement of the supply chain performance at case PT HI. The betterment activities were conducted on the metric which possessed score much below the target. Those activities were carried out by utilizing DMAIC Six Sigma for metric/aspect which requires further improvement.

## FINDINGS AND ARGUMENT

### The Selection of SCOR Indicator

The preliminary research was selecting performance indicator for the chemical supply chain performance measurement framework. Indicator selection for the work performance of chemical industry chain supply was conducted through a process of modification *brainstorming* that involved seven experts which represented practitioners and academia until a consensus with 70% cut-off. After going through three cycles, there were 28 indicators which obtained the consensus as presented in Table 1

**Table 1 The validation result on performance indicator of chemical industry supply chain using SCOR Model**

Level	Notation	Rounde 1	Rounde 2	Rounde 3	Consensus
1	Reliability	100%	100%	100%	Yes
2	A1	100%	100%	100%	Yes
3	A11	86%	86%	86%	Yes
4	A111	29%	29%	29%	No
4	A112	43%	43%	43%	No
4	A113	57%	57%	100%	Yes
3	A12	71%	71%	71%	Yes
4	A121	43%	43%	43%	No
4	A122	57%	86%	86%	Yes
3	A13	71%	71%	71%	Yes
4	A131	100%	100%	100%	Yes
4	A132	57%	86%	86%	Yes
4	A133	100%	100%	100%	Yes
4	A134	100%	100%	100%	Yes

3	A14	57%	57%	86%	Yes
4	A141	43%	43%	43%	No
4	A142	57%	57%	57%	No
4	A143	57%	57%	57%	No
1	<b>Responsiveness</b>	100%	100%	100%	Yes
2	B1	100%	100%	100%	Yes
3	B11	100%	100%	100%	Yes
4	B111	57%	100%	100%	Yes
2	B12	57%	57%	57%	No
3	B121	100%	100%	100%	Yes
1	<b>Flexibility</b>	100%	100%	100%	Yes
2	C1	57%	57%	57%	No
3	C11	29%	29%	29%	No
4	C111	100%	86%	86%	Yes
4	C112	43%	43%	43%	No
4	C113	57%	57%	100%	Yes
3	C12	57%	57%	57%	No
4	C121	57%	100%	100%	Yes
3	C13	57%	57%	57%	No
4	C131	100%	100%	100%	Yes
3	C14	71%	71%	71%	Yes
4	C141	57%	57%	57%	No
1	<b>Cost</b>	100%	100%	100%	Yes
2	D1	100%	100%	100%	Yes
3	D11	100%	100%	100%	Yes
3	D12	57%	57%	100%	Yes
3	D13	100%	100%	100%	Yes
3	D14	100%	100%	100%	Yes
3	D15	71%	71%	71%	Yes
1	<b>Asset Management</b>	100%	100%	100%	Yes
2	E1	57%	57%	57%	No
3	E11	86%	86%	86%	Yes
4	E111	57%	57%	57%	No
4	E112	43%	43%	43%	No
3	E12	57%	57%	57%	No
4	E121	57%	100%	100%	Yes

The assessment towards the SCOR measurement metric refers to Bolstorff & Rosenbaum (2003), Simchi-Levi *et al.* (2008), and Sillanpaa & Kess (2011). They categorized SCOR measurement metric for the overall manufacturing industry into five groups, as follows major opportunity, disadvantage, medium, advantage, and best in class. Supply chain performance measurement framework in the chemical industry is presented in Table 2.

**Table 2 Results of validation of industrial supply chain performance indicators using SCOR model**

Aspect	SCOR
Reliability	0.72
Responsiveness	0.63
Flexibility	0.93
Cost	0.74
Asset management cost	0.71

Based on the categorization of metrics, a gap is calculated for each measurement metric, the results are presented in Table 3. There was only a few previous research that carried out benchmark from the results of SCOR in the entire manufacturing field or benchmark with similar industries (Ryu *et al.*, 2009; Bolstorff & Rosenbaum, 2003; Wang, *et al.*, 2010; Xu *et al.*, 2016). In this study, a general benchmark

was performed in the entire manufacturing industry. The company decided that the SCOR score for each aspect stood at *advantage* level, which stood at the range of 60-80%. Generally the scores for all aspects are between the *advantage* range, with the score of around 63-93%.

**Table 3 The framework of performance measurement on the chemical industry supply chain model SCOR**

Aspect	Indicator	Achievement (%)	Best in class gap (%)	Advantage gap (%)	Medium gap (%)
Reliability	% of order delivery in full	84%	-16%	4%	24%
	Inventory accuracy	91%	-9%	11%	31%
	% stock out	91%	-9%	11%	31%
	Deliver cycle time	97%	-3%	17%	37%
	Perfect condition	93%	-7%	13%	33%
	% order received defect free	98%	-2%	18%	38%
	% faultless invoices	97%	-3%	17%	37%
	Incoming material quality	23%	-77%	-57%	-37%
	Documentation accuracy	100%	0%	20%	40%
Responsiveness	Order fulfillment cycle time	24%	-76%	-56%	-36%
	Source cycle time	56%	-44%	-24%	-4%
	Receive product cycle time	100%	0%	20%	40%
	Fill rate by line item	67%	-33%	-13%	7%
	Current on hand inventory	91%	-9%	11%	31%
	Forecast accuracy	62%	-38%	-18%	2%
Flexibility	Delivery volume	97%	-3%	17%	37%
	Deliver return volume	98%	-2%	18%	38%
	Supply chain Source return flexibility and adaptability	100%	0%	20%	40%
Asset Management	Days Payable Outstanding	57%	-43%	-23%	-3%
	Dead Stock	84%	-16%	4%	24%

0%-20% Major opportunity; 20%-40% Disadvantage; 40%-60% Medium; 60%-80% Advantage; 80%-100% Best in class

### The Improvement Supply Chain Performance with DMAIC

The preliminary stage of the DMAIC method is the *defining* stage or problem identification. The combination with the AHP method has been largely undertaken by previous research in terms of determining which aspects are important for the improvement (Gaudenzi & Borghesi, 2006).

Hanugrani (2014) determines that the improvement of a selected aspect by using traffic light indicator method. In this research, the largest gap in the criteria, which has been determined in the gap analysis, is used as the basis for further improvement using the DMAIC method. The *responsiveness* aspect becomes a priority to conduct the improvement with the achievement gap that reached 37%. The indicator that had the biggest gap from the *target (advantage gap)* was the indicator of order fulfillment cycle time with the biggest target determined, that was 56%.

The problem of *order fulfillment cycle time* indicator identified that the supply chain was not responsive enough in fulfilling the order. Out of the whole order in 2015, 70% out of the order consisted of the range of 81-120 days, 20% within 41-81 days and the rest was 10% in the range of 0-40 days. *The improvement* was needed towards meeting the customers' order so the company supply was *responsive* in meeting the customers' needs. Furthermore, CTQ (*Critical to Quality*) was determined as a fulfilling order process based on *brainstorming* result with the practitioners and the experts. Han *et al.* (2012) stated that CTO is an indicator which has a very tight connection that could influence productivity performance of an element. The result from brainstorming showed three CTQs including *demand analysis*, *machine breakdown*, and *raw material issue*.

The *measurement* on CTQ was conducted to find out how many failures caused by those CTQs. In 2015 there were 5441 orders accepted by the company with the total order production as many 693 orders. The counting of failure number in each CTQs can be seen from the data of *closing confirmation process order* which existed at production department and inventory data as well the company's backorder. The *demand analysis* has become the main factor of the causes that lack its response to company's supply chain to fulfill the customers' order.

Based on the *measuring* stage, the dominant cause was the reliability of *demand analysis*, *RM issue*, and *engine breakdown*. Then it was evaluated to determine the cause of each defect with a diagram of cause and effect. The cause and effect diagram was a structured approach that allowed more detailed analysis to find the causes of a problem, discrepancy, and gaps. The result of the cause and effect diagram become an input for FMEA calculation. Failure Mode and Effect Analysis (FMEA) generated a Risk Priority Number (RPN) value that indicated the fix priority scale.

The **control** stage was the final step in the DMAIC approach. Basically, this stage was a control action to the stages that had been previously done so that documentation and control become an important thing to maintain consistency of improvements made for quality improvement.

#### Industrial Implications

In order to improve the performance of supply chain, the company needs to improve the performance of demand analysis because it becomes CTQ priority. The increase of demand analysis can be done by making a routine PR overdue that serves as a reminder to all regions to clean up the PR so that it does not generate new order plan which resulted in a pseudo demand (demand that is not suitable for the actual one). In addition, the regional side should also be more responsive to update both the increase and the decrease of forecast data, thus it will reduce the rush order or decrease order for the site. Therefore, the site can prepare time demand started from raw material ordered to finished goods. In addition, the other important thing that should also be done is to clean the master data so that the data input into the system are true and no error occurred in calculations. The better production planning can be created.

SAP data maintenance, especially in the production planning module, becomes an important thing for the whole supply chain. The correct data entry is the greatest contribution to creating responsive planning. Therefore, it requires the data updating that is responsive from the planner and regional sides in terms of *update planning*, *data master*, and *forecast*.

#### CONCLUSIONS

The research succeeded in establishing the *framework* for measuring the performance of supply chain in chemical industry which referred to the *benchmark* of manufacturing industry. The measurement result of the chemical industry supply chain performance in the textile dye case resulted in the highest achievement consecutively in the flexibility aspect which was 93 percent, the cost reached 74 percent, the reliability achieved 72 percent, the asset management cost was 71 percent, and the responsiveness got 63 percent. The priority aspect for improvement was *responsiveness* with a gap of 37 percent.

Through the DMAIC procedure for *responsiveness* aspects, three CTQs were created. They were *demand analysis*, *raw material issue*, and *breakdown machine*. The recommended improvements were *training demand analysis*, training on the use of SAP, communications with regional parties, the alternative of vendor provision, improving *raw material* arrival, the availability of *buffer stock* for *raw material* crystals and scheduling *preventive maintenance*.

In the study using SCOR, the traceability to see who was responsible for not achieving KPI was quite complicated. This is because SCOR was a measure of performance at the organizational level. SCOR was set up to eliminate local performance appraisals to ensure that the responsibility of the organization's KPIs was a shared responsibility (Chopra, 2014). Therefore, it takes a mutual agreement from every expert in their field to build an indicator framework (Lunenburg, 2011) which has to be achieved and targeted.

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# Sustaining Inclusive Business in Horticulture Sector: Experience of Companies in West Java

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## EXTENDED ABSTRACT

Inclusive Business is a business conducted with the poor (bottom of the pyramid). Several findings from previous research state that inclusive business involving small farmers to its value chain does not work well. Nevertheless, there is some inclusive agribusiness in the horticulture sector in West Java that can survive in the era of the free market by maintaining its social mission to improve the welfare of small farmers as well as reap the profit. This paper assesses the capabilities and competencies of two inclusive businesses in West Java which were initially planned by its founders to solve the problems faced by small farmers. The assessment results points out the strengths and weaknesses of both in their operation. To achieve greater financial success, scale and impact, the ecosystem around inclusive businesses and small farmers should address their weaknesses so that inclusive businesses can overcome obstacles.

**Keywords:** : Inclusive Business, Horticulture, West Java, SME, Capability Assessment Tool.

## INTRODUCTION

According to McKinsey report, Indonesia expected become larger consumer market by 2030 (Oberman, Dobbs, Fraser, & Rossé (2012). In the food sector, the annual growth rate from 2010 to 2030 is 5.2% per year. There is a tremendous challenge and opportunity to improve business in the food industry. The market of horticultural products can provide opportunities for horticultural farmers to improve the quality, quantity, and access to markets. In fact, horticultural farmers as primary producers have the weak bargaining power to get a fair price. Limitations on science, technology, information or access to markets and supply chains make farmers dependent on other parties in marketing their products. Increased demand in line with the growth in population, health consciousness, rising incomes and develops city make the market more attractive horticulture. There is a shift in the supply chain of horticultural products for the modern market. The modern market made its purchase directly through specialty suppliers. These suppliers are more responsive to quality, safety, and standards consistent product than traditional suppliers.

The current value chain of horticulture products in Indonesia consists of farmers, intermediaries, and buyer. The intermediaries include middleman, retail, local market, and export (Ardiansyah and Purwanegara, ). Most of the farmers need an intermediary institution to selling their products. The bad news is many middlemen exploit the farmer's incapability to make their fortune, with this the intermediary numbers increasing and create multiple barriers and longer value chain from farmers to buyers. The growing number of intermediaries in the value chain are also reducing farmers profit margins and make farmers suffered. To answer a long time and increase the farmer's quality of life required a new business model that not only effective and efficient in term of business but also act as social movements that could increase farmers bargaining powers.

According to United Nations Development Program (UNDP), eradicating poverty is the first sustainable development goals to be achieved in 2030 (UNDP, 2017). Most farmers in West Java, who are the primary supplier in the horticulture supply chain, are unfortunately living under poverty line. To increase their welfare and bargaining power, the most appropriate business model is an inclusive business model (Michelini & Fiorentino, 2012). However, Gradl and Jenkins (2011) still refer that there is only relatively few companies that have managed to realize the potential of inclusive business for business growth and development impact on the scale. For inclusive business itself, only a few of them that have achieved financial success while most of them are still small and incapable. The purpose of this research is to evaluate two inclusive business, who are working closely with farmers, Company Alpha, and Company Gamma. The two companies will be assessed in their strategic management, procurement supply, premises, distribution and transportation, product quality, interaction with the customer, finance, leadership, human resource, and information technology. The result will be beneficial to their survival as an inclusive business which aims to improve the prosperity of the farmer as the bottom of the pyramid.

## LITERATURE REVIEW

The prosperity rate of farmers in Indonesia has not improved significantly since December 2013 (Statistics Indonesia, 2014). This low welfare rate could mean that the farmers' ability to buy the high-quality production input, such as fertilizers, seeds, pesticide, herbicide, fungicide, will be small. This condition will slow down the improvement of quality and quantity of agriculture product. Furthermore, the limitation of knowledge, technology, and capabilities making the farmers weak in



bargaining powers with their intermediaries. According to (Michellini & Fiorentino, 2012) the proper business model for these conditions is called inclusive business model. This type of business model suits the horticulture industry that aims for high population and with a differentiated income level with a small innovation in products. Asian Development Bank (ADB) defined inclusive business as the profit making companies that bring systemic impact at scale to poor and vulnerable people under the \$3 international poverty line (Vega Jr., et al., 2013). Inclusive business is a fortune for most companies. Gradl and Jenkins (2011) stated that the bottom of the pyramid, as most of the global population was poor, have a significant purchasing power but mostly untapped by the mainstream business sector. Inclusive business is the integration between business and social enterprises.

Inclusive Business Ecosystem uses the concept of Business Ecosystem (Moore, 1993). A business ecosystem is an economic community supported by the inter-organization and individual interaction that is a part of a business world. The economic community makes the valuable goods and services for customers, wherein this term, the customers are also included in the ecosystem. Inclusive Business Ecosystem intends to create the prosperity and social development for business actors (includes agribusiness) especially the ones that have low income (Bottom of Pyramid (BOP)). They are consists of the less educated people, the ones that are limited in facilities and infrastructure, and the regulations that do not side with them (Gradl and Jenkins, 2011; UNDP, 2006). For the current study, the BOP is farmers who are in primary supplier in the horticulture value chain.

## METHODOLOGY

The company evaluated in this research is intermediaries company in horticulture sector, company Alpha, and Company Gamma. Although they act as intermediaries in the core value chain in agriculture product in West Java, both companies also serve as a supplier of other intermediaries (i.e. supermarket, local market). They are evaluated using SME capability assessment tool developed by The Practitioner Hub for Inclusive Business (2016). The tool was chosen since the tool was created to assess the strength and weaknesses of the supplier in the supply chain. Furthermore, the tool was designed for a real world experience and a case of a famous supermarket in Bangladesh. Thus, the tool is appropriate for the case of two inclusive businesses since both serve as a supplier to the modern supermarket as well. The assessment consists of 10 capability areas, 41 competency areas and 172 questions through questionnaires addressed to the company. Each competency has a minimum score of calculation results between the final value and the weight given to each question. The weighting of items is by the priorities location of the capability areas. Table 1 shows the area of competence by capability area.

Table 1. Areas of competence by capability area

Capability Area	Competency Area
Strategic Management	1. Vision and strategic goals
	2. Business plan
	3. Competitive USP / SWOT
	4. Customer and supplier portfolio
	5. Product portfolio
	6. Location
	7. Strategic collaboration
Procurement Supply	8. Supply chain levels and transparency
	9. Efficient procurement processes
	10. Positive, equal and sustainable supplier relationships
Premises	11. Capacity
	12. Production and processing quality and efficiency
	13. Storage quality
Distribution and Transportation	14. Capacity
	15. Transportation quality and efficiency
	16. On-time delivery
	17. Capacity

Table 1. Areas of competence by capability area (continued)

Capability Area	Competency Area
Product Quality	18. Quality mindset and communications
	19. Perishable handling expertise
	20. Quality in the supply chain
	21. Quality checks and verification of quality requirements
Interaction with Customer	22. Pricing
	23. Branding, Marketing and Promotion
	24. Customer Relationship Management
	25. Management of incidents
	26. Loyalty
Finance	27. Current financial strength



	28. Financial planning, finance and investment
	29. Accounting
	30. Insurance
Leadership	31. Legal and organisational structure
	32. Integrity and acumen
	33. Succession planning
Human Resources	34. Salary and labour law compliance
	35. Working conditions and benefits
	36. Talent and performance management
	37. Opportunities for women
	38. Documentation
Information Technology	39. Ownership of IT tools
	40. Use of IT for non-transactional
	41. Use of IT for transactional processes

Source : Inclusive Business Hub For Practitioners

### FINDINGS AND ARGUMENT

Both companies encourage small farmers to work together in producing crop varieties with the same quality and quantity. Company Alpha and Company Gamma provides assistance in the form of coaching or training, credit, and technical assistance to support in ensuring the quality and quantity standards consistently, price transparency in negotiating with their suppliers in an effort to maintain a supplier, and bargaining process between the actors which allow an improved flow of information and the same quality standard which in line with retail demand. Furthermore, both are strong in product portfolio, having a full range of more than 3 product categories.

Company Alpha has legal and organizational structure and strong capabilities in business strategy, documentation, financial strength, human resource management and customer relationship, and information technology adoption. Company Alpha has approximately 125 varieties of horticultural products in the offer to the modern market. They sell a premium product that has standard specifications and special treatment for any vegetables and fruits. So all the goods must pass through a tight selection process to have the same standards when distributed to the consumers.

The products with the best quality (grade A) is the main requirements of the products they sell to the modern market. The traditional and modern market has a different quality. The modern market put forward the most excellent quality without exception, using special packaging and levels of cleanliness are maintained. In contrast to existing products in traditional markets, products are sold in traditional markets relative are of varying quality. Company Alpha has efficient procurement processes, suitable payment method, and farmers' support. However, the company also have challenges in dealing with price fluctuation for inputs, as the competitor.

Company Alpha collaborates very well with at least six modern markets. Company Alpha change the ownership status of Commanditaire Vennootschap (CV) into a Limited Liability Company (PT). Company Alpha plans to expand its business more widely; they change all the policies and vision and mission towards more ambitious goals Company Gamma is more traditional than Company Alpha. The company keeps minimal employee records, does not have salary structure, forty percent of the employee are temporary workers and does not have a contract with temporary workers. Even though Customer Relationship Management of Company Gamma is not as good as Company Alpha's but Company Gamma can compare pricing and derives appropriate actions. Company Gamma is also able to evaluate and acquire necessary actions critically.

Company Gamma has a high-quality supply chain, direct from its members, farmers. To maintain the quality of supply chain, Company Gamma equips themselves with formal contracting with an emphasis on equal relationship, very fair treatment of supplier/farmer, opportunities to improve farmer situation. Company Gamma has made extra effort to obtain other licenses to demonstrate business credentials. The supplier has some ideas on training that they would like. Company Gamma has a weakness in marketing their products since the only one collaborated modern retail could not accept their excess supplies but does not permit Company Gamma sells to another modern retails.

Table 2. Weaknesses of Company Alpha and Company Gamma

Capability Area	Competency Area	Weaknesses	α	γ	Related Parties
1 Strategic Management	Vision and strategic goals	No Vision and strategic goals	✓	✓	University
	Business plan	No clear business plans	✓	✓	University
	Competitive USP / SWOT	Limited vertical integration	✓	✓	
	Customer and supplier portfolio	Sufficient demand but suppliers less loyal	✓	✓	Farmer Association
		Sufficient supply but limited demand	✓	✓	
	Product portfolio				
	Location	disadvantage due to infrastructure	✓	✓	Consultant, Government
2 Procurement Supply	Strategic collaboration	No strategic collaboration	✓	✓	University, Retail
	Supply chain levels and transparency				
	Efficient procurement processes	Pay on receipt, sometimes late	✓	✓	Retail, Inclusive Business, Cooperative, Company
3 Premises	Positive, equal and sustainable supplier	no contracting	✓	✓	Law advisors, Inclusive Business, cooperative
	Capacity	limited to scale up volume	✓	✓	Farmer, Inclusive Business, cooperative
	Production and processing quality and efficiency				
4 Distribution and Transportation	Storage quality	Average storage facilities but with some issues	✓	✓	Manufacture, University, Association
	Capacity	volume occasionally exceeds storage capacity	✓	✓	Manufacture, University, Association
	Transportation quality and efficiency	basic crating - some risk to quality	✓	✓	Retail, Inclusive Business, Cooperative, Company
5 Product Quality	On-time delivery	waste during transportation	✓	✓	Retail, Inclusive Business, Cooperative, Company
	Quality mindset and communications	sometimes misses delivery time and ordered quantity	✓	✓	Farmer, Inclusive Business, cooperative
	Perishable handling expertise	lack of store network	✓	✓	Retails
6 Interaction with Customer	Quality in the supply chain	consumer complaints	✓	✓	University, Association, Consultant, Company
	Quality checks and verification of quality	average storage facilities but with some issues	✓	✓	Manufacture, University, Association
	Pricing	use preservatives/Chemical	✓	✓	University, Researchers, Manufacture
7 Finance	Branding, Marketing and Promotion		✓	✓	University, Association, Consultant, Company
	Customer Relationship Management				
	Loyalty		✓	✓	University, Association, Consultant, Company
8 Leadership	Current financial strength	Supplier does not know / no concept of total costs	✓	✓	Investor
	Financial planning, finance and Accounting	need more liquidity / credit	✓	✓	University, Association, Consultant, Investor
	Insurance	simple cost revenue calculation	✓	✓	University, Association, Consultant
9 Human Resource	Succession planning	Not consider insurance	✓	✓	Company
	Legal and organisational structure	ISO9001 certified	✓	✓	Association, Company, Consultant
	Integrity and acumen	Sole income and this poses a risk to the business	✓	✓	Investor
Information Technology	Working conditions and benefits	no other people who can take over the business	✓	✓	University, Association, Consultant
	Talent and performance management	Not adhering to minimum wage laws	✓	✓	Government, University, Association, Consultant
	Opportunities for women	Some basic needs of employees are not met	✓	✓	Government, University, Association, Consultant
#	Documentation	employee welfare	✓	✓	Government, University, Association, Consultant
	Ownership of IT tools				
	Use of IT for non-transactional	Employee recording	✓	✓	University, Association, Consultant
	Use of IT for transactional processes	No employee contract	✓	✓	Law advisors, Inclusive Business, cooperative

However, both have some weaknesses that should be improved, and they cannot make it better on their own as shown in Table 1. Overall, their weaknesses could be categorized into information, incentives, investment, implementation support, law and regulation, infrastructure, knowledge empowerment. The need of broad information, the inclusive business model, will work at its best when there is no imperfect information. The supporting parties in this elements are the research institution (university), consultant, or government. The second concern, incentives, is the urge to participating in the business as well as supporting it to create a better living environment for all of the stakeholders. Most of the incentives are conducted by the company or small business. Furthermore, there is a need of investment to face the market conditions. Most of the businesses in the inclusive business model are faced with limited capital and assets, with no experience handling the outside capital from investors. The supporting parties in this elements are investors or banks that capable using their capabilities to increase the shared value in the system. The next concern, implementation support, relates to the need of improvement in the current business process. The small scale business needs this to fulfill the fluctuated market conditions with the help from supporting parties such as research institution and government. Furthermore, the government helps in the regulation is necessary to bring stability in many aspects. Next is the infrastructure development that affecting the current business value chain. The companies and any other stakeholders cannot have controlled this element because it depends mainly on the government side. Lastly, knowledge empowerment. The sharing knowledge in the inclusive business model necessary to support the weakness of every stakeholder in the value chain. The need of improving the stakeholder knowledge may create greater opportunities for them. Mainly, the knowledge empowerment can be any stakeholder contribution to the ecosystem.

Table 2 describes both Company Alpha and Company Gamma weaknesses. The checklist describes the owner of the problem. After identifying the weaknesses, the next step is to find the solution. To improve they need the listed stakeholder's Table 2 to cooperate and contribute to the sustainability of both companies as inclusive intermediaries.

## CONCLUSIONS

Both companies aim to improve the wealth of the bottom of the pyramid, who are farmers in the Indonesia's horticulture value chain. The two companies serve as inclusive intermediaries. Company Alpha and Gamma have their weaknesses after evaluated based on SME Capability Assessment tool. Overall, their weaknesses could be categorized into information, incentives, investment, implementation support, law and regulation, infrastructure, knowledge empowerment. For Company Alpha, they need improvement in sectors : supply chain, procurement, capacity, suppliers relationship, production, storage quality, infrastructure, quality checks, finance, certification, salary & labour law compliance and working conditions & benefit. Meanwhile, Company Gamma needs improvements in sectors : business and marketing strategy, storage quality and capacity, finance, production, distribution and transportation, product quality, lack of leadership, human resources and information technology. This finding can help the companies to devise a strategy to maintain their sustainability. The research also found that the companies are unable to solve the problems arising from their weaknesses on their own. Thus, it is necessary for all identified stakeholders to work together to maintain inclusive businesses sustainability. This study adds

our knowledge on inclusive businesses in emerging country. Further research may examine how the stakeholder should contribute to the sustainability of inclusive businesses and increase their participation in the process.

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# Transformation Strategy from Supply Chain to Collaborated Value Chain of Java Preanger as a Business Growth Strategy for Small Farmers and Their Cooperative

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## EXTENDED ABSTRACT

Java Preanger's Coffee Cibeber was the fourth winner in the Competition of the Specialty Coffee Association of America (SCAA) Expo 2016 held in Atlanta. Java Preanger is one of the oldest brands of Indonesian coffee having geographical indication registered in the General Director of Intellectual Property Rights. This study was done through interviews, observation, and logical framework analysis (LFA), as well as cooperative data analysis, to formulate a strategy to help farmers and cooperative survive and succeed in a dynamic and high pressure business environment to fulfill consumers' demand. Currently, coffee farmers and their umbrella cooperative carry out a traditional supply chain in their business operation. They show the lack of knowledge in farming and management, an unclear standard operational procedure for production, cultivation, marketing strategy, and capital management. Farmers, collectors, buyers operate independently without close relation to each other while farmers are the weakest party in the supply chain who bear the highest risks of coffee products. In this condition, it is impossible to involve farmers and cooperative workers in the Value Chain approach, as an alternative to the shortcomings of the traditional system and to gain value for all participants in the chain. By this finding, inclusive business ecosystem - network collaborated value chain strategy - is the best fit to solve the problems of cooperative and their farmer members' business growth.

**Keywords:** *coffee, inclusive business ecosystem, Java Preanger, supply chain, value chain*

## INTRODUCTION

Coffee which is produced in Indonesia belongs in two varieties: Arabica and Robusta. Every region of Indonesia has their own characteristics of coffee because Indonesia has many ethnic and culture, making each area's taste preference different. There are 13 Indonesian specialty coffee variants which have been known in the world due to their distinctive flavor and aroma, which are based on the geographical indication (Direktorat Jendral Perkebunan, 2013). One of them is Java Preanger.

Farmers in Gunung Halu began to cultivate Java Preanger coffee seriously in 2011 with only four ha area at altitudes between 1,200 MASL (meters above sea levels) to 1,400 MASL. Overtime, some training and support from government and related agencies were delivered to the farmers to teach them how to implement a Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP). In 2014, Kopki Sariwangi Preanger, an umbrella cooperative owned by farmers, obtained the geographical indication certificate of Arabica Java Preanger Coffee from community protection of geographical indications (MPIG) Arabica Java Preanger Coffee.

Kopki Sariwangi Preanger currently has 198 active members and 17 prospective members per February 2016 who come from various villages around the cooperative office. Most of the cooperative members are coffee farmers who plant the coffee around Gunung Halu area. Farmers are the most important stakeholder in the coffee agribusiness because they are the ones to cultivate and harvest good coffee beans. However, their prosperity is still considered low as they still have difficulties in obtaining various necessary high quality production inputs such as fertilizers, seeds, pesticide, herbicide, and fungicide. This translates into varying coffee qualities that Gunung Halu coffee farmers harvest.

At the moment of this writing, coffee farmers and cooperative at Gunung Halu still carry out traditional supply chain method. Farmers, collectors, and buyers are working independently without close relations to each other. Since coffee is a commodity which is fully dependent on quality in price determination, poor coffee farmers are the weakest party in the supply chain to bear the highest risks in case of product defects or price fluctuation. These farmers have only few or even no information especially regarding to coffee market demand, making farmers practically blind as to the quality requirements. Recently, Java Cibeber-Gunung Halu coffee production and sales decreased in recent years; thus is in need of a proper solution immediately. Not only do these coffee farmers need a solution to their current problems, the near future also brings the risk of rapidly changing environment along with more sophisticated market demand; which small coffee farmers like those at Gunung Halu are unlikely to fulfill. It is suggested that value chain approach is worth considering in addressing small farmer issues by improving their value offering. But how to involve them in this value chain; this market driven collaboration? This research aims to find the causes of the problems farmers at Gunung Halu face and find solutions through various qualitative research methods.

## LITERATURE REVIEW

There are two kinds of business network: the collaborative network and the coordinated network. The collaborative network has a peer to peer structure in which each member of the network has direct access to every other member, organized around an orchestrator, and is focused on innovation and market development. Often in these networks, a single company will take the lead in orchestrating the network to achieve a particular end goal. The coordinated network has a back-to-front structure that is inherited from an earlier of this model as a value chain. In a value chain, the relationship between organizations is indeed linear, which means that one company will be the customer to the right in the chain; while in a coordinated network all companies focus on the end customer and specialize in high volume transactional offers where economies of scale provide a competitive advantage (Word, 2009).

Agro-food supply chains encompass activities that take place at the farm as well as in rural settlements and urban areas. They require input supplies (seeds, fertilizers, pesticides, etc.), agricultural machinery, irrigation equipment and manufacturing facilities, and continued with handling, storage, processing, packaging, and distribution activities. Other elements such as power generation and logistics which form the chain environment are also important factors that affect supply chain performance.

Supply Chain Management is processing (sourcing, procurement, conversion, and logistics management) from the raw materials to the final products until the product delivered to the consumer (Ireland, Hoskisson, and Hitt, 2011). Traditionally, farmers produce commodities for sale as soon as possible. They do not cultivate according to a particular market demand (i.e. supply push). The agricultural products will pass through many parties in the supply chain before it reaches the end user. Each single party in the supply chain works on and for their own, only communicate few simple things to other parties, and the common business objectives is to only reduce cost or increase price.

Unlike the characteristics of a supply chain, the parties involved in the Value Chain will be interconnected, sharing information and supporting to increase the value (quality) of the product or service to satisfy the demand of the end consumer (demand pull). Value chain contains several activities starting from the idea through the final product until it delivers to users, and also includes the after use of the product; to be disposed or not (Kaplinsky 1999; Kaplinsky and Morris, 2001). A value chain exists when all of the actors in the chain operate in a way that maximizes the generation of value along the chain. A value chain enables the company to make a grouping of enterprises to collaborate vertically, to get a better position in the business process. A value chain is an alliance of companies working vertically to achieve a more rewarding position in the market. Value chains allow those businesses to be active in the business place by connected all of those production activities (Barnes, 2004). Value chain refers to the value when added to the preparatory process for some added in resources (example: tools, manpower, skills, raw material). When the product passes through this step, it possible to increase the value added of the product (ILO, 2009).

It is impossible to do business alone due to the systemic obstacles related to limited economic scale. Inclusive Business Ecosystem uses the concept of Business Ecosystem (Moore, 1993). This concept is included in the Collaborative Business Network fit for tackling high complexity problems through highly interactive relationships. A business ecosystem is an economic community supported by the inter-organization and individual interaction that is a part of a business world. The economic community makes the valuable goods and services for customers, wherein this term, the customers are also included in the ecosystem. The ecosystem members are the supplier, producer, competitor, and other business practitioners.

Inclusive Business Ecosystem intends to create the prosperity and social development for business actors (includes agribusiness) especially the ones that have low income (Bottom of Pyramid (BOP)). They are consists of the less educated people, the ones that are a lack of market information, weak regulatory environments, inadequate physical infrastructure, limited knowledge and skills, and restricted access to financial services (Gradl and Jenkins, 2011).

Value Chain Analysis (M4P, 2008) includes several steps, as follows.

1. Mapping the value chain to understand the characteristics of the chain actor and the relationship among them.
2. Defining upgrading needs within the chain. Diversify the production to reach higher value to enhance efficiencies.
3. Emphasizing the governance role. Identify institutional actors that can support to improve capabilities in the value chain. This governance constitutes become the key factor to upgrade the objectives can be achieved.
4. Identifying the distribution of actor's benefits in the chain. We should know the margin, profit, who will gain advantages in the chain, and who need support to improve their performance in the chain.

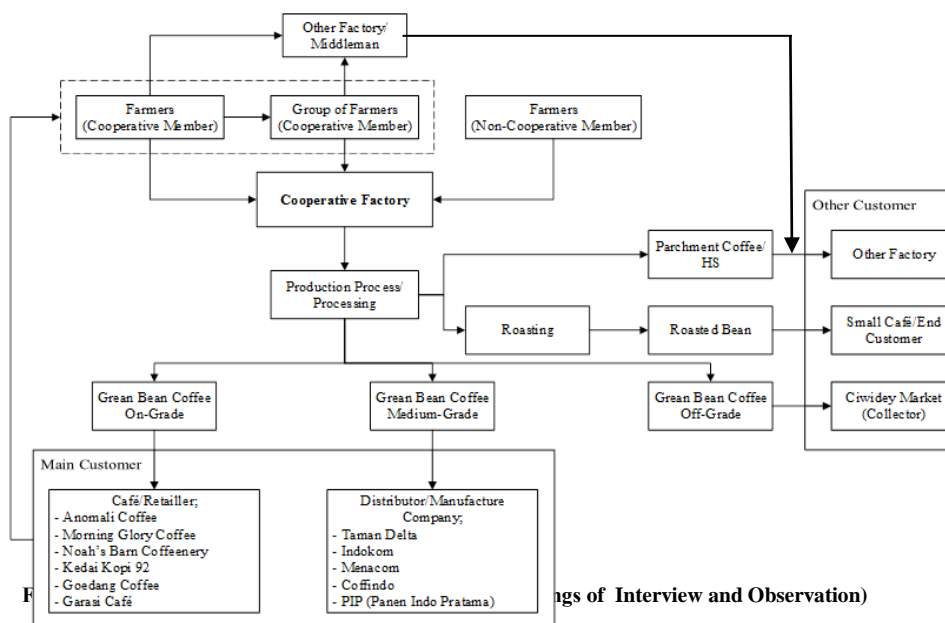
## METHODOLOGY

This study uses both primary data and secondary data. The primary data were collected using interview, observation, and logical framework analysis. The interview was carried out directly with Kopki Sariwangi Preanger (the umbrella cooperative of Gunung Halu coffee farmers) as an object of research, in particular with the secretary and chairman of Kopki Sariwangi Preanger. The chairman is also responsible for the coffee production which is the main business of Java Cibeber-Gunung Halu. The interview was also conducted with a cooperative's coffee factory employee and some coffee farmers who are members of the cooperative. Some specific questions were asked to get information related to the problem which they face. Observation was conducted directly in the Kopki Sariwangi Preanger including their coffee production plant and coffee beans warehouse. Observation is intended to get primary data which is beneficial to support further analysis. Logical framework analysis (LFA) was used to acquire the knowledge and adequate information about the problems that farmers own. Logical framework analysis was conducted directly with 17 farmers which are also cooperative members. They were asked some questions related to the coffee cultivation process. Meanwhile secondary data is obtained through cooperative and factory documents.

## FINDINGS AND ARGUMENT

### Current Supply Chain

The current supply chain of Java Preanger Coffee is shown in Figure 1. Kopki Sariwangi sorts, processes, grades and sells coffee that coffee farmers cultivated to various customers. It can be seen that coffee supply chain in the area follows supply push model which is described in the literature review



Recently, relationship condition among farmers and other stakeholders existed generally in transactional-enhancement, except government's department which had reached investment level. Middlemen and Cooperative buy similar products and services based entirely on price and term.

#### Upgrading Need

Analysis on Gunung Halu coffee farmers condition leads to the summary of the problem, the proposed solutions, and the collaborated actors are shown in Table 1. The main problem is that the farmers and cooperative do not have necessary capabilities to fulfill quality requirement by buyers. They can solve their problems with the help of related parties in the Inclusive Business Ecosystem as shown in Table 1. Transforming the commodity's supply push chain to the demand pull's value chain needs to involve the expected collaborative network and co-created value chain depicted in Figure 2.

The collaborative network has a peer-to-peer structure in which each member of the network has direct access to every other member, organized around an orchestrator, and is focused on innovation and market development. These open relationships among stakeholders are represented by dashed lines on the Model in Figure 2. Often in these networks, a single company will take the lead in orchestrating the network to achieve a particular end goal – a co-created delivered value – which is to fulfill the quantity and quality of coffee as required by coffee customer. Farmers and their cooperative could not work alone but instead work interdependently with other business actors to solve their problem. By doing so, it is expected that they have a good value proposition to offer and also a capability to satisfy their customer support. The expected added value of each party is shown in Figure 3 is resulted by the price deducted from the production cost and added by cooperative dividend to the members (which is not shown in the figure).

**Table 1 Findings of LFA : Root Causes of the Problems and Proposed Solution**

Problems	Solution: Develop Collaboration with Related Parties
The lack of synergy between the government, farmers, industries and other related parties	Government : Provide more incentives, Regulation
The agricultural workers began to choose more interesting job	Government : Provide more incentives for agricultural sector
Processing technology in Indonesia is undeveloped well	University, Research Institution, Manufacture : Information
Unpredicted climate / weather, threatening the coffee plantation and production	Cooperative University, Investor and Government : Improve the performance of savings and loans unit in cooperatives
The lack of fund for farmers to buy a quality fertilizers, pesticides, grow coffee and maintain coffee plant	
Unstable coffee harvest, sometimes it produces a lot of coffee cherries or slightly coffee cherries	Consultant: Create Standard Operational Procedure (SOP) for cultivation, Knowledge Empowerment and Certification
Some of the coffee plant do not grow well	
The entire production process at the cooperative factory was not reported in the cooperative Annual Member Meeting (RAT)	Cooperative University and Institutions: Knowledge Empowerment
Unstructured task distribution and financial system	Cooperative University and Institutions: Re-activate the cooperative production unit, Capital Raising
The capital limitation in cooperative factory to process the coffee and	

buy all coffee cherries from farmers	
unused pulp and parchment skin to be piled up	Environmental Institution : sewage treatment
Lack of supervision during process the coffee	Consultant: Create Standard Operational Procedure (SOP) for production
Uncontrolled reject product	
There is no contract between the customers and the cooperative factory in purchasing the coffee	Law Consultant: Create a formal contract
Difficult to anticipate pests that damage coffee plant	Research Institution and University: Knowledge Empowerment and Create Standard Operational Procedure (SOP) for cultivation, production and Storage
Lack of knowledge of farmers and Cooperative workers : Uncontrolled error in hulling process and Inaccurate sorting process the coffee cherries	
The drying process is not optimum due to the unpredicted weather	University, Research Institution, Manufacture , Investor :Utilize the technology: Drying Machine
Unstable market price of coffee	Government: Regulation and Law Consultant: Create a formal contract
Inactive online marketing and lack of marketing strategy for Java Cibeber-Gunung Halu	Consultant, University Develop the marketing strategy and mix: online marketing

### CONCLUSIONS

To achieve financial success, greater scale and impact, inclusive business ecosystems have to strengthen and align the ecosystems, the actions of the inclusive business players. The inclusive business ecosystem is also a way to defeat the barrier to scaling for inclusive business players. Companies use a variety of strategies to strengthen the ecosystems around their inclusive business models. The obstacles for these low-income-business practitioners can be solved by collaboration among business practitioners, government bodies, researchers, financial institutes, university, and the whole society. These include BOP awareness-raising and capacity-building activities, research, information sharing, public policy dialogue, and creating new organizations as necessary.

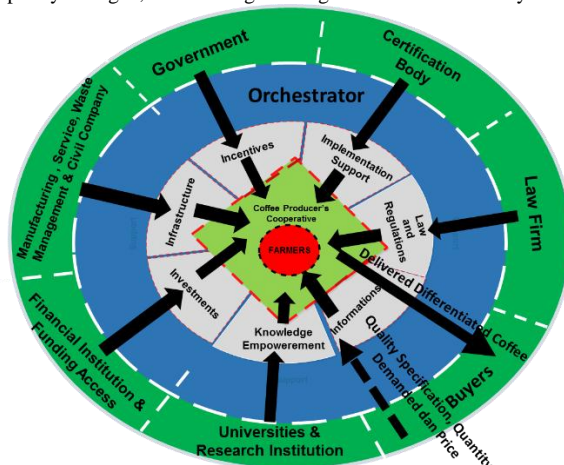


Figure 2. The Expected Collaborated Value Chain - The Inclusive Business Ecosystem -

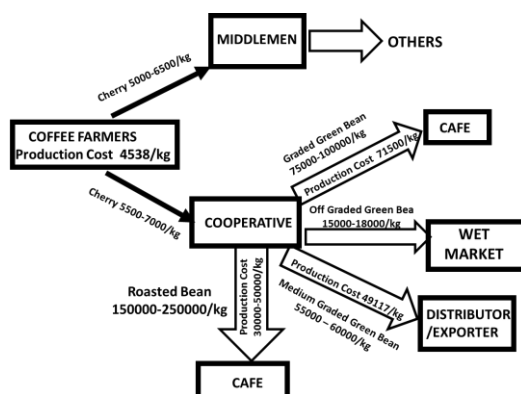


Figure 3. Expected Added Value (Analysis from Secondary Data and Interviews)

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# Technology Utilization of Malaysian Agriculture in Enhancing Food Security

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## EXTENDED ABSTRACT

**Purpose** - Agriculture is an important contributor to Malaysia's economy; however, it has significantly declined over the years, but the government continues to regard the sector as strategically important. Ensuring increases in agricultural production to meet the demand for food and enhancing food security will be one of the biggest challenges for Malaysia in the twenty first century. Newer technologies with applications in food and agricultural production have emerged from advances in science, technology and innovation (STI). Given its important role to the economy growth development, the present study aims to explore technology utilisation in Malaysia's agriculture.

**Methodology** – The paper applies secondary data analysis to evaluate potential technologies in improving Malaysia's food security level.

**Findings** – The paper finds that advances in information communication technology (ICT) have the potential to boost Malaysia agricultural production, improve food security and raise the rural lifestyles.

**Keywords:** Technology utilisation, food productivity, food security, Malaysian agriculture

## INTRODUCTION

Since the beginning of the twentieth century, the human population has more than quadrupled and this expansion has put immense pressure on the food production capacity. With the increase of world population, food security is a great concern for not only in the developed nations but more so in the developing countries. Newer technologies with applications in food and agricultural production have emerged from advances in science, technology and innovation (STI). These proposed agricultural technologies have the potential to boost Malaysia agricultural production, improve food security and raise the rural lifestyles. Thus, advances in STI can also assist to mitigate natural resource constraints, such as land and water.

Malaysia today has taken a step forward in addressing food security for the future of its people in Eleventh Malaysia Plan 2016-2020. Guaranteeing food security is not a demonstration that ought to be in charge of just a single part and can't be disregarded, particularly for the rural area in agriculture. This is on account of the rural division is a critical area for food security and economic development of the nation as a whole [1].

The commitment of agriculture to the Malaysia's economy has been declining in the course of recent years, however the government keeps on seeing the segment as deliberately imperative. In the Eleventh Malaysia Plan, the agriculture sector is expected to grow at 3.5 percent per annum, contributing 8.2 percent to total GDP. The agro-food subsector is expected to grow at 5.4 percent per annum with livestock, aquaculture and vegetable as the main contributors, while demand for food is expected to reach 14.8 million metric tons in 2020. The share of agro-food to agriculture value-added is projected to reach 42.2 percent and industrial commodity at 57 percent.

The agro-based industry is expected to contribute 18.3 percent of total manufacturing value added by 2020. In this manner Malaysia is structured in a propelled phase of economic change [2].

This paper explores the utilisation of technology in Malaysia's agricultural. In order to achieve this aim, a secondary data analysis was conducted. The agricultural sector has gone through an enormous evolution over the past decades when many new ideas were implemented and many new technologies were introduced in Malaysia's context to improve food security [3].

## FOOD SECURITY

Gebrehiwot [4] defined food security as a term used by people whether or not they have access to adequate quantities of food. In addition, Maqbool [5] used food security as an indicator of social sustainability, most commonly used for access to food conditions. For example, food conditions are food production, food self-sufficiency rates and food expenditure. Furthermore, Haen et al. [6] defined food security as a condition whereby "all people at all times have access to adequate, safe and nutritious food to meet their dietary needs and food preferences in an active and healthy life". There are likewise many elements, for example, neediness among people, health, food production, political stability, market access and catastrophes [4].

Furthermore, USDA [7] defined food security as, "when everyone at all times has the material and economic access to adequate food to meet their dietary needs for a productive and healthy life". The definition includes usability, access and utilization. Food availability is achieved when a sufficient quantity of food provided to all individuals [7].

The UN Food and Agriculture Organization [8] defined "Food security exists when all people, at all times, have physical,

social and economic access to sufficient, safe and nutritious food which meet their dietary needs and food preferences for an active and healthy life”.

### **TECHNOLOGIES UTILISATION IN AGRICULTURE**

The convergence of emerging technologies in science, technology and innovation have profound impacts on the future of food security. Together, STI can help reduce the impact of natural resource constraints such as land and water, providing food for the hungry, and avoid reducing crisis such as famine and starvation in many countries. Costs associated with the innovation and deployment of these agriculture technologies could potentially limit the widespread adoption and use globally.

#### **Technology in Agriculture**

A study which focused on rice farmers’ adoption of technologies in the Mekong Delta, Vietnam was conducted by [9]. Technologies such as Integrated Pest Management (IPM), three reductions—three gains, row seeding, harvesting by machine and rice dryers were ascertained to elevate paddy yields in Mekong Delta. The IPM strategy offers advantages, such as cost reduction (savings from reduced seed input and pesticide usage) and environmental protection. Row seeding technology used during paddy plantation has helped farmers in crop handling process. The adoption of these agriculture technologies have proven to assist farmers in rural areas to increase their food production and improved their rural lifestyle.

#### **Information and Communication Technology in Agriculture**

The Information and Communication Technology (ICT) revolution has brought unprecedented new opportunities in transforming agriculture industry. The use of ICT in agriculture has made significant contributions towards improvements in food security and agricultural production. It has also improved the performance of rural agribusinesses, income earning opportunities, and agricultural policy development, coordination and implementation. ICT can give a new momentum in achieving productivity in agriculture which, if nurtured effectively, could become transformational factors. Study had showed that US agricultural production has multiplied since 1948, and a single farmer can feed 128 individuals in US, incorporate 34 abroad from 15 in 1950. Part of this can be attributed to the dramatic increase in the productivity of the information technology [10].

ICT has many potential applications in agricultural. It can bring new information services to rural areas where farmers, as users, will have much greater control than before over current information channels. This accessibility is crucial for the sustainable development of the farming systems.

A good example of ICT utilization in agriculture is the Katalyst Programme in Bangladesh, as illustrated in Box 1. In this program, ICT was utilized to provide farmers in Bangladesh with recommendation on fertilizer use customized for different crop and locations. This Katalyst programme that was developed in local language (Bangla) have helped farmers to have incurred reduced fertilizer costs up to 25 percent and produce higher crop yields up to 15 percent [11].

#### **Box 1. Information and communication technologies for improved soil quality in Bangladesh**

The Katalyst programme in Bangladesh aims to increase income for citizens in number of sectors, including agriculture and food security. The Soil Resource Development Institute of the Ministry of Agriculture partnered with Katalyst to develop a service based on information and communications technologies (ICT) provided farmers with recommendations on fertilizer use customized on fertilizer use customized for different crops and locations.

Through an analysis of soil sample data, the service developed recommendations to optimize the cost of inputs and projected crop yield. Collaboration between Banglalink, and eGeneration, a local information technology company successfully developed the software application in the local language (Bangla) with attention to the agricultural users and local context. Since its launch in 2009, users incurred reduced fertilizer costs up to 25 percent and higher crop yields up to 15 percent. The success has led Katalyst to initiate a similar project for irrigation-related information as well.

Source: UNCTAD, based on information provided by Katalyst in UNCTAD, 2012, *Information Economy Report 2012* (United Nations publications, Geneva).

### **MALAYSIAN AGRICULTURE**

Agriculture is the most essential economic segment of many developing countries. Malaysia has multiplied its push to ensure the achievement and manageability of its agriculture sector. In the Ninth Malaysia Plan, the agriculture sector was referred as one of the mechanisms to increase the Malaysia’s income in the 2010 budget; Malaysia had also announced that more budgets have been allocated to further support the agriculture sector and its farmers [12]. The capacity of the agricultural sector to improve the socio economic status and poverty reduction in Malaysia is incontrovertible [13].

#### **Current and Future Food Security Situation in Malaysia**

In the late 1960s and mid 1970s, the agricultural sector assumed a crucial part in Malaysia's economy, contributing 33 percent for each penny of gross domestic product (GDP), giving portion of the aggregate employment, representing the nation's foreign trade wage of 50 percent. In 1970, the agricultural segment developed by 8 percent for each penny, primarily because of the accentuation on increasingly and better farming specialists in the nation's first national advancement arrange the principal venture of the Malaysian Plan (First Malaysian Plan – 1966-1970). Paddy production has increased by 11.9 percent per year for two growing seasons, during which a national paddy and rice authority (now a corporation, with its acronym BERNAS) was established to coordinate all aspects of production and processing of the paddy and rice industry in Malaysia.

#### **The Malaysian National Food Security Policy**

Several high impact agriculture projects such as TKPM (Permanent Food Production Parks), HIP-ZIA (High Impact Project-Aquaculture Industrial Zone) and Agropolitan were initiated to further develop Malaysia agriculture industry. Export for this industry had increased to more than 10 million US dollars in 2010. Based on the data gathered from the various studies, it has been established that agriculture industry is one of main factor in strengthening economic development.

Furthermore, the agricultural industry in Malaysia consists of the production, processing, and waste management of crops, livestock and fishes. It has been one of the most important industry that has generated income for the economy and has been proven as an effective medium to overcome poverty [13].

During the economic crisis in 2007, Asian countries including Malaysia focused to agriculture industry as one of their main income generators. Because of its strength in terms of shaping the socioeconomic development of the community, agriculture industry has been mentioned in every Malaysia Plan having brought more money into the country and the local community. In the Ninth Malaysian Plan (RMK-9), for example, agriculture is the third largest income generator for Malaysia [14].

Malaysia is currently facing new challenges in producing new findings that can help to boost the Malaysia agriculture sector and its food security level. Study by Umakanthan [15] stated that Malaysia dependency on food imports in recent years has increased dramatically and Malaysian eating habits has also changed. The changing lifestyles from rice to cornflakes, from mustard to cauliflower and spinach to broccoli has caused a higher food import bill. Therefore, more effort is needed to ensure that the agriculture industry can elevate the economic development of Malaysia in many years to come [14].

#### **ICT Utilization in Malaysian Agriculture**

An emphasis need to be given to the increase use of ICT in agriculture industry in Malaysia. Coordination between existing research, development and commercialization projects is important in boosting Malaysia's food security by utilizing the potential of ICT in agriculture.

#### **eFarming System in Malaysia**

An eFarming system was developed by a poultry company in Tampin, Negeri Sembilan, Malaysia. This corporation applied technologies and ICT to monitor progress of its chicken, their breeding progress and their breeding facilities called chicken houses. Twelve chicken houses (illustrated in Figure 1) equipped with high technologies were built in Tampin. These chicken houses have the maximum capacity of 28,000 chicken for each unit.



Figure 1: Illustration of chicken houses for eFarming system in Tampin,

## Malaysia

eFarming is a system that records, controls, shares information and can give guidance to any an operator from any location and at any given time. eFarming system has helped this organization in monitoring the control panels at each chicken houses, measure the weight of the chicken, monitor the water system and feeding system. With not more than 4 percent of mortality rate for the chicken in chicken houses, this company has successfully managed to breed healthier chicken in a control and clean environment. The success of converging technologies and ICT in poultry industry is an important milestone because the old tradition of open breeding for chicken has created a lot of problems that lead to both health issues and environmental pollutions.

## CONCLUSIONS

This paper concludes that utilization of technology have the potential to boost food security in Malaysia. More efforts should be made to incorporate technologies such as ICT in agriculture endeavors. Studies had showed the potential of ICT in speedy dissemination of crucial information to farmers especially in developing countries. Existing and emerging technologies can address issues for enhancing food security for our future. For example, technologies for improving agricultural productivity, methods for improving soil fertility and irrigation technologies can increase food availability and food production. Furthermore, technology foresight and assessment for agricultural innovations must be in place to manage potential technological risks, while maximizing potential improvements to food security in Malaysia.

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# INCLUSIVE AGRIBUSINESS ECOSYSTEM AS A SOLUTION TO INDONESIAN FARMERS' LOW WELFARE

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## EXTENDED ABSTRACT

Indonesia faces many challenges with various internal problems and threats from ASEAN Economic Community on its agriculture sector. At the bottom of the problems is low farmers' welfare as the main agribusiness actor who is not able to support national agriculture growth. This study explores the problem of farmers' low welfare using qualitative research method to analyze macro and micro environment surrounding Indonesia and particularly West Java agriculture as the province who boasts the 3<sup>rd</sup> largest land utilization for agriculture. Five agribusiness cases are chosen in West Java agricultural production centers as research objects for micro environment analysis. Farmers in four out of five agribusiness are found to be classified as "*the bottom of the pyramid*" (BOP) segment with daily income under USD 3. They face internal problems surrounding lack of capital, knowledge & skills, technology, market access, and market information. This study proposes purpose-driven inclusive agribusiness ecosystem (PDIAE) as a business solution to empower farmers at BOP, where they should form partnership with various potential business actors through value exchange. This way, farmers can solve their internal problems through much needed resources from these business actors and ultimately increase their welfare to be able to support national agriculture growth.

**Keywords:** agribusiness, agriculture, bottom of the pyramid (BOP), business ecosystem, inclusive business

## INTRODUCTION

Indonesia is undeniably rich with its agricultural diversity; famous even from the time when the archipelago was still a vassal to the Dutch three hundred years ago. Now, agriculture is no longer the main strength of the country as public and private's interest to the sector has been decreasing over the course of modern industrialization. Agriculture sector only contributed 10.13% of the country's GDP while manufacturing industry contributed twice the amount at 22.22% in 2015. The agricultural balance of trade is decreasing at a rate of -7.91% from 2011 to 2015. Inside the agriculture sector, farmers seem to have relatively low welfare as measured by farmers' exchange value (*Nilai Tukar Petani* or NTP) at 103, where value of 100 indicates farmer's income equals their expense (Ministry of Agriculture - Republic of Indonesia, 2016). Although Indonesia has enjoyed great economy growth over the last few years, the benefit does not reach farmers at the bottom of the pyramid (BOP) who only earn up to USD 3 per day. World Bank's research in 2015 shows that only 20% of Indonesian citizen enjoys the benefit while the remaining 205 million people is still somewhat struggling with daily necessities (The World Bank, 2016). This is evident from high national Gini ratio of 0.41 which persists since 2010. As the main agribusiness actor which has the capacity to support the livelihood of the whole country, farmers at BOP should be empowered to be a viable and competitive business actor to support distributed national agricultural growth. This study uses qualitative research method to analyze the problem of farmers' low income by using PESTEL analysis for macro environment and case studies in West Java province for micro environment. Overall, farmers are mostly found to be classified under BOP segment who earns less than USD 3 per day because they suffer from various internal problems which revolve around lack of capital, knowledge & skills, technology, market access, and market information.

## METHODOLOGY

This study explores the issue of low farmers' welfare using qualitative research methods on macro and micro environment of Indonesian agriculture sector. Macro environment analysis is carried out through information gathering using secondary data regarding current Indonesian agriculture conditions using PESTEL analysis. Micro environment is carried out by using primary data from 5 agribusiness case studies in West Java province. All 5 cases are situated in agricultural production centers in West Java. The 5 case studies are (1) Pandanwangi rice agribusiness at Cianjur regency, (2) Coffee agribusiness at Mount Halu, (3) Vetiver agribusiness at Garut regency, (4) Gedong Gincu mango agribusiness at Ciayumajakuning and Sumedang regencies, and (5) Horticulture agribusiness at Pangalengan district.

Data collection for micro environment analysis is carried out through focus group discussion (FGD), interviews, and observation of agricultural stakeholders at the 5 areas in 2014 for Gedong Gincu mango agribusiness and in 2016 for the other cases. The total participants of FGD and interviews reaches 195 people which encompasses cooperative heads, cooperative managers, farmers, government, processors, and retailers. The goal of FGD and interviews are to discover current conditions, business processes, internal problems, and potential solutions in each agribusiness. The FGD and interviews reveal various internal problems, business process, supply chain, value chain, and poverty profile of farmers at each area.

## FINDINGS AND SOLUTION

### MACRO ENVIRONMENT FINDINGS

Indonesian farmers are found to have low education as most only graduate from elementary school and junior high school. Being poor, they cannot afford higher education which results in their lack of knowledge and skills. This more or less results in their inability to compete on even grounds with other business actors, which causes farmers' low profit. This profit is not enough to sustain farmers' lives amidst the rising consumer price index, which makes many farmers leave their occupation to seek for more rewarding jobs. This gives rise to a possible

decrease on national agriculture's productivity, which would make the country rely more on imports. This situation is worsened by increasing farmland conversion into residential, commercial, and industrial area mainly in Java island. Higher import on food crops can lead to increasing consumer price index, which would make more people poor. In fact, Indonesian food poverty line contributes 79% to national poverty line, which means that poverty in Indonesia is sensitive to food price.

However, the overall agriculture condition is getting better. Indonesian government under Mr. Jokowi's presidency has initiated several inclusive economy initiatives to provide people living away from cities with financial knowledge, products, and services. The government also carry out a few programs to empower farmers such as securing farmland ownership, distribution of free farm machineries, distribution of free input supplies, etc. The country's young workforce is also encouraged to have entrepreneurial spirit to form SMEs to help develop poor people in their areas through business means and e-commerce.

### **MICRO ENVIRONMENT FINDINGS**

There are some shared similarities among the five chosen agribusiness case studies in West Java province as follows:

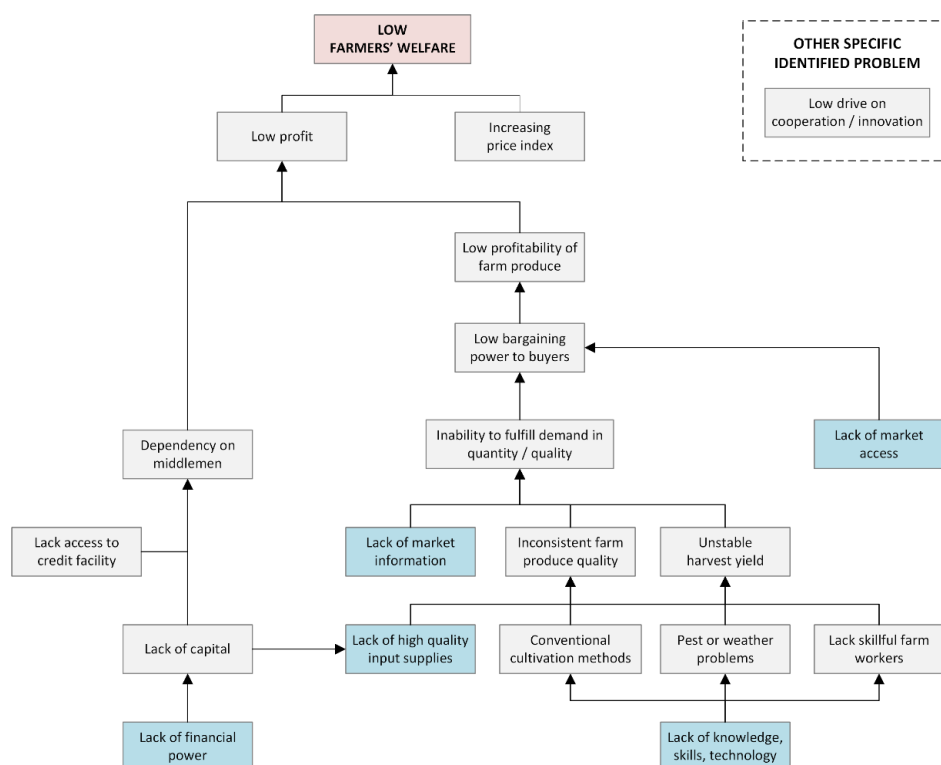
- There is local leadership in form of cooperative or farmer group
- Farmers lack tangible and intangible resources to various extent
- All agribusinesses have received external support from public and/or private sector
- Cultivation of specialized farm produce, which means the farm produce in the 5 case studies have their own market
- Domestic market as primary market to sell farm produce
- Situated within 50 km from major cities in West Java province

Out of the five case studies, farmers in rice, coffee, and vetiver agribusinesses can be classified into BOP segment; those in mango agribusiness are partly BOP; while those in horticulture agribusiness are above BOP segment. Various internal problems can be summarized as farmers lacking capital, knowledge, skills, technology, high quality input supplies, market information, and market access as shown in Figure 1. However, horticulture agribusiness at Pangalengan district stands out among the five since farmers there could earn over USD 7.46 per day. Upon further analysis, a notable difference that separates the horticulture agribusiness has compared to the others is that the farmer group in the area operates in close partnership with other business actors who can provide much needed resources for their agribusiness development. The farmer group engages in contract farming with a large modern retailer which is based on West Java's major cities and also Indonesia's capital city Jakarta. Transaction between the farmer group and the large retailer is supported by a local bank which can provide the farmer group with credit facility. It is also supported by a university which has agriculture major as a knowledge center and by Indonesian central bank as technology provider. Moreover, the farmer group is managed by a dozen people with college degree, which enables them to actively seek new innovations which can help their agribusiness grow. It can be said that the farmer group's success is due to its partnership with important business actors and their high education background. Such characteristics are not found in the other case studies.

### **PROPOSED SOLUTION**

The success of horticulture agribusiness in Pangalengan district gives a clue that by working together with important business actors who can give necessary resources, farmers can overcome their internal problems and grow. One possible solution that matches with this idea and is already proven to be successful in real world cases is purpose-driven inclusive business ecosystem (PDIAE). The main idea of business ecosystem is several business actors exchanging values among themselves – one actors' value fulfilling the other's needs – to cover weaknesses and create a greater synergistic values of all actors involved. Deloitte uses the following definition of business ecosystem by Eamonn Kelly, *"dynamic and co-evolving communities of diverse actors who create and capture new value through increasingly sophisticated models of both collaboration and competition"* (2015). The PDIAE can be broken down as follows:

- The purpose part is the reason and goal of doing own business, engaging in a business ecosystem, and partnering with other parties; which together form the direction and goal of business ecosystem which can be tracked anytime
- The inclusive part is to include poor business actors (in this case farmers at BOP) into the ecosystem to make sure the benefit of the added values positively impacts farmers' welfare at BOP, enabling them to grow progressively along with the whole value chain
- The business ecosystem part is to intentionally create and manage an environment of collaborative partnership with external parties who can give necessary important values to the existing value chain



**Figure 1. Root Cause Diagram of Low Farmers' Welfare**

In this study, farmers at BOP are chosen to be the initiator of local PDIAEs. The reason is that while agribusiness ecosystems formed by other, abler agribusiness actors may prove to be more reliable and sustainable, other actors are not as distributed as farmers are which would result in another patchy growth. If farmers are given understanding and training accordingly regarding PDIAE and entrepreneurship, they have the potential to become the ideal initiator of PDIAE in their areas. The following steps to initiating PDIAE in the following paragraphs are adopted from the book "They Will Be Giants" (Wilson, 2016).

Farmers at BOP should first identify their internal problems and explore their root causes to yield all necessary values which they need to solve their problems. Afterwards, they need to search for potential business actors who may provide those necessary values by means of partnerships. These first two steps are illustrated in Table 1. Farmers should then approach said business actors while also offering their own values which may benefit said business actors. If concession is achieved between farmers and a potential business actor, farmers should formalize the partnership and continue to review and maintain it throughout the life of the ecosystem. These last two steps are illustrated in Table 2.

Farmers should repeat the above process until all necessary values which farmers need are fulfilled by resources from partnering business actors. Farmers must also make sure that all partnerships are sustainable, which means the flow of value exchange and two-way communication happens constantly throughout the life of the ecosystem. This web of mutual symbiosis based on mutual trust among farmers and other business actors is what makes inclusive business ecosystem stronger compared to a business network. By engaging in sustainable partnerships where farmers are supported by collective resources of various business actors, farmers are expected to improve and be empowered to be a viable and competitive agribusiness actor both regionally, nationally, and even globally.

**Table 1. Example of Problems, Necessary Values, Their Stakeholders, and Instruments**

PROBLEM	NECESSARY VALUE	STAKEHOLDER	INSTRUMENT
Lack of capital	Alternative financing source	Financial institutions	Savings & credit facility
		Farmer associations/ cooperatives	Saving & loan service
	Alternative revenue stream	Buyers / intermediaries	Finance purchase of input supplies
Lack of knowledge, skill, or technology		Depends on the alternatives	Depends on the alternatives
		Research institutions	Knowledge sharing & training
		Consultancies	Training & coaching
	Technical & management knowledge / skill	Buyers / intermediaries	Training, coaching, technical support
		Financial institutions	Training & coaching
		Farmer associations/ cooperatives	Knowledge sharing, technical support
		Government bodies	Knowledge sharing & training

**Table 2. Potential Stakeholders, Their Instruments, Values to be Exchanged, and Possible Necessary Action**



STAKEHOLDER	INSTRUMENT	EXCHANGED VALUE	ACTION
Buyers / intermediaries	Contract farming	Farm produce in demanded quantity and quality	Search for appropriate buyers / propose to current buyers
	Finance purchase of input supplies		
	Market network		
	Provision of high quality input supplies & technology		
	Training, coaching, knowledge sharing, technical support, organizational support		
Certification bodies	Information sharing (transparency)	Information sharing regarding farm condition	Search for other ecopartners who can help getting through to certification bodies
	Training & certification	Finance and promotion	

### ONLINE PLATFORM

As the initiator of local PDIAE, farmers may not have sufficient relationship capital to find business actors who may be able to fulfill the values they need through partnership. Realizing this, School of Business and Management of Institut Teknologi Bandung helps farmers at BOP get ready to engage in local PDIAE initiatives using an online social platform called KUKM Ecobiz. KUKM is an abbreviation of “*Koperasi dan UKM*” or “Cooperatives and SMEs”, which signifies that the online platform is not strictly for farmers. The goal of this platform is to connect farmers and their umbrella cooperatives with other business actors (particularly SMEs) to collaborate in fulfilling each other’s needs.

One usage scenario of the platform is as follows. Suppose corn farmers at village X struggles with a lack of fertilizers to plant corn that they may be forced to settle for lower quality corns. They have enough capital to purchase fertilizers from the previous harvest yield, but none of the farmers have any relation with a relevant fertilizer supplier other than a local supplier which has zero stock at the time. Their representative R (e.g. the member of their umbrella cooperative) tries to register an account on Ecobiz KUKM, complete their credentials for credibility, and then begin searching for a fertilizer supplier near village X. Representative R comes up with a list of potential suppliers but in the end chooses Supplier S with logistics service to simplify transport process. Representative R then sends a message to Supplier S regarding the possibility to buy a certain amount of corn fertilizers and transport them to village X. It turns out that buying from Supplier S is cheaper than buying from the local supplier since Supplier S offers to both transport fertilizers to and harvest yield from the village with relatively small additional cost. Representative R and Supplier S then create a special group on the platform for communication regarding purchase of fertilizers and transport services, and also for harvest pickup schedule. From that point on, all communication between the two is localized within the group. This way, the corn farmers’ value chain is strengthened by a lower cost of input supplies and the support of transport fleet to the market; both of which the farmers did not have before they collaborate with a third party. Should the farmers face a situation where they need other values e.g. financial support, they can simply search for potential business actors in the platform again.

This platform is to be introduced and presented to potential business actors across West Java province by an MBA team from Institut Teknologi Bandung (MBA ITB). The team conducts a roadshow across the province to promote inclusive business ecosystem primarily for cooperatives and SMEs while also promoting the platform as the tool to help initiate and operate the business ecosystem. At the moment of this writing, the team has conducted a pilot questionnaire study on 33 cooperative heads across West Java as selected by West Java Cooperative Board. As much as 78% of them state that the platform is useful for their business and 81% of them plans to use the platform regularly once the platform’s development reaches its maturity. This shows promise that potential business actors are indeed receptive to the platform and hence serves as a justification for continued platform development.

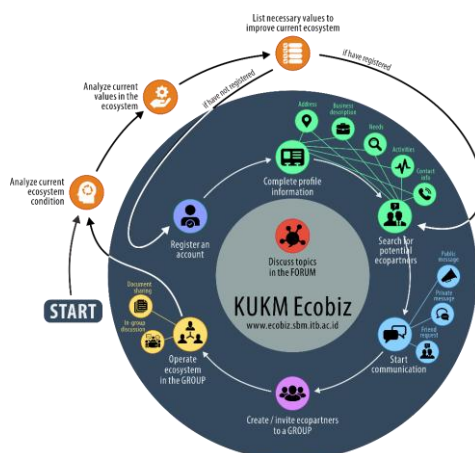


Figure 2. Activities Within and Outside KUKM Ecobiz Social Platform to Manage PDIAE

### CONCLUSIONS



Farmers in 3 out of 5 agribusiness case studies in this study are found to be classified into “*the bottom of the pyramid*” (BOP) segment who live under USD 3 per day. They have various internal problems which revolves around lack of capital, knowledge, skills, technology, market information, and market access. Yet, there are farmers who rise above poverty by collaborating closely with other business actors who can provide much needed value-adding resources to the farmers’ value chain. By collaborating in a win-win relationship with these business actors, farmers at BOP can get stronger by the strength of many through value exchange in inclusive business ecosystem. They can grow and evolve together with partnering business actors to overcome various internal problems and create new opportunities, potentially making them viable competitive business actor in regional, national, and even global context. If these inclusive agribusiness ecosystem initiatives are promoted across Indonesia, national farmers are expected to have increased welfare, national distributed agriculture growth can be achieved, the number of poor people can decrease, and national economy can be supported by solid farmers’ agribusinesses.

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# DOES CORRUPTION IMPEDE ECONOMIC GROWTH IN ASEAN?

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## EXTENDED ABSTRACT

Corruption is a serious problem in economic development in many countries. Corruption can not only reduce the level of competitiveness of a country but also can cripple economic development. This study aims to analyze the effect of corruption on economic growth with control variables such as inflation, government spending and foreign investment (FDI). This research uses panel data from 5 ASEAN countries (Singapore, Malaysia, Thailand, Indonesia and Philippine) during 2001-2015. The results show that corruption has a negative and significant effect on economic growth. The results of this study support the hypothesis Sand The Wheels Hypothesis (SWH) means that corruption can hamper the rate of economic growth in ASEAN countries. For Indonesia and Philippines, corruption has a positive and significant impact on economic growth. As for the state of Singapore, corruption has a negative influence but not significant. And for Malaysia and Thailand, corruption has a positive but insignificant effect on economic growth. The benefits of this research can provide information on the effect of corruption on economic growth in the five ASEAN countries, so that it can be used as input for each ASEAN country in formulating a better anti-corruption policy.

**Keywords:** Corruption, Economic Growth, and ASEAN

## INTRODUCTION

The World Bank (2000) had stated that corruption is an act of misuse of public trust for personal gains. Corruption becomes a global phenomenon that affects almost all aspects of life, whether social or economic. The World Bank (2008) estimated that more than US\$10 billion or around 5% of the world GDP is lost every year due to corruption. The African Union estimated that corruption in its territory is worth 25% of its GDP.

In examining the effects of corruption on economic growth, economists, historians, and political analysts have become engaged in a lengthy debate on whether corruption endangers economic growth, or just the opposite. The general viewpoint is that corruption disturbs economic activities by distorting efficient allocation of resources in the economy. Most economists view that corruption is the primary hindrance of development. As mentioned by Blackburn, Bose, and Haque (2005), corruption is one of the causes of low income and plays an important role in creating traps for poverty.

However, some researchers assume that corruption can also be beneficial for the economy. Adenike (2013) mentions that there is a viewpoint that corruption may be taken to be able to encourage economic growth based on the fact that corruption, as in the form of bribes to government bureaucrats, acts like oil that lubricates and facilitates the engine for economic growth. This is because corruption may be able to assist government officials in making the approval process of a project more efficient. Huntington (1968) gives the opinion that corruption will increase economic growth by accelerating bureaucracy so that problems in bureaucracy are easily resolved using money than by following existing bureaucracy. Corruption may run efficiently if corruption is executed in countries that possess extremely convoluted bureaucracy.

The level of corruption in a country may be measured from the Corruption Perception Index (CPI) as conducted by Transparency International (TI). This agency measures the CPI in values of 0–10. The higher the CPI value, the more clean a country is from corruption. Conversely, the lower the CPI value, the more corrupt a country is. The CPI itself is a composite index that measures the perceptions

of business actors and experts on corruption in the public sector - the corruption perpetrated by politicians, civil servants and state officials. Table 1 below shows the development of corruption as measured by the CPI in five ASEAN countries.

Table 1 CPI Values and Ranking of ASEAN Countries, 2011 and 2015

Negara	Peringkat 2011	Nilai CPI 2011	Peringkat 2015	Nilai CPI 2015
Singapura	5	9.2	8	8.5
Malaysia	60	4.3	50	5.4
Thailand	80	3.4	76	3.8
Indonesia	100	3.0	88	3.6
Phillipines	129	2.6	95	3.5
Total Negara	182		167	

Source: Transparency International, 2016

Based on the table, it appears difficult for the CPI values of each country to experience significant increases. On average, the values of the countries only increased by a few points. For example, within the five years of 2011-2015 the value for Indonesia only increased by 0.6. The same is true of Thailand and Malaysia which also increased by only several points. Only the Philippines experienced a large increase from 2011 to 2015, up from 2.6 to 3.5. The above data also shows that clean countries such as Singapore is always in the group of countries with the lowest levels of corruption and conversely corrupt countries also stay clustered together with few changes in positions, such as Indonesia, Thailand, and the Philippines. Yet as mentioned above, corruption can disturb the economic growth of a country, though others also state that corruption increases the growth instead. The aim of this research is to find out how corruption influences economic growth in five ASEAN countries. These countries are known to have differing economic conditions as well as differing levels of corruption, making this state interesting to be researched.

## METHODS

Data on Corruption Perception Index (CPI) had been collected from various reports of Transparency International. Data on control variables such as foreign investment (FDI), inflation (INFL), and government expenditures (EXP) were sourced from annual data of the World Bank database (WDI). Meanwhile, the dependent variable in this research is per capita GDP following the research conducted by Farooq *et al.* (2013).

The model used in this research utilizes pooled data, which is a data set that contains individual data samples (countries) within a certain time period (2001-2015). The base model of this research is:

$$Y_{it} = \beta_0 + \beta_1 CPI_{it} + \beta_2 FDI_{it} + \beta_3 INFL_{it} + \beta_4 EXP_{it} + \epsilon_{it}$$

For  $i = 1, 2, 3, \dots, 5$  and  $t = 1, 2, 3, \dots, 15$

Where:

$i$  = cross section data,  $t$  = time series data,  $Y$  = per capita GDP, CPI = corruption perception index, FDI = foreign investment, INFL = inflation,  $\epsilon$  = disturbance error

In analyzing the pooled data, there are three kinds of analysis models that can be used, which are Common Effect Model, Fixed Effect Model, and Random Effect Model. Determining the perfect model is conducted by performing the Chow test and the Hausman test. (Gujarati, 2013)

## FINDINGS AND ARGUMENT

Table 2. Results of Pooled Data Regression

Variabel	Nilai Koefisien	t-statistik	Probabilitas
CPI	-0.791770	-2.785624	0.0069
FDI	0.281656	3.078311	0.0030
EXP	0.072165	0.977579	0.3316
INFL	0.007829	0.233178	0.8163

At  $\alpha = 5\%$ , the variable of corruption that is represented by the CPI (Corruption Perception Index) shows that corruption affects economic growth negatively with a coefficient value of -0.791770. This

means as the level of corruption becomes higher, economic growth will drop by 0.79 percent and conversely, when corruption is low, economic growth will increase by 0.79 percent.

The results of this study indicate that overall (Singapore, Malaysia, Thailand, Indonesia and Philippine) corruption is an impediment to economic growth. Or in other words the hypothesis Sand The Wheels Hypothesis (SWH) applies in ASEAN. Corruption is a serious threat to every country. Because corruption can disrupt economic growth through various channels. As it hinders investment, corrupt state conditions will make multinational entrepreneurs reluctant to invest, since investments in corrupt countries will be detrimental because they have high stealth costs. And corruption also reduces the budget for maintenance of public facilities, such as road improvements that hinder the economy (Mauro, 2002). In addition, high corruption rates will also worsen health and education services. Consequently, drop-out rates and infant mortality have increased (Gupta, Davoodi, & Tiongson, 2000). This is in line with the opinion of Mo (2001) which states that corruption has been proven to be able to reduce economic growth in several ways, by affecting political stability, reducing the level of human capital, and decreasing the level of investment. In the growth model of Solow, levels of savings and investment will determine output and thus national revenue. Yet the levels of savings and investment themselves are very much affected by many factors such as tax policies, retirement patterns, growth of the money market, culture, and political stability.

Meanwhile, for the effect of other free variables, foreign investment is positive and significant on economic growth, with a coefficient of 0.281656. The variables of inflation and government expenditure have no significant effects on economic growth in ASEAN.

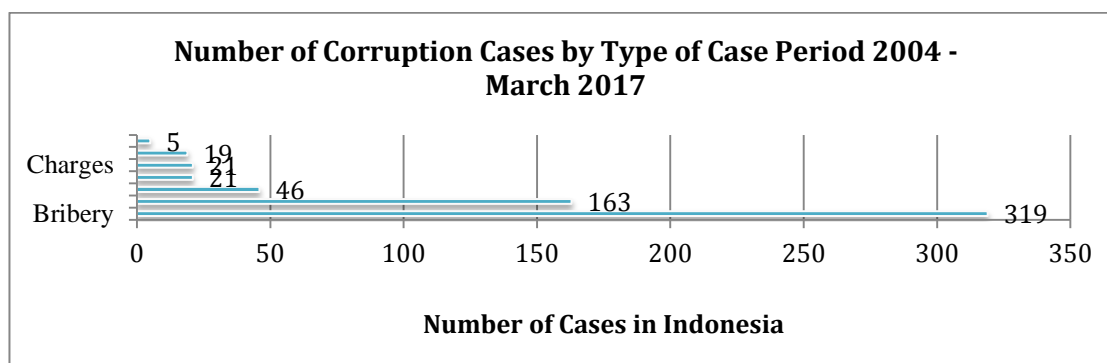
#### **Analysis of the Effect of Corruption on Economic Growth in ASEAN Countries**

To analyze further the effect of corruption on economic growth in five ASEAN countries, a regression needed to be formed with the estimation method where the cross section is none and the period is fixed, in addition to the CPI as the cross section-specific coefficient, because the focus of this research is the level of corruption (Sri Nawatmi, 2013)

Based on the results of the regression, the effects of corruption on economic growth for five ASEAN countries can be understood:

1. For Philippines, corruption has a positive and significant effect on economic growth with a coefficient of 1.189961. This means higher corruption in Philippines will increase economic growth by 1.189961percent.
2. For Indonesia, corruption has a positive and significant effect on economic growth with a coefficient of 1.237585. This means higher corruption in Indonesia will increase economic growth by 1.237585 percent.

Here a paradox occurs, where it should be that a high level of corruption in an area leads to a reduced level of economic growth. But the case of Indonesia and Thailand shows that the phenomenon is reversed; as the country becomes more corrupt, the level of economic growth becomes higher instead. This may be due to the presence of bribes or kickbacks to accelerate the licensing process, thus easing business transactions in trading. In addition, there may be bribes that accelerate government distribution of funds so that the process of development may be quickly carried out. This means that corruption has become “wheel grease” for the economies of Indonesia and Thailand due to the presence of structural stiffness.



Source: <http://databoks.katadata.co.id>

The graph above illustrates the state of the country of Indonesia itself, where the type of corruption cases that many occur is in the case of bribery. It is evident that Indonesia's state bureaucracy is very inefficient.

This is in line with the opinion expressed by Adenike (2013) who states that corruption can be considered to be able to encourage economic growth because there is bribery present in government bureaucracy, and thus corruption acts as the oil that lubricates and facilitates the engine of economic growth. In other words, corruption may enable government officials to make more efficient the approval process of a project. Leff (1964, in Egunjobi and Adenike, 2013) states that corruption can increase efficiency by eliminating government stiffness that hinders investment and disrupts economic decisions needed for development.

3. For Singapore, corruption has a negative and insignificant effect on economic growth. This shows that a high level of corruption has bad effects on economic development, in particular for countries with good bureaucracy such as Singapore.
4. For the Thailand, corruption has a positive and insignificant effect on economic growth.
5. For Malaysia, corruption has a positive and insignificant effect on economic growth. This supports the findings of the research by Huang (2015) and Pellegrini and Gerlagh (2004), who state that the insignificant effect of corruption on economic growth may be because most of the influence of corruption toward economic growth may be through other variables that affect economic growth, such as investment, quality of education, open trading, and political stability. In other words, the effect of corruption toward economic growth actually occurs, but not directly.

## CONCLUSIONS

Based on the results of the above research it can be concluded that overall (Singapore, Malaysia, Thailand, Indonesia and Philippine) corruption is an impediment to economic growth. Or in other words, the hypothesis Sand The Wheels Hypothesis (SWH) applies in ASEAN. However, when reviewed the effect of corruption on economic growth for each country shows different effects. This is due to the different levels of corruption among countries that have a different impact on the economy of ASEAN countries. Policies in the eradication of corruption are necessary for economic growth in ASEAN countries can be realized optimally.

## ACKNOWLEDGMENT

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# PROPOSED INCLUSIVE BUSINESS ECOSYSTEM PLATFORM TO INCREASE THE SUPPLY OF VETIVER OIL (CASE STUDY OF COOPERATIVE USAR GARUT)

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## EXTENDED ABSTRACT

Vetiver oil is one of the most important ingredients in perfume and fragrance industry. 90% of all perfume creations in America using vetiver oil as the basic material. The annual demand of vetiver oil approximately is 250 ton per year. Garut as the main Regency in Indonesia that produce high quality vetiver oil and the best place to grow vetiver, can only supply around 30 ton per year. The main reason why the production of vetiver oil decrease is because the business is not attract farmers to involve. Since the supply of vetiver from farmer has been limited, the factory is closed. This research analyzed the internal environment using macroeconomic analysis, industrial analysis, and competitor analysis. The external analysis conducted the research of business process analysis using Logical Framework Analysis (LFA) and Neural Respond Test using Electroencephalogram (EEG). Based on the internal and external analysis, the problem why the supply is limited because there are decreasing intention to become vetiver oil because the lack of capital and lack of knowledge and skills. To solve the problem, it need inclusive business ecosystem platform to connect all the stakeholders. Inclusive business ecosystem is a business model that allows stakeholders to interact each other.

**Keywords:** *Vetiver Oil, Inclusive Business Ecosystem, Garut, Neuromarketing*

## INTRODUCTION

Indonesia is one of the developing countries that have a good prospective opportunity to grow. When other country had a problem with the global crisis, Indonesia is still able to grow with the economic growth (GDP Growth YoY) is 5.04%. This achievement makes Indonesia is on the list of 5th country with the fastest growing economic in the world. Indonesian export of essential oils exceeded US\$ 124 million in 2010. Essential oil is mainly used in fragrance, medicine and culinary. The perfume industry is one of the largest consumers of essential oil. As a tropical country, Indonesia has a lot of plant species for essential oil industry to develop. One type of the essential oil is Vetiver. Vetiver or *Andropogon zizanioides* in Indonesia has been known since 1937 for its function as fragrances for cloth, batik, keris, and as a material to keep the mouse away. Kabupaten Garut (Garut Regency) is one of the region level II in West Java. Garut has a good level of soil fertility. Because it good condition of soil, Garut is very suitable for planting various plant, both of agriculture commodity, agro-industry product, and plantation. Cooperative "Akar Wangi Usar" is one of the intermediaries that collecting vetiver from farmers. It help the farmers to sell their vetiver to exporter and also providing extract service for farmers if they want to extract the vetiver. After farmers extract their vetiver, they can sell the vetiver oil to cooperative or sell it to other intermediary. Cooperative has four extract machines that can be rented by farmers to process their vetiver. Vetiver oil is value much higher then if farmers sell the raw vetiver root.

## METHODOLOGY

This study explores the issue of limited supply of vetiver raw material to cooperative's factory sing qualitative research methods on external and internal analysis. External analysis is carried out through macroeconomic analysis (STEPE Analysis), industry analysis (porter's five forces) and competitor analysis (competitive profile matrix). Internal analysis is carried out by using Business Process Analysis (BPA) and Neural Response Test.

Data collection for external analysis is carried out through focus group discussion (FGD), interviews, and observation of vetiver stakeholders in Garut. The total participants of FGD and interviews reaches 23 people which encompasses cooperative heads, cooperative managers, farmers and labor. The goal of FGD and interviews are to discover current conditions, business processes, internal problems, and potential solutions of vetiver industry. The FGD and interviews reveal various internal problems and business process.

## FINDINGS AND SOLUTION

### EXTERNAL ANALYSIS FINDINGS

Vetiver farmers are faced by the problem that they don't have enough capital to cultivate their farmland. The long time of planting season and uncertainty in market price of essential oil, make them really depend on to investors/lenders. Cooperative is a place for farmers to lend money with low interest rate. Live besides farmers, there are many middleman who also give the farmers fresh money in a short system but with high interest rate. Most of farmers do not have option but asking the middleman helps to start planting the vetiver. As recompense, farmers should give the vetiver to middleman. With the interest that getting higher, farmers cannot cut the cooperation with middleman. Most of farmers and labors have low education as most only graduate from elementary school and junior high school so they do not know the financial system very well. other problem is they do not have proper access to get information about the market price or information about how to plant the good vetiver from other party such as farmers from other area or from all over the world. Because of limited access to the information system, farmers are using middleman or cooperative to get the information about market price.

For export market, vetiver oil from Indonesia is one of the best quality among other country. There are only three country that can produce vetiver oil such as Haiti, Bourbon and Indonesia. This is most likely because of the condition of the soil and area that makes vetiver just only grow in those countries. Even though Indonesia has the best quality of vetiver oil, but Indonesia cannot compete with Haiti and Bourbon from capacity side. From 250 ton per year of vetiver annual demand, Indonesia can only supply 30 ton per year. this number is decreasing every year and Garut itself can only supply around 15 ton per year. this fact is caused because farmers has already gone and move to other commodities. Even though the local government of Garut has support 2.400 Ha of farmland but only 20% are being cultivated for vetiver.

### INTERNAL ANALYSIS FINDINGS


According to the LFA and FGD result, general problem that farmers faced in doing vetiver business is because of financial problem. They don't have enough capital to cultivate the vetiver's farmland. Vetiver has the long period of planting, around 12 months until it can be harvested. So for the beginning, they need big capital. Most of farmers are lending money from middleman. Middleman can easily lend the money in a short time. As recompense, farmers must sell they vetiver root or vetiver oil to them. Other problem that farmers face is limited good seed from government, unpredictable harvesting time (depend on weather and season), unpredictable the quality of oil because the lack of technology in processing the vetiver root, and lack of socialization to become vetiver farmer. This condition is also exacerbated by the bad experience of doing relations with middleman, so fewer of local people have intention to become vetiver farmer.

To analyze the relationship among cooperative, middleman and farmers group, author using neural response test using *Electroencephalogram* (EEG) Emotiv Insight to measure the relationship toward the stimuli of interest, engagement, stress, excitement and focus of farmer in doing relationship with cooperative, middleman and farmers group.

Knowing the farmers emotions in doing relationship with intermediary is very important because it determine the continuity of partnership and assure the availability of vetiver oil supply.

**Table 1. EEG Emotiv Insight Result Analysis**

	Cooperative	Middleman	Farmer Group
Interest	66	49	95
Engagement	0	37	0
Stress	69	38	0
Excitement	71	62	26
Focus	69	26	67
Relaxation	0	0	0

 : Highest score

### PROPOSED SOLUTION

According to the analysis in previous chapter, the root cause of why Indonesia cannot fulfill the export demand of vetiver oil is because:

#### - Lack of Capital

The declining of interest to become vetiver farmer is caused by the unfair price from middleman, so local people have not seen that vetiver as a profitable and potential business for the future yet. The condition is aggravated by the fact that many of vetiver farmers had trapped in the unfair loan scheme from middleman so many local people are being afraid to enter the business.

#### - Lack of Knowledge

The low production capacity is mostly caused by the harvesting that is not maximum and fewer good quality oil. The problem is encouraged by the lack of technology, the lack of labor number and the lack of knowledge and skills that farmer have.

### Proposed Business Literacy Program Initiative for Cooperative Members, Vetiver Farmers and Potential Farmers.

As it mentioned, the lack of education, knowledge, and skill that farmers have is the root of cause of why Indonesia cannot fulfil the export demand of vetiver oil. Minimum understanding in cultivating the farmland and limited information to buyer access, makes them relies heavily on third parties. As a result, their bargaining power become low and make them think that this is not a profitable business and fruitless. Effective business literacy skills open the doors to more educational and employment opportunities so that people can pull themselves out of poverty and chronic underemployment and prepare the farmers to face the Asean Free Trade Economic. In business literacy, participants are not only explained about several topics but also will be explained the detail material that matches with the industry. The program will cover several materials, as follows:

#### - Literacy and Numeracy

The participants will be explained about basic knowledge of business, basic economy and how it will impact to personal life and business relationship, how to create business strategy, short brief about finance and accounting, and negotiation with buyers. The participants will not gave the complicated numeracy data but will be explained more about the business environment and case example. The purpose of introducing the participants to basic finance and accounting is to accustom them with numerical data and trading calculation so they can get used to work with numeric.

#### - Life Skills

The knowledge and awareness to prepare the disaster in farmland is very important for farmers. Nature disaster can happen suddenly without warning first. The nature disaster could destroy the farmland even if the plant will be harvested shortly. So the awareness of disaster risk reduction is very important to prevent the loss of financial and farmland.



Vetiver is being planted in mountain area which have extreme sloping area and highland area. The farmland is susceptible to some disaster such as erosion, floods, earthquakes and fires. By giving the participants knowledge to prevent and to face the disaster, it will guide them to be smart in cultivate the vetiver farmland.

- **Entrepreneurial Skills**

Providing the entrepreneur skill and knowledge about agriculture and livestock. It will give participants independence in running their business so they can explore their creativity and innovation that needed to gain more profit and create a good quality product.

- **Access to Finance**

The education about basic finance is important for participants because they are actively doing contact/relationship with buyers or intermediary. The knowledge of finance will protect them from unfair price or adverse contract. Access to finance literacy will give them good understanding about common loan terms and interest rate

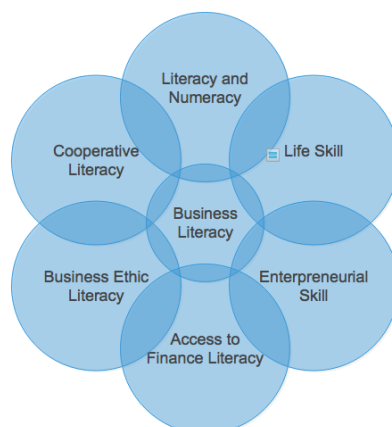
- **Business Ethic Literacy**

Farmers are most often affected to unethical business relationship. They are often considered as an unskilled labor that adjustable for some party. The participants have to change their mindset and consider everyone as a business partner.

- **Cooperative Literacy**

Participants will learn about cooperative USAR-Garut with the aim to attract the potential farmers to become cooperative member and promote cooperatative USAR-Garut as a business partner and business solutions for cultivate the vetiver farmland.

With the understanding of business literacy, it is expected that all participants will get the fully understanding how to manage their business well. They will feel confidence and ready to face the era of free trade competition and help each other to achieve a common goal.



**Figure 1. Business Literacy Model**

#### **Proposed Inclusive Business Ecosystem Online Platform**

To solve those problems, cooperative have to adopt the inclusive business ecosystem. Inclusive business ecosystem allows cooperative to make the integration with all stakeholders to make the business activities more effective, efficient, and more professional. By adopting the inclusive business ecosystem, the network of stakeholders will interconnect each other and will give additional benefit for the industry. The stakeholders that involved and interconnected each other are:

**Farmers:** providing the raw material and cultivate the land

**Intermediary:** purchasing goods and service as consumers, investing in business, providing financial solutions and become the business partner

**Companies:** engaging in research and development, selling the product, purchasing the products, providing financial solutions, investing in infrastructure and technologies and creating the standard of good vetiver oil

**Government:** new policies and regulations, improving the knowledge and skill of farmers by providing training, providing technologies and build infrastructure

**Business Association:** providing service such as market information, providing consultations, representing the members in global market, promoting the product

**Non-Government Organization:** overseeing the development of the industry, providing consultancy, informing the government policy

**Public and private donors:** providing financial loan as an investment, overseeing the development of vetiver oil industry, market information, business partners

**Academic or research institutions:** analyzing the business environment, market analysis and analyzing the external competitions

**Media:** raising awareness, inform the business, providing market information, promoting the business and become the medium for social agent change

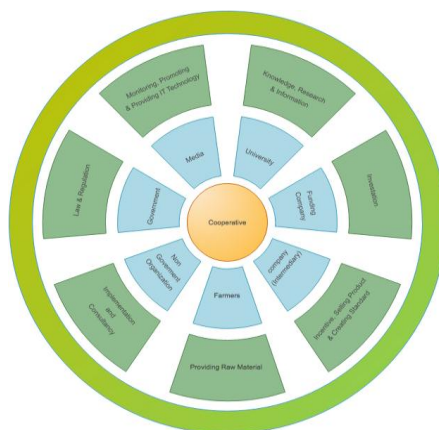


Figure 2. Inclusive Business Ecosystem for Cooperative

## CONCLUSIONS

Cooperative's factory that has the complete facility to accommodate the vetiver farmers in Garut face the limited supply of vetiver raw material. It is happened because there are declining the number of people who want to be vetiver farmer because they bound with bad middleman that loan them money with high interest and there are lack of knowledge and skill. It adding with the problem that cooperative doesn't have capital to help the farmers. By using the inclusive business ecosystem platform, cooperative could get help from stakeholder. The platform allow stakeholder to be involve in business so it could cut the bad middleman role. By adopting the inclusive business ecosystem platform, the doors will be open widely. Everyone in inclusive business ecosystem can connect each other and give the value.

Table 2 Example of implementation Plan

Activities	2017												2018				Estimated Budget
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	
Developing Business Plan Proposal																	
Collecting Data																	Rp 5,000,000
Business Research																	Rp 10,000,000
Training and Seminar																	
Pre-Seminar																	Rp 3,000,000
Socialization																	Rp 15,000,000
Conduct the seminar and training																	Rp 20,000,000
Promoting the Vetiver Industry in Local Farmer																	Rp 30,000,000
Proposed Introduction to Modern Production Technology																	
a. Buy New Machine																	Rp 300,000,000
b.Study Tour to Ministry of Industry, Trade and Cooperative																	Rp 20,000,000
c. Internship Program at Exporter Office																	Rp 10,000,000
Infrastructure Improvements																	
a. Water Instalation																	Rp 50,000,000
b. Land Transportation																	Rp 100,000,000
TOTAL																	Rp 563,000,000

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# DEVELOPING COCONUT AGRIBUSINESS IN PANGANDARAN THROUGH INCLUSIVE BUSINESS CASE STUDY: MITRA KELAPA PRODUCTION COOPERATIVE (KPMK)

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## EXTENDED ABSTRACT

Agribusiness sector have an important role in developing national economy. Coconut commodity and it's processed products is one of the preferred crop that have a great business potential. Indonesia, has an estimated 3,61 million hectares coconut plantation and become one of the largest coconut plantation area in the world. Pangandaran, as one of regency in West Java is known as one of the main coconut producers in Indonesia. However, most of coconut farmers in Pangandaran are small scale farmers in BOP (Bottom of Pyramid) level and still not able to exploit coconut business potential optimally. Mitra Kelapa Production Cooperative (KPMK) as the only coconut production cooperative in Pangandaran have an important role to help coconut farmers to increase and to exploit coconut potential business. This cooperative now faced an issue to fulfill the market demand. To analyze the problem, We do Inclusive Business Capabilities Assessment. The result shows that the coconut supply did not meet the target demand because of limited financial access between farmers (as cooperative member) & KPMK, limited information/knowledge and training, unclear/no standard operational procedures, and no active support (establish regulation) from government.

**Keywords:** Agribusiness, Coconut, Cooperative, Inclusive Business, Capability Assessment

## INTRODUCTION

Indonesia is one of the largest coconut plantation country in the world, with 3,61 million Ha plantation area (APCC, 2015). Based on the data of Asian and Pacific Coconut Community (2015), Indonesia also included as three countries with the highest total coconut production in the world (23,42 % total coconut production) and become the 2<sup>nd</sup> after India. Pangandaran, as one of regency in West Java is known as one of the main coconut producers in Indonesia, with 34.640 Ha plantation area or equivalent to 20,35 % of coconut plantation area in West Java. In addition, about 33,7 % productive age people of Pangandaran work in Agriculture sector (BPS, 2016).

In Pangandaran, coconut and its processed products has great business potential. However, Pangandaran farmers still not able to exploit this potential optimally. Mitra Kelapa Production Cooperative (KPMK) as the only coconut production cooperative in Pangandaran have an important role to help coconut farmers to increase and to exploit coconut potential business. This cooperative now faced an issue to fulfill the market demand. The high demand of coconut in the market is not comparable with KPMK production amount. Currently KPMK focus on two main product, which are fresh coconut nuts and desiccated coconut. The demand of desiccated coconut reached 300 tons per month until the beginning of 2017, however KPMK just able to produce around 25 tons per month.

The purpose of this research is to figure out factors that cause the low productivity of the coconut plantation in Pangandaran and to determine the effective strategy for developing coconut commodity as a potential business in Pangandaran. In the future, this study is expected can help coconut entrepreneurs (farmers, SME, etc.), especially that still in low economic level (BOP) to become prosper, by find the right strategy in developing coconut as the flagship/superior product in Pangandaran and by reducing the presence of the third parties in coconut business.

## LITERATURE REVIEW

According to (Michellini & Fiorentino, 2012) the suitable business model for these conditions called inclusive business model. This type of business model suits the agriculture industry that aim for high population and with a differentiated income level with a low production and innovation in products. The other advantages of this business model it will create an inclusive business ecosystem that mainly focused on social aspects such as eliminate bad intermediaries, increasing small scale farmer's quality of life, creating sustainable business environment but still profitable. This business model would also help Indonesia government restructured coconut industry since the inclusive business model needs supports from many

institutions and stakeholders. If this business model implemented in Indonesia also means a giant reorganize in coconut business model.

## METHODOLOGY

This research conducts the internal analysis with the *Inclusive Business Capability Assessment*. The assessment method provides the information that the actors need in order to achieve success in business with inclusive models. The information includes the strength and weakness of the actors, so they can evaluate their current condition, reinforce their strength, and reduce their weakness in order to create a sustainable supply chain for the sake of the companies, suppliers, and any other parties that participate in their business scope.

The assessment was performed based on inclusive business hub website that provide the guidelines for assessment and reporting result. The assessment consists of 10 capabilities area which cover 41 competency areas and 172 questions that addressed for both of the business unit and the farmers. Each competency would have minimum score from the calculation between the final value and the weight given to each question.

After we determined the capabilities, competency, and the factors contribution to overall score there are several steps to do next which is:

1. Develop questions and guide judgements based on capabilities area
2. Assigning weight to each capability area
3. Set a layout area of competence
4. Conducting interviews and giving a sub score to each questions
5. Calculating the sub score for each area of competence to obtaining the final score to each area of competence.
6. Giving the final score that owned by the company or actors

Assessment questions score depend on the position on the priority area company capabilities, and the score that company obtained through analyzing process. There are 3 areas of priority and 2 areas of competences. Every area of capability was assumed already have priority based on the connections with the questions. There are several scenario of weighting in the areas of priorities which is:

1. If the questions linked in area of first capabilities, the weight in the question would be 4 points
2. If the questions linked in area of second capabilities, the weight in the question would be 2 points
3. If the questions linked in area of third capabilities, the weight in the question would be 0.5 points

Based on the calculation with the weight and the sub score of every questions, we could get the numbers of the score from each capabilities areas.

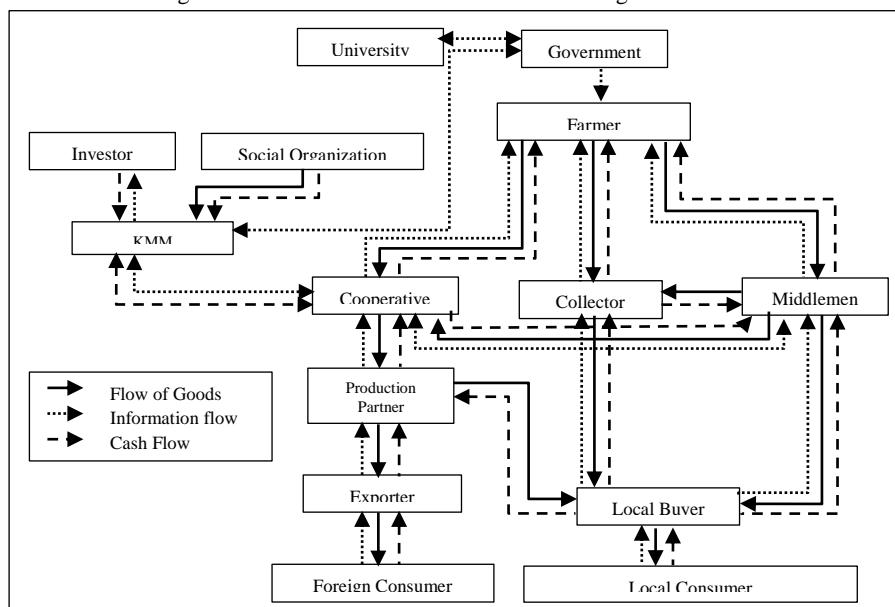
The final score above would tell us the current conditions of the company which mostly impact by their competence. This calculation would be useful to improving the company current situations and creating further business inclusive strategy for the company. The assessment conducted through LFA (Logical Framework Approach) and in depth interview with key informant in the both of the farmers and the board of KPMK. Based on the interview, the data collecting method reported using the assessment form which give value on the current performance of the company.

## FINDINGS AND ARGUMENT

### Value Chain Analysis

Value chain in coconut production business consists of many stakeholders. Stakeholders have their respective roles in adding value to the product. The value they give by each stakeholders are different, depend on their roles. Based on the results of stakeholder analysis, it is known that there is a problem faced by every stakeholder in running this business. Each problem has significant implications on the course of business activities in KPMK. Based on stakeholder analysis, the following is the value chain of Coconut business in Pangandaran:

Figure 1. Value Chain Coconut Business in Pangandaran



## Business Situation Analysis - Internal Analysis

Table 1. Inclusive Business Capability Assessment Summary

Capability Area	Score
StratMgmt	3.2
Proc_supply	3.8
Premises	2.9
Distrib_transp	2.3
Product_Quality	3.4
Interaction_w_customers	3.0
Finance	3.1
Leadership	2.9
HR	2.9
IT	3.2
<b>Total</b>	<b>3.1</b>

Table 1 shows the complete score of each capability area in the assessment held by KPMK currently. The final score for KPMK capability assessment is 3,1, which is categorize in category B level, this level indicates that KPMK has very good value. However, this value is still below 4,0 indicating that the cooperative still needs improvement in its business. Table 2 explains in more detail the main competencies of each capability that can be a strength for KPMK and the competence of the least value in running its business,

Table 2. Main and Worst Competency Area

Capability Area	Main Competency Area	Worst Competency Area
Strategic Management	Strategic collaboration	Competitive USP / SWOT
Procurement and Supply	Supply chain levels and transparency	Efficient procurement processes
Premises	Storage quality Capacity	Production and processing quality and efficiency
Distribution and Transportation	On-time delivery	Transportation quality and efficiency
Product Quality	Quality in the supply chain	Quality checks and verification of quality requirements
Interaction with Customers	Management of incidents and led processes	Branding, Marketing and Promotions
Finance	Financial planning, finance and investment	Accounting
Leadership	Legal and organizational structure	Integrity and acumen
Human Resource	Talent and performance management	Working conditions and benefits
Information Technology	Ownership of IT tools	Use of IT for non-transactional processes

Based on the business issue exploration internal analysis. It can be concluded several weaknesses, which affected to the Koperasi Produsen Mitra Kelapa (KPMK) Pangandaran. Root cause analysis of Coconut industry in Koperasi Produsen Mitra Kelapa (KPMK) in Pangandaran is show in figure 2.

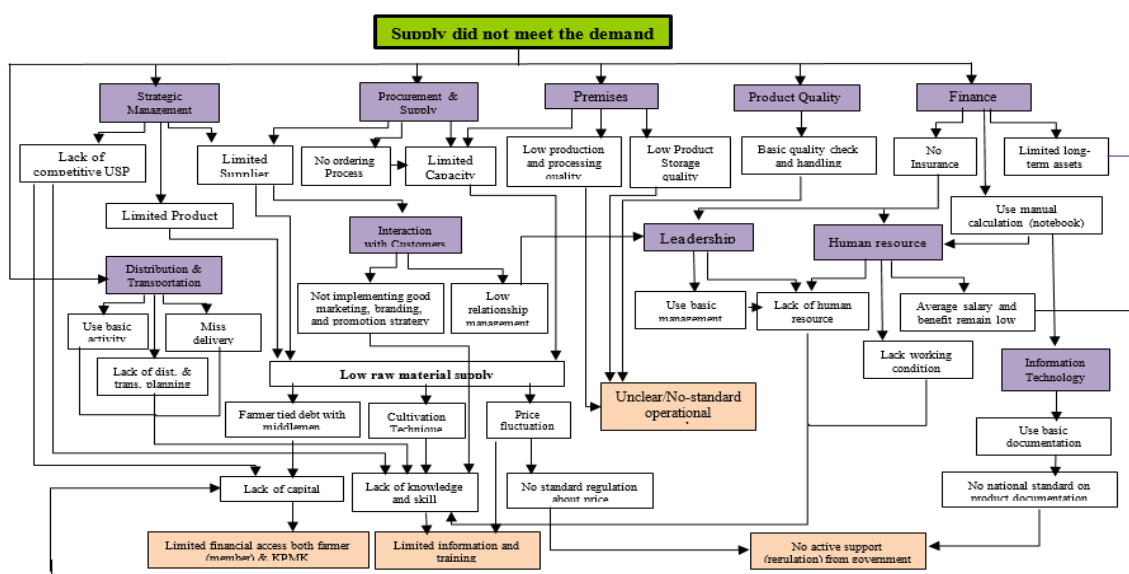


Figure 2. Root Cause Analysis

In improving the business environment and also innovating the business model in order to create a sustainable relationship among the stakeholders, figure 3 shows the inclusive business of KPMK suggestion. There are eleven strategies proposed in this research which are develop collaboration with related parties, provide training, develop standard operational procedures, renovating warehouse and production house, implementing basic warehouse management system, implementing insurance, invest in new equipment, develop profit sharing and benefit packaging, develop marketing strategy, develop organization structure, and develop working condition. Since inclusive business model are used in this research, the main strategy is develop collaboration with related parties such as expert, financial institution, farmers outside Pangandaran (e.g. Banjar, Tasikmalaya, and Ciamis), government, and another parties that can give more value and make the business process going effective and efficient. Figure 3 shows more detail each stakeholder that need collaborate in each activities.



Figure 3. Proposed Inclusive Business for KPMK Business Process

## CONCLUSIONS

Mitra Kelapa Production Cooperative (KPMK) as the only coconut production cooperative in Pangandaran have an important role to help coconut farmers to increase and to exploit coconut potential business. This cooperative now faced an issue to fulfill the market demand. The problem is not only caused by the cooperative itself, but also caused by the farmers as supplier and another stakeholders in Pangandaran coconut business. To solve this problem, inclusive business can be used. This is due to the fact that there are similarities of business problems and conditions to coconut business in KPMK with those found by UNDP (2010). In improving the existing inclusive business model, both KPMK and farmers cannot solve it by themselves, it is required the participation of other stakeholders who have a role in this business. There are eleven strategies proposed in this research which are develop collaboration with related parties, provide training, develop standard operational procedures, renovating warehouse and production house, implementing basic warehouse management system, implementing insurance, invest in new equipment, develop profit sharing and benefit packaging, develop marketing strategy, develop organization structure, and develop working condition. The main strategy are collaboration, in doing the business KPMK should collaborate with related parties.

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# THE READINESS OF COOPERATIVES IN WEST JAVA TO JOIN THE VALUE CHAIN (BUSINESS INCLUSIVE PLATFORM, KUKM ECOBIZ)

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## EXTENDED ABSTRACT

The purpose of this paper is to discuss the readiness cooperatives in West Java to gain value chain through technology. The technology used as an integrated approach to help the overall performance of business inclusive. Furthermore, the technology is used to integrate collaboration between cooperatives. This paper determines the relationship between essential components of inclusive business and technology, which include actors' and supporters' infrastructure (e.g., Social media) and willingness to collaborate to measure the readiness in each region. The research study the application of social platform as an integrated approach to examining the overall performance of readiness, also to measure how different people can be linked to inclusive business. The results show the willingness to collaborate is high in each region, and the difference of infrastructure ownership is significant.

**Keywords:** cooperative, inclusive business, technology, platform, KUKM ecobiz, business ecosystem, SMEs

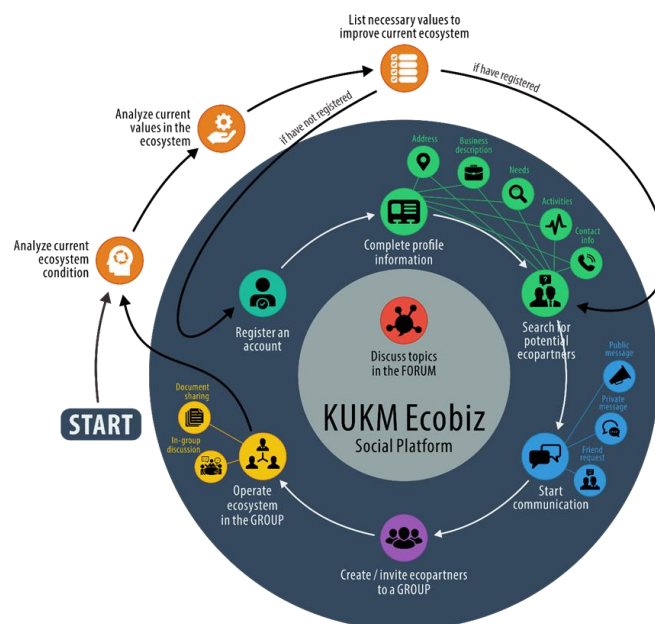
## INTRODUCTION

According to Department of Cooperatives and Small and Medium Enterprises (SME's) in 2015, West Java has occupied the 3rd position of the number of cooperative units below the Central Java and East Java. West Java has 25,741 units with 16,855 units are active cooperative units and the rest are 8,886 are the non-active cooperative groups. The total of the West Java cooperative members is 5,974,375 people. By the year 2015, cooperatives reach 4.41 % contribution in the Indonesian economic system to our Gross Domestic Product (GDP), and Small and Medium Enterprises (SMEs) contributed 61.41% to the total GDP. Those potentials will be useless if it does not to be managed properly. So, Department of Cooperatives and SMEs make some action plans to increase the economic contributions of Cooperatives and SMEs in the year 2017. According to Agus Muharram speech; the Secretary of the Ministry of Cooperatives and SMEs; those programs are: (1) increase the GDP growth value of the Cooperatives and SMEs averages 6.5 to 7.5% per year; (2) enhance the competitiveness of SMEs, which indicated by the average growth of SMEs productivity by 5-7% per year; (3) increase the number of entrepreneurial who create some new and potential growing innovative business, indicates by 1 million units business in 5 year which contributed from national and local programs; (4) increase the institutional participation and cooperatives business performance by increasing 2.5% membership participation in capital become 55% in 5 years and by measuring the average growth of cooperative business become 18% per year.

In line with the programs of the Ministry of Cooperatives and SMEs, SBM ITB tries to support the contributions of cooperatives and SMEs by introducing a business platform, named KUKM Ecobiz which was launched in March 2017. This platform can help those cooperatives and SMEs to do their business properly because it allows inter-cooperative relationships and also an inter-region relationship, especially for cooperative in West Java. To support these interactions, SBM ITB finds another stakeholder (financial supporting, universities, researcher, legal department, company, and government). Those stakeholders should register as a member of the KUKM Ecobiz first before they can interact with others in the platform as shown in Figure 1.

The purpose of this research is to know the readiness of cooperatives in West Java to join the value chain through technology adoption among actors and supporters in the value chain. The primary targets of this research are cooperatives that joined on this platform. There were the best 825 selective cooperatives join this Business Ecosystem Platform KUKM Ecobiz.





**Figure 1 Activity Cycle of KUKM Ecobiz (Hanniel, 2016)**

## LITERATURE REVIEW

### Technology Adoption

Khasawneh (2008) asserts technology adoption is as using or accepting of the new technology or new product firstly. Further, Musawa and Wahab (2012) define that technology adoption as individual behavior which gives effort to its technology or new product.

### Value Chain

Value chain “describes the full range of activities that are required to bring a product or service from conception, through the intermediary phases of production [...], delivery to final consumers, and final disposal after use” (Sievers and Saarelainen, 2011). Thus, it involves design, production, marketing, distribution, and support services” driving to consume (Sievers and Saarelainen, 2011). It also works in one firm or in between different firms which have single geographical location or through wide areas. The qualification of value chain relates to the fact that adding the value in the beginning product. It by way of the alliance with others resources such as tools, manpower, knowledge, raw materials, and skills (Sievers and Saarelainen, 2011). There are some advantages of the value chain, follow as below:

1. As a facilitation of collaboration between actors’ value chain to gain the market requirement and standards in the market.
2. The colleague will be cooperatives to inform others about the standards, product quality, and consumer preferences.
3. Working with farmers group to categorize and to understand value chains of commodity and the challenges of the market, also its opportunities.
4. Encouraging the dialogue among actors and supporters to improve their communication as long as value chain happen.
5. Bring out an inclusive approach to provide value chain Develop a regulatory environment for public and private sourcing relationships so profit margins are distributed fairly among different actors and supporters in the value chain”.
6. Improve value chain infirmity, because it will help classify bottlenecks and enhance the efficiency of value chains.
7. Affirm communication throughout the value chain increase awareness.

### Readiness

Social media contribute of indirect collaboration that it is distinguished from traditional teamwork in activities (Poellhuber, Anderson, Racette, and Upton 2013; Dron and Anderson, 2009). Thus, those tools contribute new opportunities and possibilities to educate user (Poellhuber et al., 2013; Kauffman, 2000). Using a type of social media, the new collaboration of new peers appear from the different group that implies the occurrence of collaborative learning. It also brings up the form of online teaching and learning (Poellhuber et al., 2013; Anderson and Dron, 2011).

### Willingness to collaborate

Collaboration relates to the chance to share information, especially in the strategic field. It also supports creativity. Channel partnership has a renowned role in business strategy field. Collaboration makes a congruent goal, giving vital information and complementary resources and capabilities (Dyer and Hatch, 2006). Thus the benefit of collaboration can be described as follow:

1. Strategic advantages for involved parties because most of these are working together. It also more productivity and build innovation based on customer perception
2. Create performance to make competition efficiently in the market.

### Digital business ecosystem adoption

Ecosystem business supports information processing service that affects to marketing organization and also emerges faster time framework in the chronicle of modern marketing (Jobs, Aukers, and Gilfoil, 2015). Ecosystem business model “is a business model composed of value pillars anchored in ecosystems and focuses on both the firm’s method of creating and capturing value as well as any part of the ecosystem’s way of creating and capturing value” (Westerlund, Leminen, & Rajahonka, 2014).

More (1996) asserts a business ecosystem as an economic society that provided by a prior of the interaction of organizations and individuals. A business ecosystem contains customers, producers, competitors, and the others stakeholders. More (1996) state that the ecosystem is leading influence on the co-evolutionary process. Structured ecosystems assert primary structures and governance, stakeholder roles, and



value-creating logics. Based on More (1996), there probably be appropriate or required participants in an appearing ecosystem. Thus, ecosystem business comes up when all stakeholders are a willingness to involve in it.

## METHODOLOGY

Survey the cooperatives as the first target by doing some socialization in 12 regions in West Java start from 2016th October. Until 2017 June, there were 825 cooperatives joined Business Ecosystem Platform KUKM Ecobiz from 12 areas in West Java are Ciamis (64 respondents), Soreang (74 respondents), Sukabumi District (67 respondents), Banjar (47 respondents), Bandung Barat District (88 respondents), Kuningan District (74 respondents), Sumedang District (102 respondents), Cirebon City (56 respondents), Pagandaran District (47 respondents), Subang District (44 respondents), Bandung City (68 respondents), and Tasikmalaya (94 respondents). The critical success factors: the regional readiness to accept the technology platforms; which measure by respondent's technology ownership of email, telephone, website, and social media (Twitter, Facebook, Instagram) and willingness to collaborate with the participants by using Likert scale range in 1 to 7. To analyze regional readiness to accept the technology platform business inclusive KUKM Ecobiz we use One-Way ANOVA and to know it's correlation with willingness to collaborate with the participants in each region we use Crosstab analysis by using SPSS 23.0.

## FINDINGS AND ARGUMENT

Based on the data from 825 cooperatives joined Business Ecosystem Platform KUKM Ecobiz in 12 regions of West Java, mostly 92.5% of West Java cooperatives have telephone ( $p=0.037 < 0.05$ ); 47.5% have an email account ( $p=0.061 > 0.05$ ); 3% have website ( $p=0.025 < 0.05$ ), and 6.3 % have social media (twitter, facebook, and Instagram,  $P= 0.00$ ), with the highest number in Subang District and the lowest in Ciamis District, Soreang, and Bandung Barat. Table 1 shows that most of the cooperatives in Ciamis District, Soreang, and Bandung Barat still not familiar with the communication technology because most of them still not have email, website, and social media; they usually communicate by telephones and dominated by the elderly; whom unfamiliar with the technology. Most of the cooperatives had telephone but did not have twitter, Instagram, and website.

**Table 1 Infrastructure Ownership in Each West Java Region**

REGION	INFRASTRUCTURE OWNERSHIP											
	Email		Telephone		Website		Facebook		Instagram		Twitter	
	Have (%)	Don't Have (%)	Have (%)	Don't Have (%)	Have (%)	Don't Have (%)	Have (%)	Don't Have (%)	Have (%)	Don't Have (%)	Have (%)	Don't Have (%)
Ciamis	2.5	5.2	6.2	1.6	0.1	7.6	0.7	7.0	0.2	7.5	0.1	7.6
Soreang	3.2	5.8	7.5	1.5	0.1	8.8	0.6	8.4	0.2	8.7	0.1	8.8
Sukabumi District	4.7	3.4	7.5	0.6	0.4	7.8	1.8	6.3	0.5	7.6	0.2	7.9
Banjar	2.5	3.2	5	0.7	0.2	5.5	0.5	5.2	0.2	5.7	0.0	5.7
Bandung Barat District	6.4	4.2	10.4	0.2	0.0	10.7	1.2	9.5	0.2	10.4	0.1	10.5
Kuningan District	4.0	5.0	8.2	0.7	0.1	8.8	1.3	7.6	0.2	8.7	0.4	8.6
Sumedang District	5.1	7.3	11.3	1.1	0.5	11.9	0.7	11.6	0.2	12.1	0.4	12.00
Cirebon City	3.0	3.8	6.1	0.7	0.2	6.5	0.0	6.8	0.0	6.8	0.0	6.8
Pangandaran	2.3	3.4	5.3	0.4	0.0	5.7	0.7	5.0	0.0	5.7	0.0	5.7
Subang District	3.9	1.5	5.3	0.0	0.1	5.2	1.7	3.6	0.5	4.8	0.5	4.8
Bandung City	3.5	4.7	8.2	0.0	0.5	7.8	1.2	7.0	0.2	8.0	0.2	8.0
Tasikmalaya	6.3	5.1	11.4	0.0	0.1	11.3	1.2	10.2	0.4	11.00	0.1	11.3
<b>TOTAL</b>	<b>47.5</b>	<b>52.5</b>	<b>92.5</b>	<b>7.5</b>	<b>2.4</b>	<b>97.6</b>	<b>11.8</b>	<b>88.2</b>	<b>2.8</b>	<b>97.2</b>	<b>2.2</b>	<b>97.8</b>

From the Chi-Square analysis, we got the result there is a relationship between cooperatives willingness to collaborate in each region with their communication channel infrastructure ( $X^2=27.27$ ,  $P=0.00<0.05$ ). So, Cooperatives that already has the communication channel infrastructure (such as telephone, e-mail, website and social media) tend to have the willingness to collaborate with other stakeholders because of the familiarity with experiences connecting with many new people. Collaboration is more than technological tools and related with cultural aspects, willingness to work together and sharing information to come up with new ideas.

Also, Figure 2 assessed cooperatives willingness to collaborate, and it shows that most of them are willing to collaborate with other stakeholders (65.8% high willingness to collaborate), even though the 7% are still unwilling to collaborate. Based on One Way ANOVA result, there is a significant difference of cooperatives willingness to collaborate rate in each region ( $p=0.00<0.005$ ), Cooperatives in Sukabumi district has the highest willingness to collaborate results (83.3%), while Cirebon City is the lowest (22%).

### Willingness to Collaborate of Cooperatives

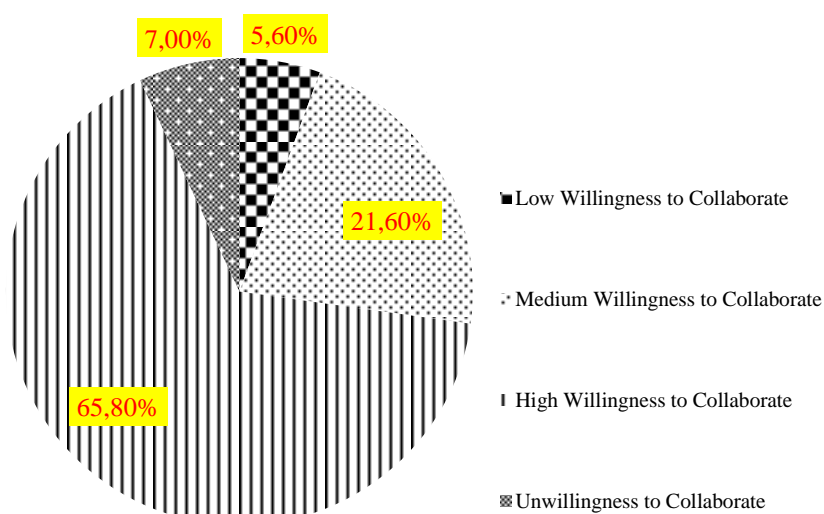


Figure 2 Proportion of Willingness to Collaborate

### CONCLUSIONS

Technology as tools for inclusive business to integrate cooperatives collaboration widely. This paper determines the essential components of inclusive business and technology which include actors' and supporters' infrastructure (e.g., Social media) and willingness to collaborate to measure the readiness in several West Java regions. The results show that most of the cooperatives in West Java already used communication channel infrastructures such as telephone, e-mail, website, and social media. However cooperatives in Ciamis district, Soreang, and Bandung Barat district still not familiar with it, they usually communicate by telephones and dominated by the elderly; whom unfamiliar with the technology. Also, there is a relationship between cooperatives willingness to collaborate in each region with their communication channel infrastructure. To improve willingness to collaborate between cooperatives, it is imperative to do massive socialization about how to use this Platform ecosystem inclusive business KUKM Ecobiz, to make people easily use this new technology. The future steps are: (1) finding other stakeholders who fulfill their cooperatives needs to make a complete interactions in platform; (2) doing Platform Content Analysis (PTA) every month by monitoring and evaluating the uses of this platform, (3) measuring the activation of each member of this platform, how high their trust, shared value, collaboration, and knowledge among them in Business Ecosystem Platform KUKM Ecobiz, and (4) keep doing socialization about this new technology.

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# THE ROLES OF PLUT (INTEGRATED BUSINESS SERVICE CENTER) IN EMPOWERING COOPERATIVES, SMALL AND MEDIUM ENTERPRISES

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## EXTENDED ABSTRACT

The Center of Integrated Business Service (PLUT) – Cooperatives, Small and Medium Enterprises (SMEs) was founded in 2013 to synergise all productive resources of central, regional governments and other stakeholders in growing and developing cooperatives, small and medium enterprises in Indonesia by providing some integrated services. Due to the heterogenous targets of PLUT as well as the various regional government approaches and supports in line with the complexity of the programs, those cause the different performance of forming pioneering, personnel recruitment, program conducting, monitoring and evaluation program also program documentation occurred.

The research was focused on three regions in Indonesia, - West Java, Jambi and Yogyakarta studied some issues (1) how the PLUT was able to empower cooperatives, small-medium enterprises, (2) what kinds of obstacles faced in empowering cooperatives, small-medium enterprises, and (3) how the vision and missions of PLUT could be realized. Those research questions were solved by using literature study and survey then being analyzed by a thick description.

The results of the research show that PLUT has been able to improve the competitive advantages of cooperatives, small-medium enterprises through some strategies such as production cost reduction, product differentiation and becoming pioneering products. While the obstacles faced were categorized into business actor's obstacles and business activities' ones. The vision of PLUT as integrated service center to enable cooperatives and small-medium enterprises develop the region advantage products was achieved. While the missions of PLUT could be achieving a high criteria shown from three indicators (center for problem solving, center of referral and center for best practices).

**Keywords:** : integrated service, cooperative, empowerment, vision, mission

## INTRODUCTION

The Center of Integrated Business Public Service (PLUT) – Cooperatives, Small and Medium Enterprises (SMEs) was founded in 2013 to synergise all productive resources of central, regional governments and other stakeholders in growing and developing cooperatives, small and medium enterprises in Indonesia by providing some integrated services. The function of PLUT is to develop cooperatives, small and medium enterprises. focused on four aspects (1) enhancing competitive advantages, (2) enhancing productivity, (3) enhancing product value added; and (4) improving working quality.

PLUT conducted at 21 locations, there are some conditions to consider such as heterogenous targets at every regions, different approaches and supports of local government for the program complexity. These could cause the different performances in whole aspects which are forming pioneering, personnel recruitment, program conducting, monitoring and evaluation program as well as program documentation.

Research questions :

1. How could the role of PLUT empower cooperatives, small and medium enterprises?
2. What are the obstacles faced by PLUT to empower cooperatives, small and medium enterprises?
3. How far the vision and mission of PLUT be achieved?

## LITERATURE REVIEW

The services conducted by PLUT are business guidance and monitoring, finance access facilitation, promotion and marketing, business training, networking and entrepreneur library. The service is stimulant that means it is for supporting

cooperatives, small-medium enterprises at first, they could enhance their capacities and solve their problems independently finally.

Kartasasmita (1996) states that people and society have potency to develop, therefore empowerment is an effort to build the potency by supporting, motivating and raising awareness of the potency to develop. To empower society is required a main approach that society is a subject of development. Therefore Kartasasmita (1997:29) says that empowerment must follow the following approaches: (1) Targeted empowerment; (2) Participatory empowerment and (3) Group oriented.

He also states that empowering society could be seen at these aspects: (1) Creating condition and climate enabling society's potency developed; (2) Empowering people potency and (3) Empowering means protecting. The role of cooperatives and small, medium enterprises must be increased and strengthened continuously. Some programs have already been conducted both financial and non financial as guided on Strategic Planning of Cooperative and SMEs Ministry of Indonesia.

## METHODOLOGY

- Literature Study as the beginning step in composing theoretical frame
- Composing Instrumental Research for questionnaire and survey guideline
- Conducting survey for Information and data identification at three regions
- Sample determination
- Information and data processing and analyzing

## FINDINGS AND ARGUMENT

### 1. The Roles of PLUT in empowering cooperatives, small-medium enterprises.

There are three factors influencing the competitive advantages which are improvement business management efficiency, product differentiation and pioneer products. The result shows that PLUT has been able to improve competitive advantages of cooperatives, small-medium enterprises by cost production reduction, product differentiation, pioneering product, increasing economic scale and competitive advantages.

### 2. The Obstacles of PLUT in empowering cooperatives, small-medium enterprises.

There are some identified obstacles faced by PLUT when it has to improve the competitive advantages of cooperatives, small and medium enterprises. They could be categorized the obstacles of entrepreneurs and business activities. Another obstacle faced is related to cooperatives and SMEs as the partner entrepreneurs of PLUT

### 3. The achievement of PLUT's Vision and Missions

#### a. The Achievement of PLUT's Missions

The missions of PLUT are being a *center for problem solving*, *center of referral* and *center for best practice*. The results show on the following table.

Table 1. The Achievement of PLUT's Missions

No	INDICATORS OF TARGET	REGIONS			THE OUTPUT OF GENERAL INDICATORS
		WEST JAVA	Jambi	Yogyakarta	
1.	Center for Problems Solving	High	High	High	High
2.	Center for Referrals	High	High	High	High

3.	Center for Best Practices				
		Fair	Fair	Fair	Fair
The General Condition of PLUT's Missions Achievement		High	High	High	High

b. The Achievement of PLUT's Vision

The PLUT's vision is to be a center of integrated service enabling cooperatives and small and medium enterprises to develop region advantage potency. The result of the research of the PLUT's vision is as follow:

Table 2 The Achievement of PLUT's Vision

No	Target Indicators	Regions			General Indicator Output
		West Java	Jambi	Yogyakarta	
1.	Target Output	High	High	High	High
2.	Objectives Output	High	Very High	High	High
3.	Mission Output	High	High	High	High
General Condition		Tinggi	High	High	High

The table shows that the achievement of PLUT's vision is in high criteria. Thus the PLUT vision to enable cooperatives and small-medium enterprises to develop region advantage potency are achieved though in some aspects should be improved.

## CONCLUSIONS

The conclusions of this research shown by the achievement of its focuses, strategic targets, its objectives and its three missions (1) Center for Problems solving, (2) Center for Referrals and (3) Center for Best Practices. PLUT is able to achieve

the vision as a center of integrated service enabling cooperatives and small, medium enterprises to develop the region advantage potency

Some recommendations are proposed (1) Local government has to maintain the existence of PLUT as a CSMEs developing partner by compensate the well-performed PLUT; (2) Having cooperation among other bureaus to avoid overlapping programs; (3) Having cooperation among local government and local universities in providing more and capable consultants for cooperatives and small-medium enterprises.

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# IDENTIFICATION OF MOTIVATION ASPECT ON ECOPRENEURSHIP-BASED PIONEERING BUSINESS IN IMPLEMENTING RECYCLE ACTIVITY (Study on Growbox, IZEMU and Planter Craft in Bandung City)

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## EXTENDED ABSTRACT

The objective of this study was to understand the factors that motivates ecopreneurs in running recycle-based business by conducting assessment on Passion, Gap in the Market, Making a Living, Being their own Boss, and Green Value on Growbox, IZEMU and Planter Craft towards the next level recycling habits called upcycling. This study was a qualitative case study. Data were collected through in-depth interview with semi-structured format and questionnaire using purposive sampling method against total 9 respondents who are founders of these research objects. The result was there was a dominant factor in each respondent, R1 was dominated by the making of living factor; R2 was dominated by making a living and green values factors; R3 was dominated by green values factor; R4 was dominated by passion factor; R5 was dominated by passion and gap in the market factors; R6 was dominated by green values factor; R7 was dominated by gap in the market, making a living and being their own boss factors; R8 was dominated by passion and being their own boss factors; R9 was dominated by passion factor. All of them made Growbox was dominated by green values factor, IZEMU was dominated by passion factor and Planter Craft was dominated by being their own boss factor.

**Keywords:** : *Passion, Gap in the Market, Making a Living, Being Their Own Boss, Green Value*

## INTRODUCTION

Environmental degradation is still the most prominent global issue since 21<sup>st</sup> century. It's shown by the increasing land degradation, soil erosion, deforestation and toxic industrial. It emerges very serious concern about the negative consequences of ozone depletion, climate change, nuclear radiation and the destruction biodiversity. Economic growth often occurs done without consideration of environmental protection. Despite the economic growth and quality of life continues to increase, expansion of the industry also has had negative effects on the environment. <sup>[7][19][20]</sup>

The similar problems occur in Indonesia. The environmental portrait in Indonesia is evaluated by the data from Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia which shows that total Environmental Quality Index from all area in Indonesia is 63,96% in 2012, 63,2% in 2013 and 63,42% in 2014. The main environmental degradation in Indonesia is contributed by waste. <sup>[10][11][12]</sup>

The condition of waste in Indonesia spur the emergence of some people who care about fostering environment and eliminate activities which cause negative effect. In terms of consumption, consumers also tend to choose to buy a product that is considered environmentally friendly aspects. The condition is in line with the development of entrepreneurs who see an environmentally friendly business opportunity known as ecopreneur. <sup>[1][13][17]</sup>

Ecopreneurship field began to be investigated by the resarchers since the end of 1990. According to Kirkwood and Walton (2010) and Anderson (1998) ecopreneur is a different part of the entrepreneur in terms of doing business, especially in terms of motivation to become an entrepreneur. Ecopreneur defined as entrepreneur who enters the environmentally friendly market that are not only make a profit, but also has the power of the underlying values of the environment. <sup>[9]</sup>

Ecopreneur developments also occurred in Indonesia, especially in Bandung. Bandung obtains grant funding from the French State since winning eco-district concept of eco-friendly trigger activity in all fields and stimulate growth ecopreneur to thrive and contribute to the development of environmentally friendly business unit. Because of this, Bandung turns to be city which obtain *eco-district* concept that involve many environmentally friendly activities such as utilizing waste and spur the development of ecopreneur. Ecopreneur have close connection with recycling activities. Basic recycle process is the practice of taking things that are not used with targets for re-use by turning it into a cycle of contribution in society, rather than throw it into the garbage. Former raw materials used in the process are often in the form of trash or recycle household waste. <sup>[4][6]</sup>

Besides recycle, McDonough and Braungart (2002) introduces a new concept in the process of recycling objects called upcycling. Upcycling refers to the reuse of material in new ways without reducing the value of the material itself, as opposed to a recycle process, which generally produce lower value of usefulness new form of material and use more energy to be made. The main difference between the upcycling and recycling is, upcycling implements the use of garbage production of a product for repeated indefinitely to be a higher value product that enables the absence of production waste at all (zero waste). The problem is, trend of upcycling in Indonesia is not as high as recycle, because upcycling required high creativity and knowledge of the material content to be sustainable and indefinitely produced. <sup>[5]</sup>

In implementing recycling activities, ecopreneur in Bandung are faced with the conditions of landfill waste which is dominated by wood, twigs and leaves with the proportion of 29% of the total other types of waste <sup>[2]</sup>. Things that trigger ecopreneur to conduct business activities through the use of waste arises from the motivations of each ecopreneur. Research conducted by Kirkwood and Walton (2010) showed that the motivation of an ecopreneur has similarities with the motivation of an entrepreneur. Ecopreneur motivated by their desire for freedom (being their own boss), benefit (making a living), look at the opportunities the market gap (gap in the market) and passion. The difference between an entrepreneur and ecopreneur motivation is, ecopreneur is motivated also by environmentally friendly values (green values) that is strong enough to make him decide to become an entrepreneur. Motivation can influence the process - the entrepreneurial process, for example, differences in the perception of people in the face of risk.

The objective of this study is to understand the factors that motivates ecopreneurs in running recycle-based business by conducting assessment on Passion, Gap in the Market, Making a Living, Being their own Boss, and Green Value. Based on Kirkwood and Walton explanation (2010) ecopreneur field is still in its infancy. In addition, the researchers look at the environmental degradation in Indonesia

getting worse so it should be a trigger and motivation for a ecopreneur to take advantage of the opportunity to apply upcycling activity immediately, not just recycling to create sustainable living and a positive impact on the environment. Due to this phenomenon, researchers do a study on Growbox, IZEMU and Planter Craft as research objects which use waste derived from wood for recycling.

## LITERATURE REVIEW

### 2.1 Ecopreneurship

Ecopreneurship term is a combination of two words, 'ecology' ('eco') and entrepreneurship. Ecopreneurship can be defined as 'entrepreneurship through the lens of the environment'. Ecopreneurship characterized by several aspects of entrepreneurial activities which are less oriented towards the management system or technical procedures and more focused on personal initiative and skills entrepreneurial person or team to achieve market success with environmental innovations <sup>[17]</sup>. Ecopreneurship can be referred to the definition of green concept which is moving toward environmental or ecological sustainability in products and processes. Nevertheless, there are similarities in that perspective where ecopreneur not only profit-oriented but also the care about environmental and social. Ecopreneur want to make the world better by improving the quality of nature and the environment.

### 2.2 Ecopreneurial Motivation

Shane (2003) asserts that people's personality and motivation will affect likelihood that they will take advantage of entrepreneurial opportunities with a certain motivation that other people do not realize. Kirkwood & Walton (2010: 215) state that there are five factors that motivate entrepreneurs in doing business based ecopreneurship system, those are :

#### a. Passion

Passion motivational factor closely related to the interest that drives and spurs ecopreneur to play its role as someone who runs a environmentally friendly business. In starting a business, there should be the need for an interest in running it. Passion makes ecopreneur have an interest in the business or the products and services offered. Most ecopreneur has high ambitions in the act directly to reduce environmental problems.

#### b. Gap in the Market

Most ecopreneurs identify their personal needs that cannot be found in the market and then spurred them to run a business. They see gap in the market for particular product or service. These findings reflect some studies describe ecopreneur motivation which shows that ecopreneur take advantage from imperfections of market and available opportunities.

#### c. Making a Living

For some ecopreneur, there is a clear statement of the monetary motivation factor. Few of them are talking about profit, but tend to willingness to make a living or a daily surcharge. There are some cases that the purpose of ecopreneur clearly focused on profits. Most decide not to focus on finances. In all cases where ecopreneur talks about the financial motivation, nobody mentioned their desire to make huge profits.

#### d. Being Their Own Boss

Some ecopreneur mentioned that they want to be a boss for themselves in having a business. The motivation indicates that this is something found in many entrepreneurs in common. This finding is associated with some similarities found in a study related to the entrepreneur. In addition, there are also business made together with their spouses, and it can show the existence of a correlation between ecopreneur with their families.

#### e. Green Values

Based on research conducted by Kirkwood and Walton (2010), half of all ecopreneur based on the value of green or eco-friendly values as a primary motivation in founding the business. A highly motivated ecopreneur in spreading the values of their green values to others. They were motivated in running the business an environment. Ecopreneur who are motivated by this factor will not make massive exploitation of natural resources.

## METHODOLOGY

This research is a case study on Growbox, IZEMU and Planter Craft using qualitative research method. These 3 research objects were chosen due to similarity in term of environmentally friendly company that win business start-up awards from business incubators. In addition, all three apply recycled materials based on wood. Data are collected through in-depth interview with semi-structured format and questionnaire against the figures involved in the founding of Growbox, IZEMU and Planter Craft. Secondary data related to the theme of the research are used to support this research, such as scientific journals about ecopreneurship, data from company profile, news and social media related to the research.

Respondents are selected using purposive sampling technique which could be key informants to give the information researchers want. There are total 9 respondents which each of these 3 people comes from each research objects : R1, R2 and R3 from Growbox; R4, R5 and R6 from IZEMU; R7, R8 and R9 from Planter Craft.

**Table 1.1 Research Question**

No	Sub-Variabel	Research Question
1	<i>Passion for the environment</i>	<i>Passion</i> Are you interested to give contribution in reducing environmental negative effect through your business?
2	<i>Passion for their product or service</i>	Do you want to eliminate negative effect to environment through your product line? How does it work?
3	<i>Observe a gap in market</i>	<i>Gap in the Market</i> Why do you choose environmentally friendly business?
4	<i>See the need for a product or service</i>	a. How do you know consumer needs for your product? How much does the customer demand? b. Is there any competitor in your business? Does it motivate you to do business?
5	<i>See a growing market</i>	a. Do you see the development of environmentally friendly market? Does it motivate you? b. How is your prediction about the your business in the future?
6	<i>Money</i>	<i>Making a Living</i> a. Does your business profit motivate you? How does it work?
7	<i>Provide for Family</i>	b. As an ecopreneur, which one do you prefer between profit and care about environmental issues? Are you motivated by financial motivation to live your family life?
8	<i>Independence</i>	<i>Being Their Own Boss</i> Why do you choose business than working with others as staff?
9	<i>Do something for self, or as a couple</i>	Is there any achievement do you want to reach by running a business?
10	<i>There must be a better way</i>	<i>Green Value</i> a. Why do you implement recycle activity in your business? b. Is there any environmental degradation you really want to solve through your business?
11	<i>Sustainability</i>	How do you run business to aim sustainable living?



No	Research Question	
	Sub-Variabel	<i>Passion</i>
12	<i>Educating other</i>	Have you educate people about the importance of environmental care behavior through your business?

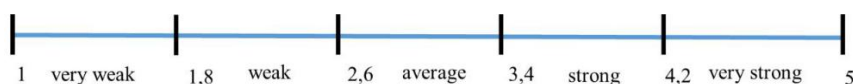
Questionnaires are used to determine the domination of motivational factors for each respondents. Data obtained are analyzed using likert scale measurements included in the rating scale and then classified based on strength. Rating scale is raw data obtained in the form of numbers and then interpreted in a qualitative sense.

*By being one of the founders of Growbox/IZEMU/Planter Craft, please rank the following statement on a scale of 1-5; where 1 is strongly disagree and 5 is strongly agree.*

**Table 1.2 Questionnaire**

A.	<i>Passion</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1	I am very passionate in running my business	1	2	3	4	5
2	I want to play a role in reducing environmental damage through my business	1	2	3	4	5
3	I am very passionate to do activity as ecopreneur	1	2	3	4	5
4	I am interested in product i provide in my business	1	2	3	4	5
5	I am very passionate offering products in my business	1	2	3	4	5
<b>B. <i>Gap in the Market</i></b>						
1	I look for market opportunities through awareness of environmental issues	1	2	3	4	5
2	I see unmet need in the market nowadays	1	2	3	4	5
3	I see a new growing market in line with the increasing of environmental awareness	1	2	3	4	5
4	I am interested on a gap in the market	1	2	3	4	5
5	i build my business because i see gap in the market for products i own	1	2	3	4	5
<b>C. <i>Making a Living</i></b>						
1	I deserve a big profit from my business unit	1	2	3	4	5
2	I can meet my life needs from the income I receive through my business	1	2	3	4	5
3	I give priority to the benefits I get from my business than anything else	1	2	3	4	5
4	I am trying to increase my product sales to increase profits	1	2	3	4	5
5	I run this business to meet needs of my family	1	2	3	4	5
<b>D. <i>Being Their Own Boss</i></b>						
1	I prefer to set up my own business instead of working with others	1	2	3	4	5
2	I love working with flexible time and activity	1	2	3	4	5
3	I get the freedom by running my own business	1	2	3	4	5
4	I want to get a feat for myself in running my business	1	2	3	4	5
5	I am inspired to be the boss in working	1	2	3	4	5
<b>E. <i>Green Values</i></b>						
1	Environmentally friendly business becomes the key business unit that I run	1	2	3	4	5
2	I apply environmentally friendly way in producing products in my business	1	2	3	4	5
3	I try to spread green values in others through my business	1	2	3	4	5
4	My business has a good impact to the environment	1	2	3	4	5
5	I keep sustainability for the environment through my business	1	2	3	4	5

The average score from questionnaire are classified into some level measured and represented using continuum line.



**Figure 1.1 Interpreted Score Continuum Lin**

## FINDINGS AND ARGUMENT

### a. Passion

Based on analysis, 8 respondents are very strong motivated and 1 other is strong motivated by passion factor. Here are the respective reasons about respondents' passion motivation factor :

#### 1) Passion for the Environment

R4 : "Yes, actually i am motivated to do business by passion because i am curious to make unique stuffs. We concern about environmental damage that happens so we build a company involves environmentally friendly activities and products."

#### 2) Passion for Their Product or Services

R3 : "My passion doing this because Growbox totally means us because all of our ideas we embody through Growbox. Besides, we've been here for 4 years and we do everything full time here. We focus to develop our business."

### b. Gap in The Market

Based on analysis, 5 respondents are very strong motivated, 3 respondents are strong motivated and 1 other is not too motivated by gap in the market factor.

#### 1) Observe a Gap in the Market

R1 : "We don't start from market needs. We start the business from value proposition."

#### 2) See the Need for a Product or Service

R6 : "Usually we know from exhibition. We can't recognize the need of consumer about our product by using online way such as social media."

#### 3) See a Growing Market

R9 : "Yes, I see the development of it. Some time ago i saw products like pot made from biodegradable material."

### c. Making a Living

Based on analysis, 4 respondents are very strong motivated, 2 respondents are strong motivated and 3 others are not too motivated by gap in the market factor.

#### 1) Money

R5 : "Yes, but not as domination. I mean, i see IZEMU as my motivation like I grow my children up."

- 2) Provide For Family  
R2 : “Yes, it must be. It must be, because I don’t have any choice, hahaha. I will search for the other one if i am not motivated to live my family up by this business.”
- d. Being Their Own Boss  
Based on analysis, 5 respondents are very strong motivated, 3 respondents are strong motivated and 1 other is not too motivated by being their own boss factor.
  - 1) Independence  
R4 : “As a designer, i don’t really like being forced by another person. I don’t want to create other person’s dream. I have my own desire and by founding my own business, i could make my dream and desire real.”
  - 2) Do something for self or as a couple  
R7 : “ I just would like to motivate other person to consume more environmentally friendly product that created from recycling activity.”
- e. Green Values  
Based on analysis, 6 respondents are very strong motivated and 3 others are strong motivated by green values factor.
  - 1) There Must be a Better Way  
R7 : “I think moss is unique plant and has many benefits like absorbing water from soil, besides the utilization of sawdust that we get from wood collectors could fill in the body of our products.”
  - 2) Sustainability  
R2 : “I think it is as simple as the product itself. Our product has less negative effect to the environment because it comes from waste and easy to be decomposed.”
  - 3) Educating Others  
R2 : “We make educational facilities like asking students who still study in elementary level to join our activity to learn about mushroom and farming.”

## CONCLUSIONS

- a. In terms of Passion factor :  
Growbox is established with variation of ecopreneurs’s passion, spurred by personal experience which is not only limited by environmentally friendly-products passion. IZEMU has passion in aiming to eliminate negative effect on environment and interested to utilize waste into helpful and valuable products in daily life. Planter Craft has passion for the environment and passion in their product, especially customize kokedama due to support from ecopreneurs’s educational background that have close relation with environment.
- b. In terms of Gap in the Market factor :  
Growbox doesn’t observe gap in the market first. IZEMU join some workshops which give chance for ecopreneurs to discuss with other wood business player, so they recognize the opportunity for their product to be marketed. Planter Craft join some environmentally friendly community to obtain inspiration about product market opportunity.
- c. In terms of Making a Living factor :  
Growbox tends to be highly motivated by obtaining much profits to develop their business scale. IZEMU stands to be non-financial ambition company due to ecopreneurs loyalty to wood product business and personal satisfaction about creating many stylish products.  
Planter Craft tends to be very strongly motivated by obtaining much profits because ecopreneurs want to make their team loyal and prosperous.
- d. In terms of Being Their Own Boss factors :  
All of ecopreneurs in all objects in this study are motivated by desire of getting freedom and flexibility in making idea real. Growbox established with desire of ecopreneurs to change the way people consume daily foods. IZEMU established with ecopreneur’s desire to obtain flexibility in working ambience and implementing idea to create products. Planter Craft established with ecopreneur’s desire to obtain flexibility in time, ambience and place.
- e. In terms of Green Values factors :  
Growbox implements recycle sawdust as main material used in its products. In educating others, Growbox holds *meet and grow* event, establishing “Agritektur” community. IZEMU turns scrap wood to be high quality furniture and implements *zero waste* to utilize discarded wood maximally. Planter Craft utilizes moss to be kokedama. The products can improve air circulation.
- f. Motivation factor that dominate :  
R1 was dominated by the making of living factor; R2 was dominated by making a living and green values factors; R3 was dominated by green values factor; R4 was dominated by passion factor; R5 was dominated by passion and gap in the market factors; R6 was dominated by green values factor; R7 was dominated by gap in the market, making a living and being their own boss factors; R8 was dominated by passion and being their own boss factors; R9 was dominated by passion factor. All of them made Growbox was dominated by green values factor, IZEMU was dominated by passion factor and Planter Craft was dominated by being their own boss factor.
- g. All respondents on these objects of this research are motivated by green values factor with each description that clarify the character of an ecopreneur based on prior research from Kirkwood and Walton (2010). Authors recommend these 3 research objects to apply upcycling in the future remembering the better effects quality for the environment than recycling.
- h. For further research the author recommend future researchers to do measurement using questionnaire or other tools for every motivational factor more detail, including sub-variabel measurement. In addition, future researchers can do other research in different companies and different social situation.

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# COMMUNITY DEVELOPMENT FOCUSED ON ENHANCING LOCAL ENTREPRENEURSHIP IN THE INDONESIAN PERIPHERAL REGIONS

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## EXTENDED ABSTRACT

The purpose of this study is to explore how a company develops a community through their culture; taking their cultural value, the support of people's ideas to collaborate and innovate with the community they work with. A corporation working within Indonesia must implement a Corporate Social Responsibility Program. Thus they must consider the locals' values, ideas, and cultural wisdom in order for their. This study uses a qualitative approach to obtain insight into the Cultural Value Orientation of the community and identifies the people's expectations. The study findings that locals are still dependent on external economic conditions. Local stakeholders need assistance in how to improve competitiveness and innovation among businesses.

**Keywords:** Corporate Social Responsibility, cultural value orientation, social mapping.

## INTRODUCTION

Community development programs implemented by the industry understood differently by society, so often lead to failure of the program. The problem of cultural differences into something that must be anticipated in the framework of the success of the program implemented by the company, both from businesses and from people outside the company. Economic life in rural areas will slowly move towards the service industry; this is closely related to the presence of the company attracting migrants from the city entering the rural regions. The way to minimize the gap between the rural and urban is for the company to adapt to village life. One effort for adaptation undertaken by companies is the implementation of corporate social responsibility (CSR) programs within the community.

CSR is intended for community development subjects, this study assumes that connect with the local culture program will reduce the resistance of the targeted communities and accelerate the process of adaptation between local communities and the program was introduced (Kostova, 2000). Corporate Social Responsibility here is more focused on improving the quality of life, especially in the economic aspect (Rudito and Famiola, 2013). Social entrepreneurs play the role of change agents in the social sector by adopting a mission to create and sustain social value; Recognizing and relentlessly pursuing new opportunities to serve that mission; Engage in a process of continuous innovation, adaptation, and learning (Dees, 2001).

In developing countries, Small and Medium Enterprise have always been the main players in domestic economic activities. By simply depending on existing local cultural knowledge, these small and medium enterprises are able to run but cannot compete with corporations from other regions, resulting in the failure of many businesses because they cannot keep up with outside enterprises.

In many villages in developing countries such as in Indonesia, people live in areas where their livelihoods are dependent on small and medium size businesses that focus on cultivation and local creative industries. Similarly, some of these villages are located in the regions in which big Industries also exist, thus becoming targets for their Corporate Social Responsibility programs. Noting the existing model of society around the company, most companies find it difficult to implement its obligations in developing the society. It is related to lifestyle very different, industries based on the pattern of life as people who produce goods and services, while local communities usually have a livelihood as varied as the people who hunt and collectors, people who work as farmers, people who meet what they need to cultivate the land and the people who work with the slashing and burning forests create farming land (Lensi in Macionis, 2005).

## RESEARCH PROBLEM AND OBJECTIVE

Companies that aim to implement community development programs should strive to explore the lifestyle of the people their program will effect. Companies must first understand the habits of the people they are working with in order to ensure that their employees working in the community development unit will be able to understand the lifestyle of the people around them.

The research objective in this article are identified the culture value orientation of the corporate culture of Small Medium Enterprises, how to apply the community development program from the big company that living around the local community in difference life style and cultures, and what approaches those are used for applying program.

## LITERATURE REVIEW

Understanding of the local culture of the people within the target group is very important to note. This is related to how the development program will be applicable depending on the interpretation of community members who will use their existing

cultural knowledge. Culture is knowledge that belongs to humans as social creatures that consist of models that are used for interpreting the environment and for creating actions when needed (Geertz, 1973; Spradley, 1980; Turner, 1994; Delaney, 2004; Hann, 2000). In other words, culture is used by humans for self-adaptation in facing a special environment (physical/natural, social and culture) for continuing the human life and maintain sustainability (Henry, 1999).

Corporate culture or culture in organization is the pervasive values, beliefs and attitudes that characterize a company and guide its practices. Corporate culture enters the knowledge of employees of the company concerned and makes it a guide in acting and behaving, so that strong employee engagement is required. The investigation of corporate cultures involves looking at how people in organization behave; what assumptions govern their behaviour; and what bonds or glue hold the corporation together (Turner, 1994). In this article, corporate culture meant the culture that created in small and medium enterprise, where the leader and employees come from local community.

Connected to corporate culture and cultural value orientation, I use a modified concept of Value Orientation from the original concept that was developed by anthropologists (Kluckhohn and Strodtbeck, 1961 in Gallagher, 2001). This concept illustrates how humans interpret the problems faced in their lives. There are three aspects, man and nature, man and occupation, man and others as “value orientations.” (Wahana and Rudito, 2012; Burns, 2008).

Table 1. Cultural Value Orientation

Concern	Value Orientation		
Human and nature	Our life is strongly depend on the nature	We have to be balance with the nature	Nature should be overcome
Human and Occupation	Job is to be undertaken	Job is to achieve a better social status	Work is to intensify another job
Human and others	Life should be cooperating with other people (horizontally)	We have to follow the command (vertically)	Prioritize ourselves first if we can do it by ourselves

Source: Kluckhohn and Strodtbeck (1961)

In the diagram, every group of Man's relationship with nature shows a different picture from one society to another, some people consider that humans are very dependent on the nature and community members must live off the land. Others consider that humans must live in harmony with nature because it can avoid from any disaster. Another part of the public assume that nature provided should be managed by a man using existing thinking in humans to cultivate.

Second, human concerns with the job is connected with innovation from the human his or herself. There are some societies that consider the outcome of their work is basically to make efforts to have a better life. Some other societies consider that every human have to make efforts to attain a better status in their societies. Thus, human have to work the suitable work with the expected status because every status or position is determined by the outcome of the work. Some communities believed that basically human produces the work to be continued moreover in order to attain the success from that works so that human will be continuously doing innovation. If people do not continuously innovating, they will be left behind other people (Burns, Paul, 2008).

Third, human and others in society suggests that there are three important things that set it apart. Most people assume that humans must live together, therefore live together or mutual aid is a very important thing to prosper. The others assume that humans need a leader to achieve prosperity, therefore, a leader must be able to be a reference to carry out life. Most other communities consider themselves more important that before helping others, it means that one should strive for the welfare of yourself first before thinking of people around.

The cultural value orientations are contained in Small and Medium Enterprises those are present in the local community as the culture of the community. This cultural value orientation binds the employee as an integral organizational culture that exists and grows in the local community, the shape and nature of this orientation will appear in the daily life of the community. For Small and Medium Enterprises, the setting as its organizational culture uses a growing culture in society and this is manifested from the behaviour of its employees and cultural orientation will appear to the attachment of its employees in understanding its organizational culture.

The employee engagement concept and definitions can be follow state from Perrin's Global Workforce Study (2003) uses the definition “employees’ willingness and ability to help their company or enterprise succeed, largely by providing discretionary effort on a sustainable basis.” Or as “a positive attitude held by the employee towards the organization and its value. An engaged employee is aware of business context, and works with colleagues to improve performance within the job for the benefit of the organization. The organization must work to develop and nurture engagement, which requires a two-way relationship between employer and employee.” (Robinson D., Perryman S., and Hayday S., 2004). Employees will only become engaged if the three conditions of meaningfulness, safety, and availability can be met. The safety condition can be fulfilled when employees can predict and trust almost all company's condition and have supportive relationship. The third condition, availability, will be fulfilled when employees have the necessary physical and emotional resources to do their work and feel capable (Kahn, 1990).

Peripheral areas are a mix between urban and rural life, in this regions, there are people who are oriented towards the life of industry goods and services, and some still maintain rural life such as farming and gardening. Within this area, acculturation occurs between the farming and industrial goods and services (Murayama, 2007; Richardson, 2005; Rudito, 2014). Acculturation is defined as a mixture of cultures that is formed is used to realize the behavior (Spradley, 1980) in order to meet the needs of the economy (Gallagher, 2001). In the process of adaptation in the field of economy, people are trying to create a business that is micro and involves a kinship system that is still common in rural communities (Murayama, 2007).

Social interaction that takes place between two groups of people of different cultures will create an engaging blend of cultural knowledge. Acculturation is a natural thing to happen when someone who comes from urban communities lives in a new society. Acculturation means the modification of an individual, or people knowledge by adapting to or borrowing traits from another culture, knowledge of the two cultures are used to understand the same environment (Schein, 2009; Flamholtz, 2011). The process of adaptation that occurs will create an area or a small town that apply the cultural knowledge of subsistence farming; farming with the knowledge of urban culture with industrial goods and services. Typically the cultural goods and services industry was taken by the immigration of people who used to live in the city and the culture of farming and farm owned by the local people who live in the village.

The lives of locals living in the peripheral regions are affected in their integration of the industrial movement of cultural goods and services with the livelihood of rural cultural and agricultural fields; the nature of this society as an intermediary of the life of subsistence and industrial goods and services.

## METHODOLOGY

Social mapping with a Participant Observation approach (Spradley, 1980; Rudito and Famiola, 2008), social network analysis, and Focus Group Discussion among community are the main methods used in this study. The Participant Observation approach is used for identifying and analyzing the behaviour of people especially the behaviour of member who work as Small and Medium Enterprises in daily life; (Ortlieb, 2009). Social Network Analysis is used for identifying stakeholder relationships (Freeman, 2010; Baugh, 2015) who is the dominant person or stakeholder in a situation and who is the follower in that arena. Finally, Focus Group Discussions are used for identifying people's problems and the history of the social problems experiences within the community and how they were solved (Bryman, 2008).

## DISCUSSION

Community development goals and trainings for small and medium business enterprises are developed for established businesses. The trainings are conducted at the local cooperatives to assist the development of the businesses, and to dispel the perception that the small to medium enterprises are particularly vulnerable to failure. These efforts include:

### *Strengthening Small and Medium Enterprises (SMEs) towards Innovative Self*

The strengthening of SMEs in the field of innovation is based on several findings regarding the difficulties SMEs face in competing in the marketplace. One challenge is the results of the uniformity of SMEs. Packaging products are not unique, and these opportunities are dominated by local businessmen; thus, SMEs are required to be able to create their own innovation strategies that are tailored to their needs and abilities.

### *Raises Confidence*

Traditionally, each business within a local community has their own different business models that have been inherited from previous generations to the next. All business activities of local communities are affected by many factors, such as local culture, adaptation, or local customs affecting the business environment relating it to a kinship system.

### *Raising the Interest to Learn*

Once employers are confident of the new things and ideas that come from the trainings, then can small businesses be encouraged to learn? This step is much simpler than trying to obtain trust of people when they are asked to try something new. However, it is even more difficult to influence their participants and actors if there is no self-confidence in the new ideas, if there is no conviction outside of their business needs, one cannot ensure that other actors will follow the influence.

### *Management of Business*

The most common issues found within a tight-knit operational management system such as that exist within SMEs, are those that concern production, operational distributions and procurement. Marketing management is rarely found within the spectrum of management within these small businesses, there is often no funds specifically prepared for the study and analysis of the management of public business; for example, determining why certain types of businesses have their own style of management or the efficiency of a lack of management structure. After determining the patterns of management, the next stage is to make an analysis of what types of management best suits each different SMEs.

## CONCLUSIONS

### *Cultural Value Orientation*

The relationship between humans and nature is how it effects life; life grows and forms along with nature and develops wherever appropriate. Human connection with work; the people's concept of work is to be able to work hard to meet their own needs and not be dependent. However, this idea has led to an approach of imitation, to imitate what others have done successfully without having to try and create new ideas and methods. The nature of the relationship between humans have significance in individuality; the idea is that the self is important, we are the key to prosperity.

### *Empowering People*

The economic state of regions within remote areas are heavily influenced by the local culture, hence these regions often remain rural. It is evident in how local business owners are reluctant or lack the motivation to grow their business. A kinship system is heavily ingrained within these regions, but over time as cultures begin to mix urban communities will eventually form. However, in everyday life, locals will still maintain their rural traditions such as agricultural work.

Local businesses are still widely dominated by outsider businessmen, and even locally-owned enterprises are highly dependent on migrants. The competition has become lopsided and local companies, unwilling to learn new business strategies, are unable to keep up with new changes.

The implementation of development programs among rural regions are aimed to empower local individuals to be able to survive and grow their local micro, small and medium enterprises. This program is essentially a way to strengthen local businesses in terms of their management models and strategies in order for them to innovate and compete with urban businesses. The approach in this type of community development is focused on recognizing local customs and considering cultural values as a way to identify local problems and learn how to solve them. In determining and analyzing local needs and values, any development program can be more effective and efficient.

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# CRITICAL REFLECTIONS: WOMEN EMPOWERMENT IN THE CONTEXT OF PAKISTAN

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## EXTENDED ABSTRACT

The role of women has been promoted and acknowledged as a fundamental tool for poverty alleviation, comprehensive economic development and empowerment of disadvantaged community groups especially in rural settings. The concept of women empowerment is still under examination by researchers belongs to social, economic and management sciences. However, empowerment under the context of behavioral intention of women to participate in entrepreneurial activities and form networks in the community is a gray area that needs to be more focused. This is exploratory research discusses the potential dimensions of women empowerment in Pakistan and proposes a conceptual framework focusing on “agency and participation”, “beliefs and behavioral performance” and “personality traits and actions through community networks” to empower women in Pakistan. Firstly, this paper reviewed 113 documents from published articles, policy documents, reports and books to identify the gaps based on the scientific theories. Secondly, the authors evaluated the empowerment dimensions corresponding to women’s behavioral aspect and personality traits in Pakistan. The vital role of women, in regard to the women’s beliefs, behavioral performance and network formation is being advocated by this paper unless they confront some serious environmental concerns. Indeed, woman personality traits depict more interest in entrepreneurial activities. This paper will provide insights that will be useful to design an intervention to achieve the sustainable development goals specifically in Asia pacific.

**Keywords:** Women empowerment, Entrepreneurship, Behavioral performance, Personality traits, Pakistan

## INTRODUCTION

There has been an extensive research on what drivers desired for women empowerment and theory related empirical findings (Rappaport, 1981, 1987; Swift & Levin, 1987; Zimmerman, Israel, Schulz, & Checkoway, 1992), yet uncertainty prevails when it comes to scientific theoretical consensus on what drives women’s intention to be empowered (Alsop & Heinsohn, 2005; Narayan, 2005) in order to establish small-scale business. Several studies indicate that research methods used for female entrepreneurship may be less supportive to uncover the societal and institutional issues and its dimensions (Parker, 2010). A woman in Pakistan has been studied via several research techniques as the subject, but uncertainty prevails when it comes to effective utilization of the female work force since the independence of the country. Most of the research studies indicated that social and economic indicators have significant impact on women empowerment in Pakistan. The aim of these scholarly published studies was to measure the impact of women engagement in labour work and outcomes in the form of well-being, poverty alleviation and sustainable economic growth. In contrast, the scholarly published insight indicated some solid conclusions from the field of economics, is still based on the contradictory thoughts as of providing less practical directions towards women empowerment in Pakistan. A woman in Pakistan is less focused by social and psychological researchers, thus the studies funded through intervention programs were not scientifically documented. Nonetheless, the qualitative studies on woman in Pakistan highlighted the key issues related to women thoughts about empowerment, violence, decision making and well-being. Despite the facts, there is a dilemma that women empowerment through entrepreneurial activities is still understudied to get concrete results even though several researchers have proposed new frameworks and recommendations (De Bruin, Brush, & Welter, 2006).

## LITERATURE REVIEW

Individual’s intention to perform a particular behavior depends upon the personality traits (Lin, 2008) which comprise of attitudes, beliefs, skills and interpersonal communication in the society (Costa Jr & McCrae, 1994; McCrae & Costa, 1987). The behavior change theories provide evidence to handle the issues on technical grounds and practically bring the change (Glanz, Lewis, & Rimers, 1990). Therefore, theory of reasoned action, theory of planned behavior and integrated behavior model illustrate the individual motivational factors that lead towards performing a specific behavior. The most essential component of behavior is intention to perform a particular behavior (Montaño & Kasprzyk, 2008). Nonetheless, women are quite good in building networks (define as unity and relationship) while men are relatively good in agency (define as to make own choices and decisions) in the rural settings (Helgeson, 1994; Lin, 2008). The several research studies have been conducted on microfinance to measure its impact on women’s economic empowerment, poverty alleviation, family relation and well-being but the results are inconclusive (Mahmood, 2011). Entrepreneurs, especially women faced more challenging situation to access the loan facility from local providers due to lack of knowledge and clarity to business operations (Constantinidis, Cornet, & Asandei, 2006). Rome (2005) as cited in (Mahmood, 2011) indicated that women try to build a small business enterprise considering the gender issues in the



society; however, men still have a power and control over the family income (Goetz & Gupta, 1996). The questions have been raised about women empowerment considering the personality traits and agency (Lin, 2008; Yazdi & Mustamil, 2015) that who want to be empowered (Yazdi & Mustamil, 2015), what will be the priority agenda for institutions, what type of woman personality traits required more attention from technical experts in order to enhance WEE index in Pakistan (Basharat & Abbas, 2016; Boirard & Skinner, 2016; Zaidi & Farooq, 2016). There should also be a priority agenda by institutions to work with women who are really interested to be empowered via entrepreneurial activities (Basharat & Abbas, 2016; Shah, 2010; Zaidi & Farooq, 2016).

## METHODOLOGY

This is an exploratory research that discusses the potential dimensions of women empowerment in Pakistan. A conceptual framework via focusing on “agency and participation”, “beliefs and behavioral performance” and “personality traits and actions through community networks” by women in Pakistan will be proposed. Secondary source of data was gathered and analyzed using NVIVO version 11 from the period of 1980 to 2016. 113 documents are reviewed, of which 50 are cited published articles, policy documents, reports and books, to analyze the literature of women’s status in Pakistan, and to identify the gaps for future research based on the scientific theories. Secondly, the authors evaluated the empowerment dimensions corresponding to women’s behavioral aspect and personality traits in Pakistan by using search techniques of Google Scholar, Scopus and other main journals in the field of women empowerment. The key search terms were women empowerment, its dimensions, behavior theories and economic development.

## FINDINGS AND ARGUMENT

The systematic review of 31 scholarly literatures (see table 1) indicate that empowerment is linked with the individual’s characteristics which usually build with the passage of time. The list of indicators such as personal agency, beliefs and action towards them, personality traits and proactive response to build networks in the community have a direct and indirect association if someone wants to be empowered. In case of Pakistani women, agency is the less explored area whereas participation in entrepreneurial activities can be ensured via external factors involvement.

**Table 1: Empowerment drivers**

Findings	Contribution	# of study	Research studies
Agency and participation	Act as leading factor towards empowerment	07	Basharat & Abbas, 2016; Diener & Biswas-Diener, 2005; Kabeer, 1999; Lin, 2008; Malhotra & Schuler, 2005; Narayan, 2005; Zaidi & Farooq, 2016)
Beliefs and behavioral performance	Significantly contribute towards empowerment	16	(Ajzen, 1991; Ajzen & Driver, 1991; Bandura, 1995; Bandura, 1997; Bandura & Locke, 2003; Diener & Biswas-Diener, 2005; Eden & Aviram, 1993; Fishbein & Ajzen, 1975; French et al., 2005; Godin & Kok, 1996; Malhotra & Schuler, 2005; McAvay, Seeman, & Rodin, 1996; Montañó & Kasprzyk, 2008; Peterson & Stunkard, 1992; Seligman, 1991; Zimmerman et al., 1992)
Personality traits & actions through comm. networks	Provide support to be empowered	08	(Basharat & Abbas, 2016; Boirard & Skinner, 2016; Chatter, 2013; Diener & Biswas-Diener, 2005; Digman, 1990; Mason & Smith, 2000; Yazdi & Mustamil, 2015; Zaidi & Farooq, 2016)

There are four main components which directly affect behavior (Jaccard, Dodge, & Dittus, 2002) and comes out in the form of business networks if specifically talking about women empowerment. First, women should have a strong behavioral intention and knowledge to participate in an activity. Second, there should be no serious environmental factors which may restrict women to do so. Third, women have a prominent behavior while performing activities. Lastly, women possess the experience to perform that particular behavior so that beliefs can lead to productive outcomes and action will be coming out in the shape of building networks (Jaccard et al., 2002; Montañó & Kasprzyk, 2008; Triandis, 1980). It is also important to find empowered people in the community and later these individuals can extend their participation to reach at a greater level of empowerment (Yazdi & Mustamil, 2015). The relationship between intention and behavior has been tested in several research studies such as health interventions, tourism, religions and consumer buying behavior (Ajzen, 1991; Ajzen & Driver, 1991; Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Blue, 1995; Fishbein & Ajzen, 1975; French et al., 2005; Godin & Kok, 1996; Montañó & Kasprzyk, 2008) but still under investigation to evaluate the women’s intention and personality traits as an independent factor which has significant impact to improve women economic empowerment index in Pakistan. The fundamental driver for women empowerment is linked with “individual’s intention to perform the behavior” that leads towards the behavioral performance as defined in the Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Integrated Behavior Model (IBM) (Montañó & Kasprzyk, 2008). In order to ensure the individual behavioral performance and participation in the community networks, the personality traits already used to judge the people based upon the personality variation (Digman, 1990). The proposed conceptual framework (see figure 1) comprises of four levels which is based on the in-depth review of scholarly published literature, recommendation made through organization reports and evaluation of fundamental requirements for women empowerment in Pakistan. This framework has a strong rationale which is based upon the scientific theories though already tested in societal development and business advancement issues around the globe. There are two main categories specified in this framework i.e. women’s internal and external empowerment. Women’s internal empowerment is solely based on the self-involvement while external empowerment is associated with the community and organizational networking those working on empowerment agenda.

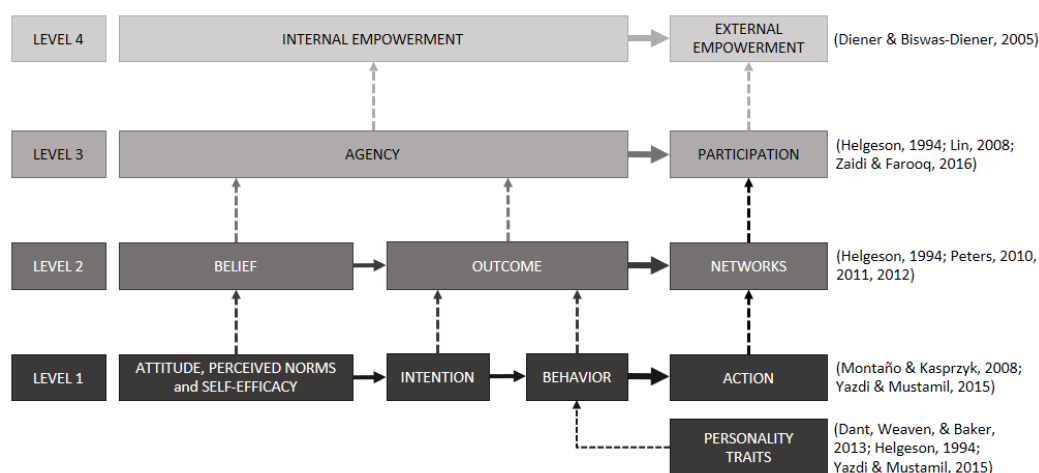


Figure 1: Conceptual Framework Women Empowerment in the Context of Pakistan (Constructed by authors)

The primary stage specified at level one depends on the TRA, TPB and IBM, which has a main focus on the individual's thoughts which rely on attitude, perceived norms and self-efficacy, later on, these converted into intention and behavior under the domain of internal empowerment of women, if women are interested to be empowered via entrepreneurial activities (Montaño & Kasprzyk, 2008; Yazdi & Mustamil, 2015). Before taking action, women personality traits work as a catalyst toward behavioral performance (Dant, Weaven, & Baker, 2013; Helgeson, 1994; Yazdi & Mustamil, 2015). The secondary stage comprises of level two and three which is covering the beliefs and behavioral outcome as a part of an agency that leads towards the network formation and ensure active participation. The operational definition is when women have strong belief and perform accordingly that confirm the strong agency which is defined as an individual independent act to make own decisions for their well-being (Helgeson, 1994; Lin, 2008; Peters, 2010, 2011, 2012; Zaidi & Farooq, 2016). The third stage is the general concept to build the understanding level that women's internal empowerment depends upon the agency, beliefs and behavioral outcomes while external empowerment can be gained by support from peers, community and institutions (Diener & Biswas-Diener, 2005). In conclusion, women in Pakistan need more support in terms of changing their perspective via mobilization and behavior change communication activities. Women have a capacity to establish formal and informal business setup in their residential area via putting little capital, form networks in the social circle and handle home chores. On a routine basis, women demonstrate they have a capability to control household income and expenditures that provide support to achieve economic empowerment (Young, 2016). Factors related to economic empowerment and behavior change of spouse also generate the impactful result in women empowerment (Swain & Wallentin, 2008). There are several research studies conducted to measure the impact of women empowerment on the economy via small and large scale interventions in Pakistan, yet these studies lack of certain areas which need to be studied (see table 2).

Table 2: Proposed Research Studies for Women Empowerment in the Context of Pakistan

Study areas	Study design	Methods	Rationale
Application of scientific behavior theories under domain of women empowerment	Quantitative study (experimental)	Pre-/post-tests Randomized control trials	To know more about the women perspective and their response towards empowerment journey
Evaluate internal and external women empowerment and its relationship specific to regional and country context	Quantitative study (observational)	Cross-sectional surveys	To compare the internal and external empowerment dimensions and propose intervention program via participatory approaches
Measuring women's intention and behavior performance towards economic empowerment specific to regional and country context	Mix method (observational)	a. Focus group and in-depth interviews b. Cross-sectional surveys	To evaluate the women beliefs either supportive or non-supportive for national agenda to enhance female workforce
Women empowerment via small scale businesses in a rural and urban settings, Pakistan and its impact evaluation	Quantitative study (experimental)	Quasi-experimental pre-/post-tests with control groups	To calculate the impact of women's entrepreneurial activities on women economic empowerment
Exploring factors related to women internal empowerment considering the agency and participation as a lead contributor specific to regional and country context	Qualitative study	a. Focus group discussions and in-depth interviews b. Photo-voice (Participatory needs assessment)	To review in detail about factors affecting/supporting the women empowerment in rural and urban settings

## CONCLUSIONS

Women empowerment and sustainable economic growth are closely linked but the facts and figures indicate that female labour force is less active in the context of Pakistan. Contrary to what is argued by the researchers, policy makers and technical experts, it is still ambiguous on what are the key dimensions that urge women to be part of entrepreneurial activities and improve economic status. However, a systematic review and logical reasoning indicate that women's beliefs, behavioural performance, personality traits and networking play a vital role towards the empowerment journey and later on will impact on the economic development. In addition to that, women desire to empower themselves is based on the agency and active participation via small scale business activities in the community that will bring more confidence and motivation to comply. Women entrepreneurship might be influenced by the demographic factors such as gender, family background, and educational status. Including them may yield more conclusive findings. This will enable the policy makers and also program implementers to be more specific in crafting policies and also designing intervention programs to empower women. In order to achieve Pakistan Strategic Vision 2025, women's involvement in economic activities most probably depends on intention to establish behaviour through entrepreneurship. To do so, civil societies and funding agencies should focus on behaviour change interventions and mobilization activities in the rural communities of Pakistan. Indeed, behaviour change is time taking process but end results definitely lead towards the long lasting impact in terms of poverty alleviation, improved economic indices and active female labour force in Pakistan.

## IMPLICATION AND FUTURE RESEARCH

Increasing female labor force as a part of a Pakistan policy goal implies a commitment to encourage women to take initiatives in entrepreneurial activities. It implies enhancing women active participation and control over their lives. However, there is need to set a framework and agenda for small NGOs to start a small scale project via identifying the psychological and behavioral aspects. Changing the mindset of individuals towards self-control and power is largely depends on the longitudinal research studies which later implies at national level. This study indicates that the application of scientific behavior theories under domain of women empowerment can be implied to know more about the women's perspective and their response towards empowerment journey. Other findings indicate that there is utmost need to brainstorm on the women's empowerment approaches in the context of Pakistan before initiating the programs by NGOs. It implies measuring women's intention and behavior performance towards economic empowerment specific to regions and evaluates the women's beliefs either supportive or non-supportive for a national agenda to enhance female workforce. Ultimately, interventions based on the theoretical grounds can be supportive to have long term impact.

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# EFFECTS OF INFORMATION PROCESSING CAPACITY ON CONSENSUS, DECISION SPEED, AND SUPPORT FOR STRATEGIC DECISION IN A HIGH VELOCITY ENVIRONMENT

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## EXTENDED ABSTRACT

This study examines the effects of information processing capacity in a high velocity environment upon consensus, decision speed, and support for strategic decision. It also tests whether consensus and decision speed are a trade-off as often assumed. Based on the Information Processing Theory, it is hypothesized that information processing capacity (participation, interaction and informalization) would positively affect decision process outcomes, i.e. consensus, decision speed, and support for strategic decision. Measures of each construct were collected through a survey involving 156 TMT members (CEOs and General Managers) from the Indonesian telecommunication, media, and information technology sectors. The result of Partial Least Square analysis confirms that information processing capacity, in terms of participation and interaction, does significantly influence the level of consensus, decision speed, support for decision. Formalization, however, rather than informalization appears to increase information processing capacity. The study also shows that consensus is positively associated with decision speed, suggesting a non trade-off relationship between the two previously assumed incompatible constructs.

**Keywords:** information processing capacity, strategic decision making, decision speed, consensus, support for decisions

## INTRODUCTION

Making strategic decision in a high velocity environment is difficult because Top Management Teams (TMTs) are faced with fast-paced changes in demand, competition, and technology that often cause instability, turbulence and unpredictability (Baum and Wally, 2003). In a rapidly changing environment, TMTs must quickly identify environmental changes as potential opportunities and then make a decision whether the changes represent a radical or incremental opportunity worthy of exploitation (Shepherd, McMullen, Ocasio, 2017). The combination of high volume of environmental changes and the lack of clearly useful information could cause TMTs to prefer decision speed to comprehensiveness (Baum and Wally, 2003). The preference toward decision speed, however, could cause TMTs to overlook the importance of achieving consensus and support for decision during the decision process, because efficient decision process and consensus are generally considered to be a trade-off (Roberto, 2004). To achieve consensus, TMTs need to adopt a participative approach which may take more time than the autocratic method. Therefore, TMTs in a high velocity environment are continually faced with the problem of simultaneously achieving decision speed, consensus, and support for decision.

The benefits of fast strategic decisions, consensus and support for decisions have been previously examined in several studies. Kiss and Bar (2015) identified a positive association between industry growth and speed of strategic actions. Making fast strategic decisions also has been empirically demonstrated to improve firm performance. Nadkarni, et al. (2016) found that TMTs aggressiveness is positively related to firm performance, especially in fast changing or high velocity industries. Eisenhardt (1989) found that strategic decision speed is a predictor of performance in fast changing or high velocity environment. In line with this, Baum and Wally (2003) found that decision speed positively affects firm performance and mediates the relationships between organizational structure and environment to firm performance. Independently from inquiries on decision speed, some studies have documented the benefits of consensus. A metastudy by Kellermanns et al. (2011) shows the positive effect of consensus on firm performance. Consensus has also been found to improve support for decision, especially during the implementation phase (Dooley and Fryxell, 2000).

Although a number of determinants of decision speed and consensus have been identified, TMT's capacity to process information appears to be central because strategic decision making is essentially an information processing exercise (Galbraith, 1973). Duncan (1974) identified three elements of information processing capacity, namely participation, interaction, and formalization. Unfortunately, limited attention has been given in

literature to exactly how information processing capacity can help TMT achieve decision speed and consensus, and support for strategic decisions simultaneously.

The primary objective of this research is to study whether information processing capacity (participation, interaction and formalization) affects decision speed, consensus and support for decision. The second purpose of the study is to understand the effect of consensus on decision speed, under the influence of information processing capacity. The theoretical framework in Figure 1 shows that information processing capacity is hypothesized to predict consensus, decision speed, and support for decision. The model also considers the relationship between consensus, decision speed and support for decision. This study uses quantitative data from 156 TMT members from high velocity industries (Telecommunication, Media and Information Technology). Results indicate that information processing capacity has positive influences on consensus, decision speed, and support for decision. It was also found that consensus and decision speed are not necessarily a trade-off.

## LITERATURE REVIEW

**Information Processing Capacity.** Information processing capacity (IPC) has been previously operationalized by three dimensions: participation, interaction, and formalization as suggested by Duncan (1974) and Thomas and McDaniel (1990). In this study, information processing capacity is defined as how much TMT uses a participative, interactive, and informal approach in decision making. **Participation** is the degree of how much TMT members are involved in strategic decision making. There are various levels of participation in decision making, from a total autocratic to a fully participative. **Interaction** is defined as how much TMT members work together in making decisions. Sometimes TMT members do not behave as a team and they work in a fragmented way. Some TMTs seldom meet for discussions, exchange of views, problem solving, or collaboration, thereby neglecting the opportunity to realize the benefits of multiple perspectives. In a dynamic and uncertain environment, higher participation and interaction can help better sense making during decision process (Sharfman and Shaft, 2011). **Formalization** is defined as how much and organization is characterized by articulate and explicit policies, job descriptions, organization charts, strategic and operational plans, and objectives setting systems (Baum and Wally, 2003). In a formal organization, there is little flexibility as to who can decide or act, or how an individual can decide or act, thus reducing the team's flexibility and capacity to process information (Baum and Wally, 2003).

**Strategic Decisions.** In this study, strategic decision is defined as a major decision that has significant impact on performance, affects many functions in a firm, and potentially repositions or redirects a firm (Eisenhardt, 1989).

**Consensus.** Consensus is defined as how much mental models of individual TMT members overlap or are in agreement, usually regarding strategic means and ends or the strategic priorities (Kellermas et al., 2011).

**Decision Speed.** Referring to the definition of decision process by Mintzberg (1979), decision speed is defined as how fast a strategic decision is made, from the time the issue is first raised in a meeting (or from the information search is begun) until the commitment for action is made.

**Support for Decisions.** In this study, support for decisions is a second-order construct that consists of two dimensions, namely commitment and confidence. **Commitment** is defined as TMT member's cooperative attitude toward the implementation of a strategic decision (Dooley and Fryxell, 2000). **Confidence** is the belief and trust that a strategic decision will result in a success (Adidam and Bingi, 2000).

### Hypotheses

Thomas and McDaniel (1990) argued that information processing structure that is characterized by high participation, high interaction, and low formalization will result in high information processing capacity.

Turner and Makhija (2012) found that an organic team characterized by high interaction and intensive discussions has better ability to process more information and stronger orientation toward solving problems and finding solutions. This means that a more organic team could make more agreement seeking efforts. Therefore, *Hypothesis 1 : Information processing capacity will have a positive effect on consensus.*

Hambrick, Humphrey and Gupta (2015) found that the positive effect of a various capacities of TMT members on firm performance is moderated by an organization structure that is set such that the roles are highly interdependent. An organic structure, that is typified by highly participative, interactive, informal and lateral communication has been found to cause individuals to gather, interpret, and synthesize more information (Turner and Makija, 2012). By working together, TMT members can process more information, consider more factors and build more alternatives in parallel and make faster decision (Eisenhardt, 1989; Zehir and Ozsahin, 2008).

*Hypothesis 2: Information processing capacity will have a positive effect on decision speed.*

The level of participation and interaction can affect how much a decision process is perceived by TMT members to be fair. Perceived decision process fairness is important as it can increase commitment during implementation, despite disagreements among TMT members during the decision process (Kim and Mauborgne, 1997). TMT members also can increase their support toward the decision, despite personal disagreements, if they believe that the decision is of high quality (Adidam and Bingi, 2000). Hence,

*Hypothesis 3: Information processing capacity will have a positive effect on support for decision.*

Consensus and decision speed (efficiency) are often assumed to be a trade-off (Roberto, 2004) because a participative approach, which is essential for achieving consensus, could be time consuming. This study, however, will take the view that a decision process that involves participative process and debates is not necessarily a lengthy process, especially with 'consensus with qualification' in mind (Eisenhardt, 1989). Therefore,

*Hypothesis 4: Consensus will be positively related to decision speed.*

Prior research highlights the importance of achieving consensus during a decision process to ensure smoother implementation at a later stage (Dooley and Fryxell, 2000). To enhance decision quality, a decision process might entail diversity of views, debates and disagreements. But once the decision is made, especially through consensus, TMT members are expected to support its implementation. Thus,

*Hypothesis 5: Consensus will have a positive effect on support for decision.*

TMTs that make quick decisions could drive themselves to act even faster in the future. They tend to maintain, or even increase, their momentum by increasing resource commitment so that decisions can be quickly implemented (Perlow, Okhuysen, and Repenning, 2002). Therefore,

*Hypothesis 6: Decision speed will have a positive effect on support for decision.*

## METHODS

The participants of this study consist of TMTs from high velocity sectors, i.e.: telecommunication, media, and information technology. Data was collected by sending questionnaires to 2,383 firms in major cities of Indonesia such as Jakarta, Bandung, Surabaya, Malang, Semarang, Medan, and 57 others. Each questionnaire must be fully completed by top executives, i.e. the CEO or his direct reports, or officers at the top two levels in the company or business unit, in line with commonly applied criteria (Kreitner and Kinicki, 2007). After a three-month follow up, 174 responses were received (6.96% response rate), of which 156 were usable. The sample size is greater than the recommended minimum for Partial Least Square analysis, i.e. 30-100 (Stan and Saporta, 2005).

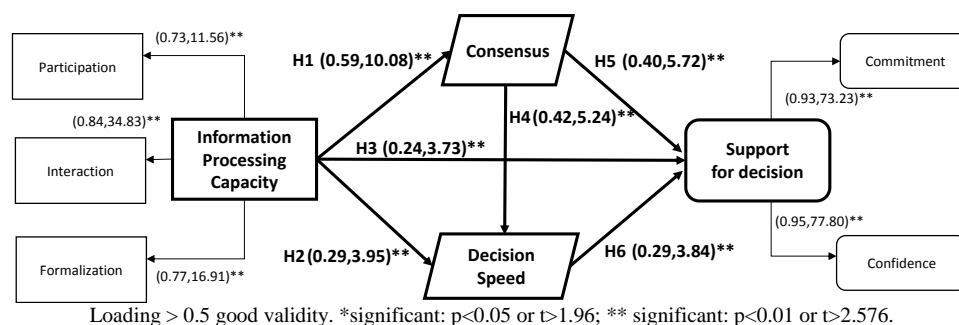
### Instruments and Questionnaires

The instruments for this study are adapted from various studies. The instruments for 'participation', 'interaction', 'formalization', 'consensus', and 'speed' are mainly adapted from Zehir and Ozsahin (2008), Baum and Wally (2003), Thomas and McDaniel (1990), Eisenhardt (1989), and Duncan (1974). Measurements for 'commitment' were mainly adapted from Dooley and Fryxell (2000), whereas 'confidence' are from Adidam and Bingi (2002), Dooley and Fryxell (2000), and Eisenhardt (1989). The questionnaire initially consists of 67 questions. To statistical analysis were conducted in two stages. The first stage is to test the validity and reliability of the measurement model. To do this, measurement items with loading lower than 0.5 were removed. Next, low loading items are further dropped until the Average Variance Extracted (AVE) of each latent variable is at least 0.5 (Hwang, 2010). The reliability of the measurement model is confirmed by ensuring that composite reliability (CR) and Cronbach's alpha (CA) are above 0.7. Eventually, there were 60 items left in the refined model. Both second-order constructs (information processing capacity and support for decision) were valid because the path coefficients toward their first-order constructs are greater than 0.5 and significant ( $p < 0.01$ ) (Coltman et al., 2008). The second stage is the estimation procedure to assess the likelihood that the information processing capacity would impact the level of consensus, decision speed, and support for decision. It is performed using a variance based Structural Equation Modeling (SEM), or commonly referred to as the partial least square (PLS) method. The PLS method was preferable compared to the full covariance based LISREL because the number of samples was limited (Hair et al., 2014). Analysis was done using Smart PLS 2.0 software (Ringle, Wende and Will, 2005).

## FINDINGS AND ARGUMENT

As seen in Figure 1, analysis of the structural model provides evidence that supports all of the hypotheses. There are three paths that explain how information processing capacity can increase support for decision. First, in a highly dynamic environment where information is usually scarce, inaccurate, or quickly becomes obsolete,

exchange of information facilitated by high information processing capacity could create greater ground for TMT members to build shared understanding and common frame. The increased consensus will subsequently increase TMT members' commitment during implementation (Parayitam, Olson, and Bao, 2010) as well as their confidence on the decision (Adidam and Bingi, 2000).



**Figure 1 Theoretical Framework and Analysis Results**

Secondly, higher information processing capacity, typified by high participation and lateral interaction helps TMT members gather, interpret, and synthesize information faster (Turner and Makhija, 2012). Firms with high information processing capacity can make timely strategic decisions and implement them successfully because the TMT members have higher confidence about the timeliness of the decision (Adidam and Bingi, 2000). Thirdly, information processing capacity also has a direct effect upon support for decision. Participation, interaction, and formalization can increase the perception of fairness in a decision process hence confidence in the decision (Adidam and Bingi, 2000). Interestingly, consensus and speed were also found to be positively associated, suggesting a non-trade off relationship. Both consensus and speed also positively affect support for decision.

It is important to note, however, that according to Galbraith (1973) that high information processing structure is characterized by high level of participation and interaction and *low level* of formalization. This study surprisingly reveals that formalization is positively, rather than negatively, related to information processing capacity. It could be that as participation and interaction increase, there is a greater need for formalization in the decision process. Clarity of procedures, authority, and responsibilities or sometimes referred to as structured process can improve problem formulation when ill-structured and complex problems are addressed by heterogeneous parties (Baerts, Dirks, and Nickerson, 2013). Further, in a culture with high uncertainty-avoidance like Indonesia (Hofstede, 2001), there could be greater preference toward formal over informal process, to reduce uncertainty.

## CONCLUSIONS

This study contributes to extant knowledge on decision process by corroborating the positive effects of information processing capacity on consensus, decision speed, and support for decision. Secondly, this study adds to the decision making theory that consensus and decision speed are *not* a trade-off (mutually incompatible). Thirdly, this study validates the theory that consensus increases support for decision. Lastly, it adds to prior knowledge on decision making by demonstrating the positive effect of decision speed on support for decision.

The empirical results also have interesting managerial implications. Executives need to pay close attention not only to 'what', but also to 'how' and 'how fast' the decision is made. In a high velocity environment, TMTs need to make fast strategic decisions to improve performance (Baum and Wally, 2003, Eisenhardt, 1989). But they also must make every effort to achieve consensus and support for decision to ensure smooth implementation. And, both can be achieved by increasing information processing capacity (participation, interaction, and procedural formalization). Even when unanimous agreement could not be achieved, a participative process that allows for better engagement, expectation, and explanation could increase perceived process fairness, hence support for the decision (Kim and Mauborgne, 1997). Additionally, when TMTs achieve consensus and make fast decisions, they could quickly readjust their direction together, if they happen to make a mistake (Baum and Wally, 2003).

## Limitation and Recommendations for Further Study

There are some methodological and/or scope limitations in this study. First, the data collection is based on self-report or perception of TMT members. Inclusion of several non perceptive measurements may provide more objective results. Secondly, the measurement is based on single-rater method. The multi-rater method may result



in less subjective measurements. Thirdly, the current study uses only quantitative data, whereas the inclusion of qualitative data can actually overcome the recollection/retrospective bias (Roberto, 2004).

The respondents for current study are mainly Indonesian companies, known for high collectivism and high power distance culture (Hofstede, 2001). In the future, the scope could include companies from different cultures. Future the studies could also include more detailed elements of consensus (e.g. content of the agreement, between-group consensus, or the significance of differences in consensus) as suggested by Tarakci, et al. (2014). A comparative study may also reveal differences of the abovementioned effects, in state versus private companies.

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# NETWORK-BASED BUSINESS MODEL INNOVATION IN INFORMATION TECHNOLOGY INDUSTRY IN INDONESIA, CASE STUDY OF BANDUNG DIGITAL VALLEY, STARTUP BANDUNG, AND IDCLOUDHOST

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## EXTENDED ABSTRACT

Information technology industry is one of the fastest growing industry in the world. Google, Microsoft, and Apple are only a few of giants companies that dominate the industry worldwide. Unfortunately, the information technology industry in Indonesia experience a slower growth. The industry players in Indonesia focus on competition rather than collaboration. They lack of understanding about the collaboration opportunity in the industry. This qualitative research discusses a network-based business model innovation which is one of the way to collaborate. The author uses framework model by Dellyana (2016) which combines four dimensions including network, business model, business model innovation, and value. The author uses case study method in three selected cases with each representing each network type. Bandung Digital Valley represents vertical network, Startup Bandung represents horizontal network, and IDCloudHost represents multidimensional network. In this research, the data are collected using semi-structured interview and desk research. The analysis of three cases lead to the findings that different combination of network, business model, and business model innovation will result in different value creation, value delivery, and value capture. Information technology industry players in Indonesia can choose the type of network based on their preferences in conducting a collaboration.

**Keywords:** : network, business model, business model innovation, value, information technology industry

## INTRODUCTION

According to International Data Corporation (IDC), information technology industry worldwide has 3.3% compound annual growth rate (CAGR) for the 2015-2020 forecast period, making it one of the fastest growing industry (International Data Corporation, 2017). In, According to Dhewanto and Anggadwita (2015), the information technology industry players in Indonesia have big potential opportunities regarding to the human resource and the market condition. Unfortunately, the players still need more improvement before they can compete in the global market. The main problem is the unpreparedness to compete in the global market. Information technology industry players in Indonesia are too busy competing in Indonesia's monopolistic competition market and unconsciously lagging far behind from the global market players. They focus on competition instead of collaboration. This main problem can be caused by the lack of the collaboration understanding.

One simple way to collaborate with other businesses is by joining collaborative networks. In this network, the participants can exchange information, share activities and resources, capture mutual benefits, and share risks and responsibilities by working together as a team (Bititci et al, 2004). In Indonesia, several collaborative networks already exist. Some of them are Bandung Digital Valley, Startup Bandung, and IDCloudHost. Bandung Digital Valley is a creative hub that has an incubator and accelerator program for the new information technology startups, Startup Bandung is a Bandung-based startup community that has several programs to mutually empower its members, and IDCloudHost is a website hosting company that enables the businesses from many industries to innovate their business models.

However, most of the information technology industry players in Indonesia are unaware of the existence of those collaborative networks (Dhewanto and Anggadwita, 2015). The inadequate collaborative networks understanding problem are the result from the lack of understanding in the existing networks, the existing business model, and the business model innovation. These core problems become the objectives that need to be answered in this research. This paper focuses on filling the gap of understanding by providing the best practices of the business model and the business model innovation in several network types. The findings of this research can be a guidance for the information technology industry players in Indonesia to develop a business model innovation in their preferred collaborative network types.

## LITERATURE REVIEW

### Information Technology Industry

Information Technology Association of America (ITAA) defines the information technology as a study, design, development, implementation, support, or a management of the computer-based information system, mainly software or hardware. Global Industry Classification Standard (GICS) divides the information technology industry into three main categories, which are software, hardware, and semi-conductor category (Dhewanto and Anggadwita, 2015)

### Network

The network is a form of an adaptive complex organization that integrates both organizational and social relations (Möller and Rajala, 2007). Moller, et al., (2002) divide the network based on the position of the actors involved in it into three types, including vertical, horizontal, and multidimensional value network. A strategic network has three elements, including the structure, the governance, and the behavior (Moller, et al., 2005; Bititci, et al., 2004; Inkpen and Tsang, 2005).

### Business Model

In the network perspective, the business model of a company is the value exchanges and value flows among the network actors (Weill and Vitale, 2001; Wu and Zhang, 2009). The values that are being exchanged can be in the form of a tangible and an intangible value (Wu and Zhang, 2009).

### Business Model Innovation

The business model innovation (BMI) is a strategy to sort, evaluate, refine, and re-arrange a firm diverse resources. The purpose of the business model innovation is to create distinctive business models (Amit and Zott, 2010). There are three main types of the BMI, including industry, revenue, and enterprise models (Giesen et al., 2007). The BMI is conducted by using the 4I framework introduced by Frankenberger, et al. (2013). The process consists of four steps including initiation, ideation, integration, and implementation stages. In the innovation level, Bucherer (2012) divides the BMI into four levels of innovativeness, including incremental innovation, industry breakthrough, market breakthrough, and radical innovation.

### Value

The reason of an enterprise to join a network, have a business model, and conduct a business model innovation is to gain a value in return (Dellyana, 2016). In the network perspective, an enterprise joins a network to conduct a business model innovation, creating, and delivering value to the customer. The process also requires the enterprise to capture the value, generating wealth for themselves (Wu and Zhang, 2009).

### Conceptual Model

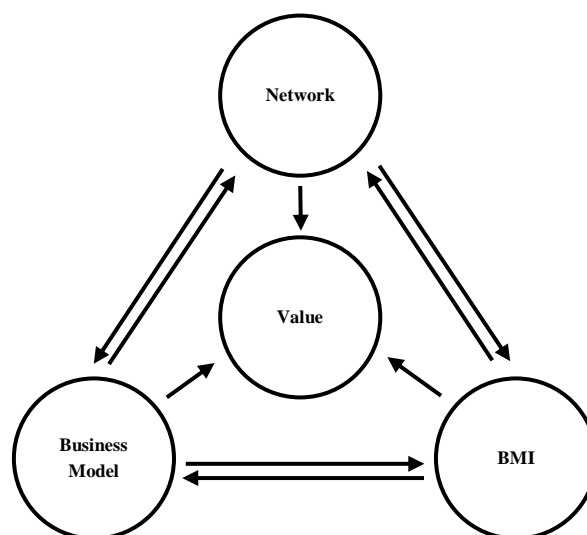


Figure 4 Conceptual Model (Dellyana, 2016)

In this research, the author uses the conceptual model by Dellyana (2016). It combines four dimensions above. Each dimension has its own role that complements each other. To explain the relationship among the four dimensions, Dellyana (2016) stated that, "Different characteristics of the network have a different business model process which would lead to the creation of a different business model resulting in different value output". The network, business model, and business model innovation dimensions affect the value dimension since the change in either one of the first three dimensions will result in the change of value dimension.

## METHODOLOGY

The objective of this research is to analyze some particular business innovation practices in the information technology industry. The focus is to answer the question of how, why, and/or what which can be answered to qualitative research (Yin, 2014). Furthermore, the author chooses case study method that is suitable for examining a situation or process by focusing on how it is played out in one or more cases (Yin, 2014). The author focuses on a particular phenomenon which is the network-based business innovation practices that have been done in several networks in Indonesia's information technology industry. In this research, the author needs three case studies that represents three types of the networks by Moller et al. (2005). There are three criteria of becoming this case studies. Firstly, the network must have its business practice in the IT industry. Secondly, the network must have executed at least one collaboration. Finally, the network must belong in one of the horizontal, vertical, or the multi-dimensional networks. Based on the criterias, Bandung Digital Valley is chosen as vertical network in case study 1, Startup Bandung as horizontal network in case study 2, and IDCloudHost as multidimensional network in case study 3.

To gather data in this case study, the author uses semi-structured interview and desk research. The respondents are chosen by using purposive sampling, selecting the sample based on their likeliness to generates data for the research (Patton, 2001). Applying the rules of thumb for qualitative sample size by Schreiber and Asner-self (2011), the author picks at least two respondents on each case. The respondents are one focal firm and one or more members of the network. The data are then being analyzed using within case analysis and cross-case analysis from (Eisenhardt, 1989)

## FINDINGS AND ARGUMENT

In within case analysis, the researcher create an analysis for each dimension and fill the conceptual model for each case study. The the researcher constructs the relationship among all dimensions. The findings can be seen in the figure 2 below.

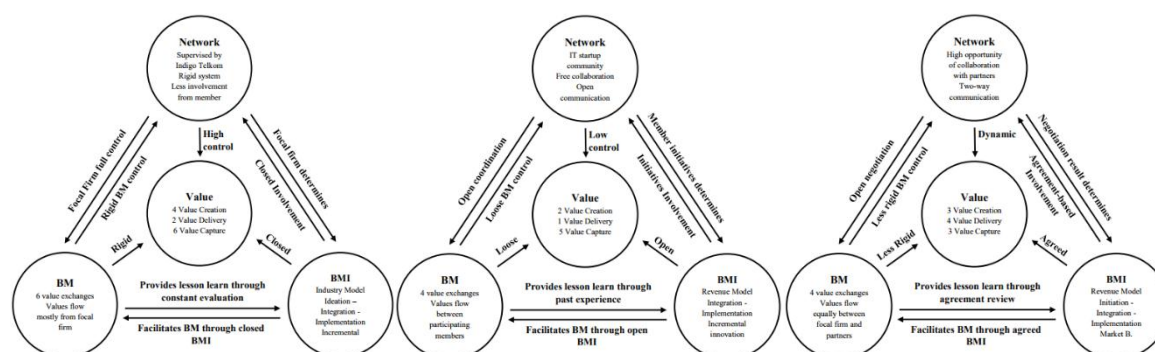


Figure 5 Within Case Analysis Findings in Case Study 1, 2, and 3 (from left to right).

Next, the findings on within case analysis are being compared in the cross-case analysis. The result of the cross-case analysis are elaborated in the conclusions. The cross-case analysis are:

Table 3 Cross Case Analysis in Network Dimension

	Case 1	Case 2:	Case 3
Network	Bandung Digital Valley	Startup Bandung	IDCloudHost
Structure	<p>Vertical Value Nets</p> <p>An incubator place, subsidiary of Indigo Creative Nation by Telkom's digital service division.</p> <p>Acts as the focal firm which execute and manage the incubation program.</p> <p>IT startup who want to join must get through ideas selection process in high competition environment and get a formal contract if passed.</p>	<p>Horizontal Value Nets</p> <p>A community consists of several IT startups. There are no focal firm.</p> <p>There are regular meeting events arranged by a core team.</p> <p>IT startups who want to join will be curated in simple process. If passed, they become a member with no membership contract.</p>	<p>Multidimensional Value Nets</p> <p>A web hosting service provider whose partner are from various industries, from banking to media. Customers are divided into B2B and B2C segment.</p> <p>IDCloudHost acts as focal firm.</p> <p>Partners have different level of bargaining power. B2B segment have higher bargaining power than B2C segment.</p> <p>Provide formal contracts to partners and customers.</p>
Governance	<p>Decision maker are Indigo as the head of program who set the rigid systems and procedures of the program.</p> <p>The seven-month program are divided into three phases.</p>	<p>Decision maker are the founders.</p> <p>No review and evaluations.</p> <p>Members are free to collaborate with other community members. No collaboration guidance within members.</p>	<p>Decision making is the negotiation between focal firm and partners or focal firm and B2B customers.</p> <p>Review and evaluation are conducted regularly depends on the need.</p>

	There is a review in each month and an evaluation at the end of each phase.	It is adaptable on each member needs	Collaboration guidance are sets in the formal contract.
<b>Table 4 Cross-Case Analysis in Network Dimension (cont.)</b>			
Behavior	Communication in the programs is mostly one-way by BDV. BDV shares the resource the most. Transparency level of information data is quite high. Startups are required to report the data to BDV.	Emphasize egalitarian culture (every member is equal and can actively participate). Each member is invited to share the resources in collaboration. There is no obligation to open internal data to the forum.	Communications are done in two ways. Each party have the right to negotiate. Resource are shared in accordance with the agreement. Transparency level is low. Collaboration period ranged from short-term to long-term

	<b>Table 5 Cross-Case Analysis in Business Model Dimension</b>		
	Case 1	Case 2:	Case 3
Business Model	Bandung Digital Valley Vertical Value Nets	Startup Bandung Horizontal Value Nets	IDCloudHost Multidimensional Value Nets
Value Exchange	<b>Tangible:</b> funding, co-working space, sets of activities in incubation program <b>Intangible:</b> information, knowledge, and brand awareness	<b>Tangible:</b> products/services/money <b>Intangible:</b> knowledge, information, business practice experiences, and brand awareness.	<b>Tangible:</b> money and services provided by IDCloudHost <b>Intangible:</b> information and media coverage.
Value Flow	Two kinds of value flow: BDV to startups (mostly happen), startups to BDV (rarely happen).	Three kind of value form: Core team to all members, a member to all members and, a member to a member.	Value flows, depends on the partnership contract, are mostly done equally between focal firm and partners, including B2B customers.

	<b>Table 6 Cross-Case Analysis in Business Model Innovation Dimension</b>		
	Case 1	Case 2:	Case 3
Business Model	Bandung Digital Valley Vertical Value Nets	Startup Bandung Horizontal Value Nets	IDCloudHost Multidimensional Value Nets
Innovation Type	Industry Model	Revenue Model	Revenue Model
Process	Ideation – Integration – Implementation	Integration – Implementation	Initiation – Integration – Implementation
Level	Incremental Innovation	Incremental Innovation	Market Breakthrough

	<b>Table 7 Cross-Case Analysis in Value Dimension</b>		
	Case 1	Case 2:	Case 3
Value	Bandung Digital Valley Vertical Value Nets	Startup Bandung Horizontal Value Nets	IDCloudHost Multidimensional Value Nets
Value Creation	Tangible value creation: - Enhancement in market understanding - Advancement in operational activities - Correction in management practice Intangible value creation - Increase of knowledge and experience gained	Tangible value creation: - Improvement of members' product and service quality Intangible value creation - Increase of public knowledge	Tangible value creation: - Improvement of service quality - Lower advertising fee in media partners Intangible value creation - Increasing of market awareness
Value Delivery	Tangible value delivery: - More flexible program's procedure Intangible value delivery: - Improvement of members productivity	Tangible value delivery: - Increase in intensity and quality of Startup Bandung's events.	Tangible value delivery: - Lower B2B customer' service fee - Simple domain registration Intangible value delivery: - Integrated customer experience in the website transaction - Increasing of customer trust
Value Capture	<b>Tangible:</b> incubation program activities, funding, and co-working space <b>Intangible:</b> knowledge, information, and brand awareness	<b>Tangible:</b> products/services/money <b>Intangible:</b> knowledge, information, business practice experience, and brand awareness	<b>Tangible:</b> money, customers <b>Intangible:</b> market awareness

## CONCLUSIONS

In network dimension, the main different among three cases can be seen in the way to join the network. All three cases have a process that need to be passed by the information technology industry players before they can collaborate in the network. However, the difficulty level of the process is the one that differentiate each network. In Bandung Digital Valley case, the startup applicants must get through a thigh competition in its idea selection process. Meanwhile, to join Startup Bandung, the applicants only need to pass a simple curation process. On the other hand, an information technology industry players only need to provide a mutually beneficial partnership offering to become a partner in IDCloudHost. The difference can also be seen in the system of the network governance. In Bandung Digital Valley case, the system is rigid and controlled by its superior. It leads to one-way communication between BDV and members with the least involvement from members compared with other networks. In contrary, the system in Startup Bandung and IDCloudHost are more flexible. It can be adapted into its members/partners needs in the collaboration.

In term of business model dimension, each network has its own kind of value exchange and value flow. In Bandung Digital Valley, the focal firm is the one who mostly transfer the values which are dominated by tangible values. It is quite similar in IDCloudHost case. The value that are being exchanged are mostly tangible values too, except both focal firm and partner are equally transfer its values to each other. In contrary, the values exchanged in Startup Bandung are mostly intangible values. Each member in the community can freely participate in the flow of the values.

In business model innovation type, it can be seen that Bandung Digital Valley as vertical network is the only network that provides industry model innovation while the others only focus on its internal innovation. When it comes to the innovation level, IDCloudHost as a multidimensional network provides the highest innovation level. Only an innovation in IDCloudHost that can help a member of this network transform the current market or approach a new one.

From the implementation of network, business model, and business model innovation, it can be seen that Bandung Digital Valley and IDCloudHost provide more value creation and value delivery that Startup Bandung. BDV offer 4 value creation and 2 value delivery, IDCloudHost offer 3 value creation and 4 value delivery, while Startup Bandung only offer 2 value creation and 1 value delivery. This value dimension concludes that every type of network, business model, and business model innovation implementation will results in different value created, delivered, and captured within the network.

The result of this research can be used by information technology industry players in Indonesia to know the network characteristic, business model, business model innovation, and the result of the implementation of these three dimensions in term of values. Each type of network will offer different approach in each dimension. Industry players can choose to join the networks based on their preferences, whether they can join the type of network that give suitable collaboration opportunity for them or join all type of network to capture maximum values.

However, these three cases only portray a glimpse condition of each type of network. Even though these three cases give general condition of each type of network, other network in the same type might offer a different characteristic in term of network, business model, business model innovation, and values. Further study is needed to provide a broad understanding of every network in each network type in Indonesia's information technology industry.

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# NETWORK-BASED BUSINESS MODEL INNOVATION IN INFORMATION TECHNOLOGY INDUSTRY IN INDONESIA, CASE STUDY OF HAMZAH BATIK, BATIK GIRILOYO AND DEKORUMA

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## EXTENDED ABSTRACT

Craft Industry included in the three creative industry that give largest contribution to Indonesia. Craft Industry in Indonesia have the big opportunity and challenges. One of all the opportunity is about wealth of resources that have by Indonesia. Craft industry also faced the challenges such as not maximizing the technology information to marketing media, lack of knowledge of branding by craftsmen, lack of facilities that effective and efficient to support production process, has low knowledge about management and so on. That things happened because the collaboration in exist craft industry business model is not effective. So, from that things are needed new innovation toward business model in craft Industry in Indonesia to solving that challenges.

This research used qualitative data method by using semi-structured interview and secondary data. The respondent of this research are choosed by the author based on horizontal, vertical and multidimensional network in craft industry. In this research, the author will be focus on the network condition in craft industry in Indonesia, existing business model of craft industry in Indonesia, and business model innovation. The result of this research will shows how the business model innovation can be implemented in network-based business model in craft industry.

**Keywords:** Craft industry, Creative Industry, Business Model Innovation, Network-based Business Model.

## INTRODUCTION

In this part, the author explain how the background of this research. This part consists of background, problem identification, research objective, research question and also writing system of this research. This part explain about the scope of craft industry in Indonesia. the author also want to know about the current condition of craft industry network in Indonesia, the business model that used in Craft Industry in Indonesia, the business model innovation direction for Craft Industry in Indonesia and last is about the network-based business model recommendatin for Craft industry in Indonesia.

## LITERATURE REVIEW

The meaning of craft according to (Narjoko, Anas, & Aswicahyono, 2015) in Craft Blue Printing Book is a part of applied fine arts which is a intersection of art and design that sourced from tradition heritage or contemporary idea which is the result can be a art masterpiece, functional product, ornamental and decorative object and can be grouped by materials and techniques that be used and also from thematic products.

According to Osterwalder and Pigneur (2010) in his book Business Model Generation, business modeling is a basic idea of how an organization is able to create, deliver and capture an added value. A business model consists of value exchange and value flow (Wu & Zhang, 2009). It means that business model is the representation how the actors in the network do value exchange and arrange the value flow.

When the business model is a collection of activities that are connected to each other to meet market needs, business model innovation is about resolving the business model through the current condition (Amit & Zott, 2012). An innovative business model can either create a new market or allow a company to create and exploit new opportunities in existing markets (Amit & Zott, 2012).

According to Giesen et al. (2007) there are three main type of business model innovation strategies which are industry model, revenue model and enterprise model. For the business model innovation process there are four steps which are initiation, ideation, integration and implementation (Frankenberger et al., 2013). The level of business model innovation also divided into four degrees of innovativeness they are incremental innovation, industry breakthrough, market breakthrough and radical innovation (Bucherer et al., 2012).

Network as a tool in the form of grouping that contains many parties that are connected to each other, mutually committed and also exchange information and resources to support each other and achieve common purpose and mutual benefit (Bititci et al., 2004). The actors in the network can be individuals, communities, collectives, or enterprises (Allee, 2008). The number of different parties involved in the network aims to complement and support for sustainability and common interests. According to Möller et al. (2005) there are three types of network which are Vertical, Horizontal and Multidimensional Value Net. Network not only has the type but also there is elements that must fulfilled in the network. The network element

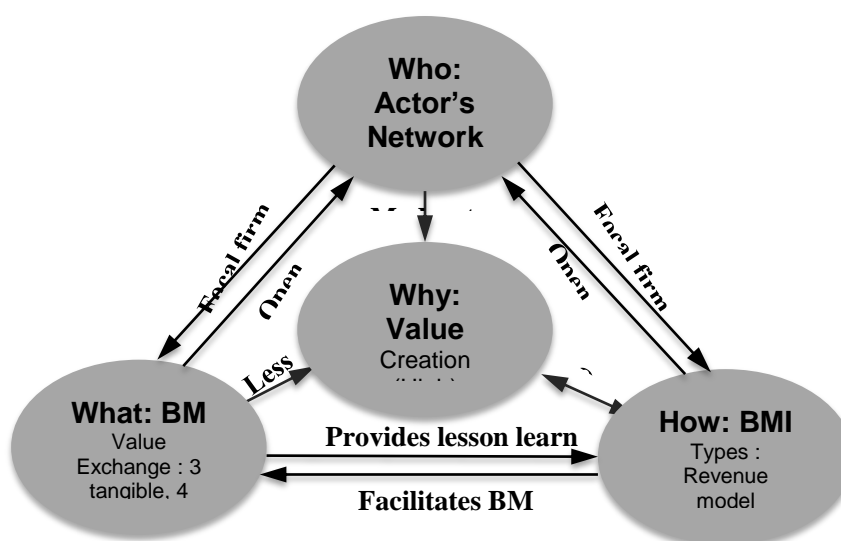
according to Möller et al. (2005) divided into three parties which are behavior (communication, transparency, sharing resources and collaboration time period), governance which are review and evaluation, authority of decision making (Shuman & Twombly, 2010), collaboration guidance (Bititci et al., 2004), and transaction between network (Snehota & Håkansson, 1995) and the last is structure that consists of network ties, configuration, and stability (Inkpen & Tsang, 2005). Value is happened in the network. A value network produces economic value through dynamic exchanges between one or more enterprises, customers, suppliers, strategic partners and the community (Allee, 2000). To achieve the high value outcome can be done by conducting high number of value creation, value delivery, and value capture. Business model's definition cannot be separated from creating, delivering, and capturing value process (Wu & Zhang, 2009).

## METHODS

This part explain the research process that do by the author. The process starts with problem identification, conceptual model that consists of network, business model, business model innovation, and value. research design, data collection, data analysis, results and conclusion and recommendation. After indentifying the problem which is the author deeply to find out about the current business model in craft industry in Indonesia and analysing the problems that occur in craft industry such as lack of effective and sustainable collaboration knowledge in business model and not aware about the potentials may occur in the business model in craft industry, the author use the four conceptual fmodel consist of network, business model, business model innovation, and value. The author used qualitative approach method using semi-structured interview and secondary data analysis. Data is collected from several respondents that belongs to horizontal which is Hamzah Batik, vertical which is Batik Giriloyo and multidimensional network which is Dekoruma. The data is analyzed using the interpretation which means that the result based on author's perspective and data has been collected to create the results and conclusions.

## FINDINGS AND ARGUMENT

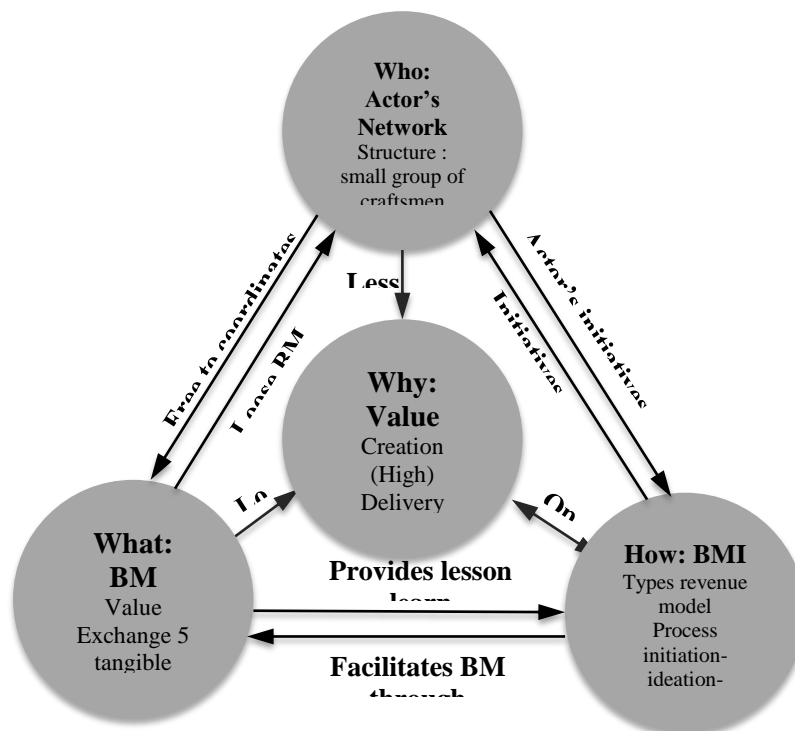
Findings of case study 1 which is Hamzah Batik can be seen in diagram below



The Hamzah Batik as a intermediary among the Vendors and the end customers. Hamzah Batik as a place to sell the product of the Vendors. In Hamzah Batik networks the form of cooperation is partnership. It is because the Vendors is a important party in Hamzah Batik business. The good maintain the relationship between the parties is necessary. In Hamzah Batik networks not only based on focal firm which is Hamzah Batik. But all parties also involve in the networks to make decision, to communicate which is two-way communication, and also still can be negotiated each others. This networks also make the value that favorable to both parties.

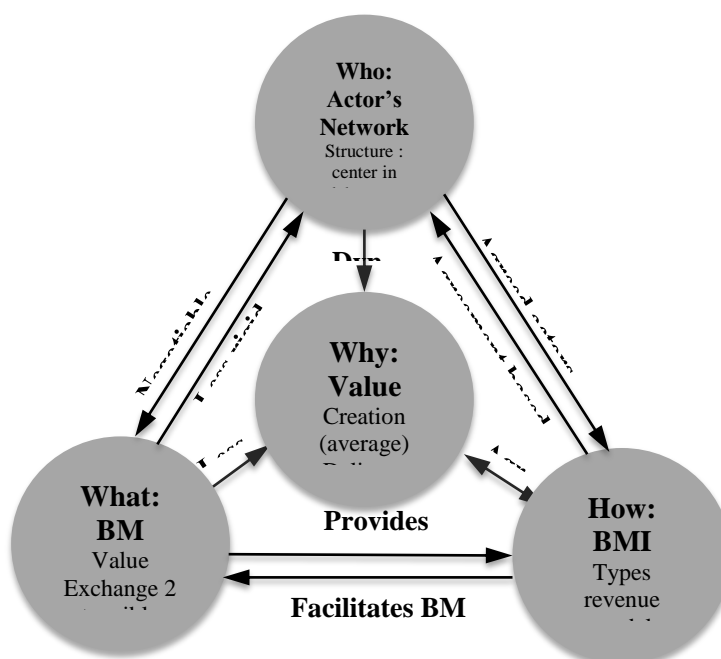
Findings the case study 2 which is Batik Giriloyo :





Batik Giriloyo classified as horizontal value nets it is because Batik Giriloyo is a community to prosperity all the members. In their network, all the parties has the equal degree, same obligations and same rights. The function of chairman in the network just for coordination among the members. The decision is made by agreements of all parties which is discussion. In the network, all the members has the same power to evaluate, to give suggestion and make decision. The communication that happened in network also two-ways communication, it means all the members can communicate to each others everytime and everywhere. The innovation that happened in Batik Giriloyo is about make the gallery to develop all the members in community. The network create values that profitable to all parties. This network give more benefical aspects than stand byself. Like a word "Divorced us collapsed, united we won".

Findings the case study 3 which is Dekoruma :



Dekoruma classified in multidimensional value net. In Dekoruma network, the parties are Internal of Dekoruma, Seller, Logistic Firms, Bank or Financial Institutions, Media and Interior Designer and Customers. The center of this network is Dekoruma. All the parties tied into Dekoruma. The decision made by one-way and two-way communication depends on the context of decision. There is contract in the beginning of cooperation but it is not rigid. It is as a guidance to do cooperation in the network. The innovation that happened in Dekoruma networks is added the features in Dekoruma website to make easier for the users both the customers and the parties in network. Dekoruma gives the many benefit for the parties in network.

## CONCLUSIONS

### The Condition of The Network

There is focal firm in vertical and multidimensional network structure. But, in the horizontal there is not focal firm it is because all the parties in horizontal value net is equal which means has the same obligations and rights. In this case, to join the vertical and multidimensional has the contract in the beginning as the guidance in cooperation. But in the horizontal just need requirements, there is not period time to join the network. The decision making process in vertical and multidimensional networks is depends on the context sometime the decision maker is focal firm and both of the parties. In horizontal networks all the decision is made by discussion which means the decision maker is all the parties in the network. The communication in the network can be one-way or two-way communication conditionally in vertical and multidimensional networks. Mostly, in horizontal networks the communication is two-way. The review and evaluation in all of the networks is conditionally. All the networks give the mutual benefit to all parties in the network.

### Business Model

In the business model there is two parts which are value exchange and value flow. The value exchange divided into two forms which are tangible and intangible. Mostly, the value exchange in all the networks is quite similar. The tangible value such as products, services and money and the intangible value such as brand awareness and information. For the value flow it depends on the context of the value exchange in each the networks. There is flow from focal firm to members, from members to focal firms and from members to members (this is for horizontal).

### Business Model Innovation

According to the Dellyana (2016), Business model innovation has three element including type, process, and level. In this case, all the networks which are vertical, horizontal and multidimensional value nets has the same type which is revenue model. It is because the innovation that has made by all the networks is focus to get the money which means increase the revenue. The vertical value net has the process innovation consists of initiation, ideation and implementing. The horizontal value nets has the four steps of process innovation which are initiation, ideation, integration and implementation. Meanwhile, the multidimensional has the process of innovation which are ideation and implementation. All the process is depend on the innovation that be done by the networks. For the level, in this case all the networks are in the incremental innovation networks. It is because the innovation that has done still in same field, same target market, just added the innovation from existing business model in each networks.

### Value Outcome

Based on the framework model by Dellyana (2016), the results from the implementation of network, business model, and business model innovation leads to the value created, delivered, and captured by the networks. Mostly, in all the networks value created by all the parties in the networks. It is because all the parties in the networks give the mutual benefits each others. Value delivery also adjusting the value created. For the value capture is basically simple. Value capture happened after value creation and value delivery. If actors contribute to value creation and value delivery, they can capture the value.

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# STRATEGIC DECISION MAKING TO ENHANCE FILM DISTRIBUTION CHANNEL AND MINIMIZE LACK OF CINEMA SCREEN PROBLEM IN INDONESIA

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## EXTENDED ABSTRACT

In Indonesia, the majority of film makers are independent film producers who perform all phases of filmmaking from development to distribution functions. Indonesia has significant film market potential, with large population and increasing middle class income, but currently Indonesia has only 1117 theaters with one market category, the middle-up class. Many Indonesian films suffering from financial loss and this sector considered as a high-risk investment. Objective of these research is find solutions to enhance movie distribution channel and minimize the lack of cinema screen problem in Indonesia. The research methodology used in this paper is qualitative by interview and observation. These research will be analyzed from an external environment and industry perspective using PESTEL and Porter's 5 Forces. Fishbone, Stakeholder Analysis, and Behavior Over Time Graph are used to find the root causes, identify key player, and pattern of existing conditions. In a complex problem situation, strategic decision making is analyze through system thinking approach. Government intervention, keyplayer innovations, cross promotion, technology can be identified to improve and change system behavior to these complex problems. For solution and recommendation, web-based integrated system as a components interrelationship will balance the performance, productivity, resources, and create many door opportunities for all stakeholders.

**Keywords:** strategic decision making, film distribution channel, movie exhibition

## INTRODUCTION

Distribution is one of the most important things in the film industry in Indonesia. Distribution refers to circulation and the marketing of movies in theatres, for home viewing, online and offline channel. Distribution has to identify and deliver the largest possible audience for a film. Distribution in the film industry has two major functions, there are:

1. Determined market analysis and the target audience of the film that will be distributed.
2. Distribution or circulation of the film that will be produced for the theater and the entire circulation path to the audience.

Distribution of the film industry in Indonesia requires serious attention in terms of management and regulation. If processes and distribution channels can be regulated properly, the sequential of Indonesian films can be much longer and the revenue will also increase. With strong in sequential, distribution plan, and with the potential of Indonesia's population that will be increased in 2020, Indonesian film sector should become more stable or can achieve sustainability in a long term. If the film industry more stable and have more sustainability, it can contribute to Indonesian economy. Distribution channels take an important role for a movie success. In current condition, the distribution channels, especially the number of cinemas still dominated by one major player, Cinema 21 Group. The cinema theater is not spread evenly and cannot be accessed by people from all social and economic status in Indonesia. Lack of monitoring of regulation, policy, and lack of management skills of the government and all stakeholders in the Indonesian film industry makes "a monopoly" in the theater business in Indonesia. This is very detrimental to the producer or supply chain of Indonesian film industry. Distribution plays an important role in the series of film production. This is because some of the film produced in Indonesia who have already spend a big budget in the production stage but did not have a chance to be properly distributed. In addition, import movies still dominate the film distribution channels in Indonesia. With the lack and limited number of theater and cinema screens in Indonesia, distribution channel is an important issue that needs to be resolved. The objective of these paper is to find a solutions for the following question:

1. How to enhance film distribution channel in Indonesia
2. How to minimize lack of cinema screen problem in Indonesia

The parameters used to determine whether the research can be said to be successful or not, by an increase and a change in the system behavior of the film industry in Indonesia towards a better and optimal that can be seen through a causal loop diagram. These paper finding can create a competitive advantage and Indonesian film industry can become more sustainable in the long term. Minimal gap between causal loop diagram with the actual condition of the movie business is what will be an indicator to determine whether the research is feasible to provide a benefit and an optimal contribution to the Indonesian film industry or not. The results will be used as research tools to solve real business problem in the practical purposes. The situation and problems regarding the lack of theaters and the absence of a professional and institutional distributor, Indonesian filmmakers need an effective strategy to optimize the growth and potential opportunities in the future.

## SCOPE OF THE RESEARCH

These paper focus on the problems in distribution channel phase, including online, offline channel, and problems in exhibitor or cinema screen in theater. Direct distribution from producer to customer, indirect using intermediaries, dual distribution, combination between direct and indirect, and reverse channel from customer to producer, as mention in red marks in figure 1. In general, the distribution process in the film production is as follows:

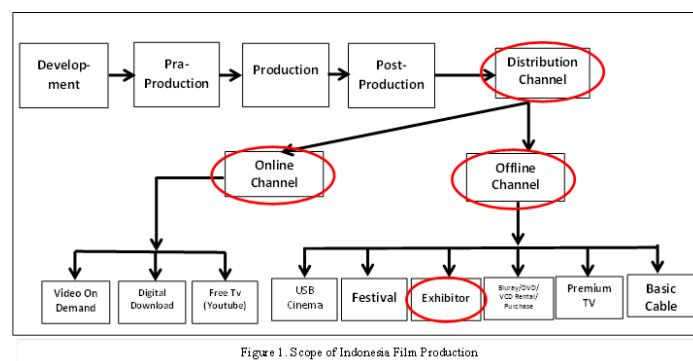


Figure 1. Scope of Indonesia Film Production

## LITERATURE REVIEW

**Strategic decision making** for problematic situation in its full system context such as distribution channel problems in Indonesia film industry needs systems thinking approach to find comprehensive and satisfactory solutions. As an organization becomes complex and grows bigger with higher degree of uncertainty, decision making also becomes increasingly complicated and difficult. Strategic decisions have to deal with the long term future of the organization. *Strategic decision have three important characteristics is defined in strategic business decision as follows:*

1. *Rare Strategic decisions are not common and have no precedents.*
2. *Consequential Strategic decisions involve committing substantial resources of the company and hence a high degree of commitment from persons at all levels.*
3. *Directive Strategic decisions can serve as precedents for less important decisions and future actions of the organization.* (Srinivasan, 2014: 246)

**Systems thinking**, Founded by Jay Forrester, MIT professor, in 1956. System thinking approach focuses on how the thing being studied interacts with the other constituents of the system—a set of elements that interact to produce behavior—of which it is a part. System thinking allows people to make their understanding of social system explicit and improve them in the same way that people use engineering principles to improve their understanding of mechanical system.

The research about Internet-Based Distribution of Digital Videos: The Economic Impacts of Digitization on the Motion Picture Industry tell *“Motion pictures are typically distributed through multiple channels. Consumers differ in their taste, preference, urgency, and willingness to pay for the movie. In order to maximize revenues, studios release films to the distribution channels in sequential release windows, typically in the following order: movie theaters, video rental stores, sell-through videos, pay-per-view television, premium channels, and finally basic cable/network/syndicated television”.* (Zhu, 2004)

## METHODOLOGY

The research methodology using qualitative approach for data collection. Expert interview from producer, distributor, exhibitor, and also regulator that represent as key player in Indonesia film's industry. They are experienced and knowledgeable in this sector. In conducting this research, generally consists of four main processes, there are:

1. Observations of the business processes in the Indonesian film industry.
2. Observation and assessment of the existing distribution channel at current condition.
3. Designing the decision making strategies (problem solving) through interviews with Indonesian film industry stakeholders, such as producers, exhibitors, distributor, customers, and regulators.
4. Provide recommendations to the Indonesian film industry to implement a decision making strategy for film distribution channels in Indonesia.

This research will be analyzed from an external point of view by using PESTEL (Political, Economic, Social, Technological, Environment, Legal) and from an industry perspective using Porter's 5 Forces Analysis. In search of the root causes to improve distribution channels of film and lack of cinema screens problems in Indonesia, using Fishbone Analysis. After the data collection, analysis process will use Stakeholder Analysis to find out the key player related to current situation. Behavior Over Time (BOT) Graph is used to understand the pattern of existing conditions. After observation and knowing the pattern, strategic decision making is analyse through system thinking approach. This is because the problem situation is very complex and dynamic. Through a causal loop diagram (CLD), government interventions, innovations from industry key players, or interventions in marketing, promotion, information and technology can be identified to improve and change system behavior.

The picture below is the conceptual framework of these paper to solve problem and business issue in distribution channel of Indonesian film industry.

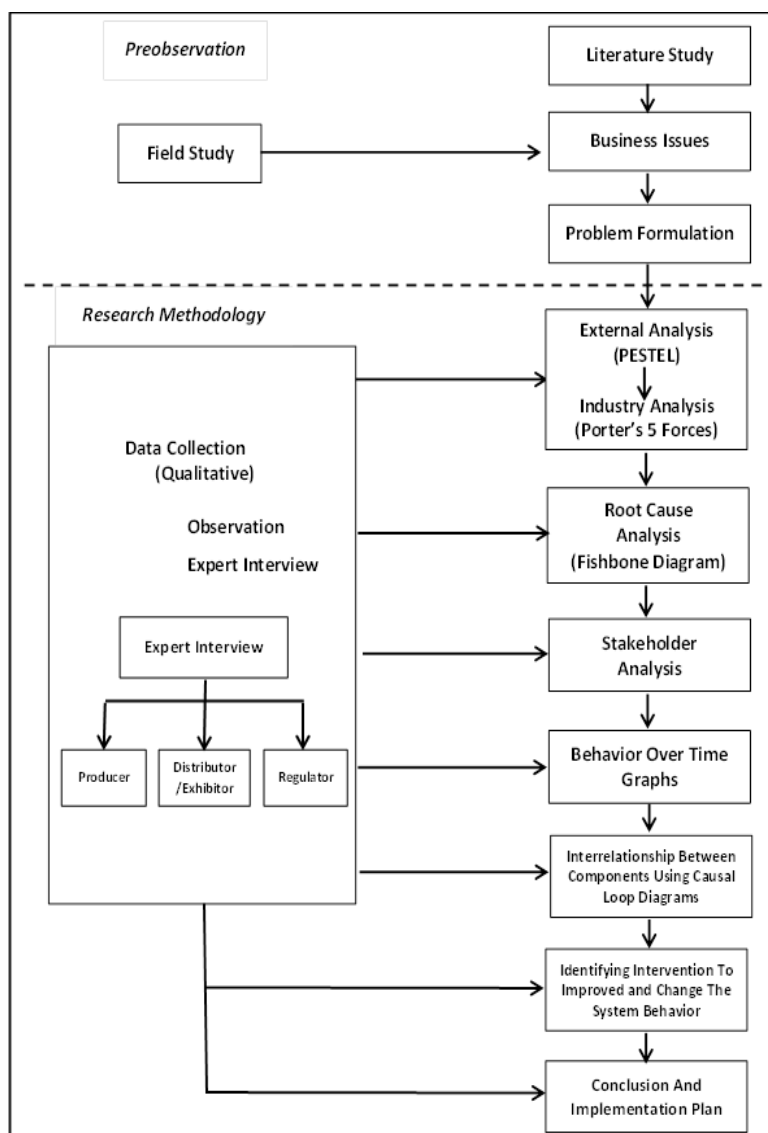


Figure 2 Conceptual Framework

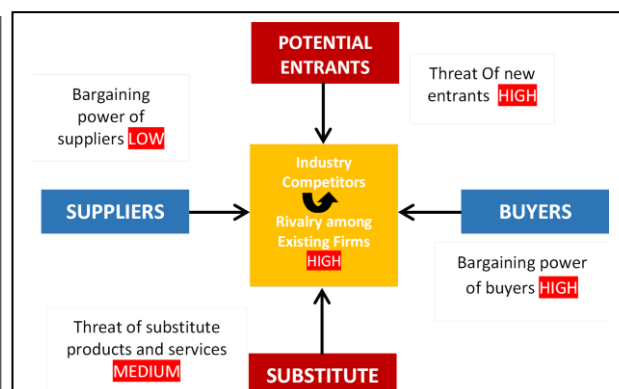


Figure 3 Porter's 5 Forces of Indonesia Film Industry

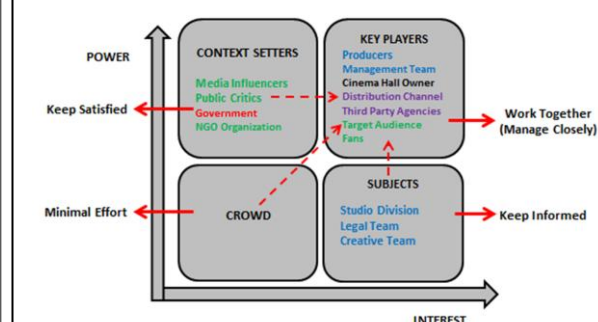


Figure 4 Stakeholder Analysis of Indonesia Film Industry

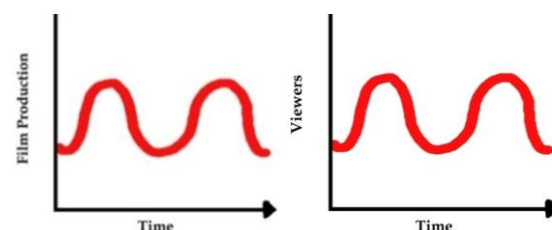


Figure 5 BOT Film Production and Viewers

## FINDINGS AND ARGUMENT

After data collection from observation and interview to several stakeholder in Indonesian film industry, such as government, producer, director, distributor and exhibitor, this research findings that the key player in this sector should collaborate with all the stakeholders to enhance film distribution channel and lack of cinema screen problem in Indonesia with these solutions:

- (1) Open and build cinema screen for all Indonesian segment market, not only for upper class or middle class, but also for lower class with their own specification and characteristic and build equitable exhibitor for all Indonesia area.
- (2) Create a new market and separate the segment between commercial Indonesian film versus education, art, and culture film. This segment and type are different from one another by creating, building, or collaborate with venue partner to open such as "National Film Art House".
- (3) Open foreign investment for perfect competition market structure.
- (4) Create and develop exhibitor or cinema screen innovation concept and implement the possible concept.
- (5) Improved cinema screen capacity to maximum capacity or at least as requirement by the law which is 60% from total capacity.
- (6) Build and create cinema screen inside or outside regular cinema screen venue to playing custom request film.
- (7) Increase community screening with or without membership.
- (8) Create a collaboration with major exhibitor and create a new cinema screen venue for playing short film and old film rerun with lower price or special price.
- (9) Develop theatrical release or rerun film for kids once a week or once every 2 weeks with lower price or specific treatment (price, with gifts, or other promotional items).
- (10) Create and manage online and offline distribution channel strategy.
- (11) Promotion support from community, joint promo or cross promotion from media partner, community, association, company's Customer Social Responsibility (CSR), and government.

(12) Develop web-based integrated system to enhance Indonesian film's Industry in Indonesia such as create and implement lean production in film production, permit for screening event or shooting location in film production, permit for censor, and implement the exhibitor innovation. Beside that, to enhance film distribution channel, key player and all stakeholder in these industry should have a knowledge and a networking about disintermediation in film distribution channel value chain. The sequential release path also important to enhance film distribution channel. Movie theatres usually is the first step in sequential release path, but now the strategy can be more varied. When identifying possible causes for a problem, fishbone diagram is develop.

There are six root cause that effected Indonesia film distribution channel using fishbone analysis, there are:

(1) Resource (2) Government or authorities policies (3) Exhibition (4) Production (5) Distribution and (6) Customer or audience, as stated in the figure 6.

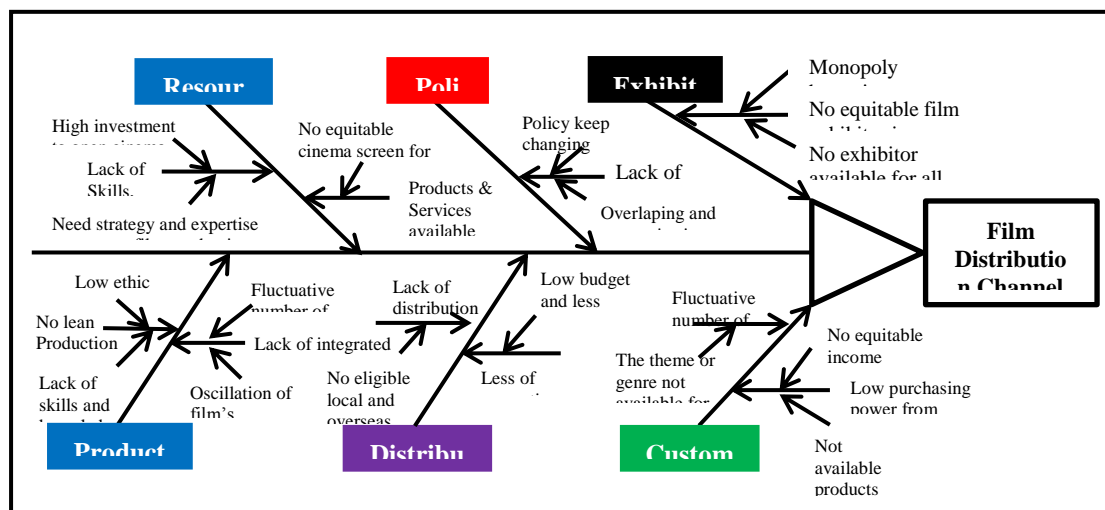


Figure 6 The Root Cause Analysis using Fishbone

From observation, interview, and Stakeholder analysis with interest and power matrix grid, the Key Players group has been indentified (figure 4). The Key Player has high power to take incharge and control Indonesia film industry, this group have high interest to the industry compare to the other group. Producers, management team, cinema hall owner, distributors channel, third party agencies, target audience, fans are the category of this group. To implement the solutions, this group should work together to all stakeholder. Player group should work together and motivate other group to have more power and interest to improve and make Indonesia film industry has more economic growth and sustainable competitive advantage. After find and interview the Key Player, BOT Graph about 10 best selling Indonesian films with the highest number of viewers from 2013- May 2017 can lead to oscillation pattern over time (figure 7). BOT pattern about film production depends on the value of a variable such as local or foreign investment in these industry, source of supply, copyright, inventory, quality, policy, and market. The BOT graph about viewers also has oscillation pattern over time in Indonesia film industry. This specific pattern behavior depends on the value of a variable such as income, word of mouth promotion, or price. These two BOT pattern impact and influence other components in the system (figure 8).

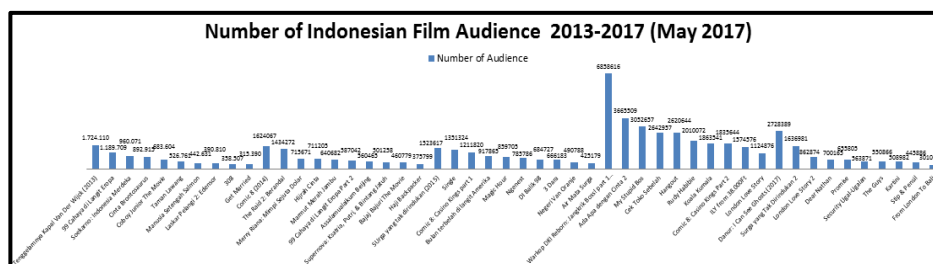
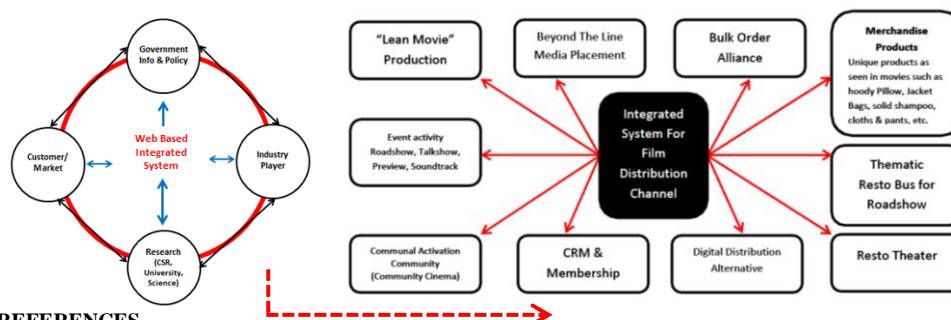


Figure 7 10 Best Selling Indonesian films with the Highest Number of Viewers from 2013- May 2017

Using PESTEL, Porter's Five Forces, Fishbone diagram to find root cause, Stakeholder analysis to find key player, and find the pattern behavior over time (BOT). To identify the interrelationship between that components these research using Causal Loop Diagram (CLD). CLD also used to identifying intervention to improve, change the system's behavior, and implement the solutions. CLD is one of system thinking approach tools that will give benefit and value for key player in this industry such as production house, high network theater and also will help independent theater and individual producers. These system thinking approach linking to the strategy about sharing resources, big data analytics, structure disruption, new business model, and new cost structure. The interrelationship between components of this system are:

From the research findings, web-based integrated system is the recommendation. As implementation plan or recommendation, government or private entity supported by association and key player in Indonesian film industry such as producer, distributor, and director should create a web-based integrated system. These web-based integrated system as a components interrelationship **will balance the performance, productivity, and resources of all stakeholder** to enhance Indonesian film's Industry such as create and implement lean production in film production, insurance, permit for screening event and shooting location in film production, permit for censor, implement the exhibitor innovation and many door opportunities.



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## PROMOTIONAL MIX AND PURCHASE INTENTION IN BANDUNG FOR EVENT PLANNING SERVICE (CASE: MIND-SET CREATIVE PROJECT)

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### EXTENDED ABSTRACT

Creative industry has flourished in Indonesia, including event planner industry. However, as a creative micro and small enterprise also face similar problem commonly faced by micro and small enterprise, which is the marketing problem. Mind-set Creative Project is a small event planner service that operates in Bandung. Since its inception, Mind-set Creative Project has not been able to enlarge its market. Among marketing mix, promotion is the part of the marketing mix that can be used to raise awareness about the company. This purpose of the research is to investigate the relationship between promotional mix and purchase intention for Mind-set Creative Project. Data collected using a quantitative method with judgemental sampling technique. An online questionnaire was spread to 215 respondents. Then, the data analyzed using multiple linear regression techniques to see the relationship between promotional mix and purchase intention. The result shows that the model of promotional mix and purchase intention is significant. Advertising is the promotional mix that significantly and positively impacts purchase intention.

**Keywords:** *Promotional mix, purchase intention, Event planner*

### INTRODUCTION

Micro and small enterprises face several problems when starting their business. One of the problems is marketing area. The Mind-set Creative project is an event planner in Bandung that falls into a micro and small enterprise category. Their sales have not increased significantly after one year running and. Therefore, the objective of this research has not reached its target market outside their immediate network. A promotional mix is a marketing tool aimed to communicate the company product to its target market, which eventually affects the company sales. Research on the effect of promotional mix to purchase intention have already done in several sectors, such as smartphone industry (Faryabi et al, 2012), printing advertising industry (Debasish & Muralidhar, 2013), mobile providers industry (Chen et al, 1998), car industry (Hutter & Hautz et al, 2013). Furthermore, similar research have already conducted in different geographical areas, such as Taiwan (Lin & Lu, 2010), USA (Kwon & Jung, 2013), India (Thamizhvanan & Xavier, 2013). From previous research, the result had shown that promotion mix has a positive impact on purchasing intention. The objective of this study is to investigate the relationship between promotional mix and purchase intention for Mind-set Creative Project.

### LITERATURE REVIEW

There are several topics in literature review are Promotional mix, event planning purchase intention, and previous research promotional mix to purchase intention. According to Kotler et al. (2005), there are five promotional tools: advertising, personal selling, sales promotion, public relation, and direct marketing. However, based on observation event planner in Bandung, only three promotional mixes that commonly used by an event planner. There are advertising, sales promotion, personal selling. Advertising is defined as non-personal presentation and promotion ideas by identified sponsor such as broadcast, print, the internet (Kotler & Armstrong, 2012). Personal selling is defined as a personal presentation from firm to increase sales and try to build customer relationship like a sales presentation, trade shows, incentive program (Kotler & Armstrong, 2012). Customer oriented approach is more suitable for marketing strategy than sales oriented approach (Kotler et al., 1999). Sales promotion is short-term incentives to increase to purchase of goods or service like discounts, coupons, displays and demonstration (Kotler & Armstrong, 2012). Then, event planning processes manage and assure the event match with what client want to include the concept of the event, planning, and execution of event (Carter, 2012). There are several aspects that consider when planning an event: conceptualizing theme and ideas for the event, setting goals and objectives for an event, coordination of details, people, and resources, monitoring budget and deadline, onsite event management on the day(s) of an event, evaluation (Carter, 2012).

Purchase intention is plan buying specific product or service in time that has been scheduled by many people (Hair Jr et al., 2009). According to Wiedenfels (2009), an activity that firm do and characteristic of company direct customer's perception to trust the firm and its positive effect on trust can give positive impact to customer purchase intention. Purchase intention in consumer can be influenced by advertising, sales promotion, personal selling. All of the components in promotion mix have a positive relationship and impact in consumer purchase intention for several sector industries and different area (Sari & Suryani, 2014; Zhafira et al., 2013; Hyde et al., 2014).

Therefore, there are three hypotheses that wanted to be proved in this research:

H1: Advertising has a significant relationship with purchase intention.

H2: Sales promotion has a significant relationship with purchase intention.

H3: Personal selling has a significant relationship with purchase intention.

## METHODS

This research data conduct using quantitative data. The target of the population in this study is based on age, socioeconomic status, occupation target market of Mind-set Creative Project. Their target markets are high school student and college students (17 -25 years old) who in the middle until high class who lives in Bandung and interested in using event planner service. According to Maholtra (2015), the minimum sample that should conduct is 200 respondents for problem-solving. The sample for this research is 215 respondents. Researcher uses judgemental sampling since this sampling technique is non-probability technique when the researcher uses his /her experience and condition to point the target sample (Oxford Reference, 2017). The questionnaire was distributed to several universities such as UNPAR, Maranatha Christian University, UNPAD, ITB, ITHB and several schools like SMAK BPK 1, SMAK BPK 2, St.Aloysius, St.Angela, and BPI. The researcher conducts a survey that has two sections which are the respondent overall profile and Questionnaire about the promotional mix. Part 2 use Likert scale 1-5 (strongly agree, agree, neutral, disagree, strongly disagree) about advertising, sales promotion, personal selling, and purchase intention for event planner service. Questionnaire about the promotional mix develops from journal adaptation. Advertising questions comprise of eight questions from Braun-La Tour et al. (2004) and Nikhashem et al. (2013). Sales Promotion items include six questions that adapted from Zgolli (1999) and Hao (2011). Personal selling questions divided into six questions that come from Goff et al. (1994) and Spaulding (2002). Questions about Purchase intention divided into three questions from Abzari et al. (2014).

## FINDINGS AND ARGUMENT

The first part of the questionnaire is about the demographic data of respondents. The result shows that most of the respondents spend their money more than Rp1,500,000,- in a month and also their preference price for using event planner service is around Rp500,000-Rp1,500,000 and more than Rp1,500,000,-. An additional result is that respondents prefer to look advertising in Instagram than other channels.

The second part is questions about promotional mix and purchase intention. The questionnaire was valid and reliable. Table 1 shows the result of descriptive statistics of variables used in this research, namely sales promotion, personal selling, advertising, and purchase intention. Based on Table 1, customer perception toward four variables is positive and high. The highest overall average score is personal selling (3.84).

Table 1. Descriptive Statistic

Variable	N	Mean	Standard Deviation
Sales Promotion	215	3.76	1.05
Personal Selling	215	3.84	0.85
Advertising	215	3.55	0.90
Purchase intention	215	3.43	0.80

Then, the result of multiple regression shows the model of promotion mix and purchase intention is significant or not. Table 2 shows F-test ANOVA used to see the significant value of this model.

Table 2. F-test ANOVA

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	471.545	3	157.182	40.888	.000 <sup>b</sup>
	Residual	811.127	211	3.844		
	Total	1282.673	214			

a. Dependent Variable: Purchase\_intention

b. Predictors: (Constant), Advertising, Sales\_Promotion, Personal\_selling

Based on Table 2, the significant value is 0.000. This model is significant since the significant value is less than 0.05. It means that together, the three variables, sales promotion, personal selling, and advertising, have a significant relationship with purchase intention.

Researcher uses multiple linear regression to analyze the relationship between promotional mix and purchase intention. Table 3 shows the result of regression using SPSS software.

Table 3. Coefficient Regression

Coefficients <sup>a</sup>					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	2.175	1.068		.043
	Sales_Promotion	.021	.027	.047	.435
	Personal_selling	.044	.032	.098	.169
	Advertising	.233	.029	.531	.000

a. Dependent Variable: Purchase\_intention

From the data in Table 3, advertising, sales promotion, personal selling has positive relationship to purchase intention variable ( $\beta = 0.233$ ,  $\beta = 0.021$ ,  $\beta = 0.044$ ). Advertising variable gives significant impact on purchase intention since the sig. value less than 0.05 (sig= 0.000). Based on regression analysis, hypothesis 1 is accepted; meanwhile, hypothesis 2 and 3 are rejected. The finding of this research suggests that advertising has a positive and significant relationship with purchase intention. It supports research by Debasish & Muralidhar (2013) and Martinez Flores (2012). On the other hand, personal selling and sales promotion did not have a significant relationship with purchase intention, which contradicts research by Faryabi et al. (2012), Chen et al. (1998) and Pornpitakpan et al. (2016). This condition can happen because of the different product sold (product and service) and different industry. Most of the previous researches study the effect promotion mix to purchase intention in an industry that sells a product such as a smartphone and a retailer. Also, a country differences affected by the external factor like culture, economic, politic that impact to customer behavior.

## CONCLUSIONS

Promotional mix is tools that can create an excellent marketing communication and maintain the customer relationship in long-term. There are three promotional mixes that commonly used in event planner industry: advertising, sales promotion, and personal selling. The result shows that together, all of the promotional mixes have a significant impact on purchasing intention. However, only advertising that is positively and significantly related to purchase intention. Recommendation for Mind-set Creative Project is to create a creative and attractive content advertising since the advertising is the most significant impact on enhancing customer purchase intention. The match place for advertising the content is on their Instagram account. For further research recommendation, this research is limited in Bandung. It should expand the research to other cities,

provinces, countries to compare the result in every place. Also, this research need explore another part of micro and small enterprise problems besides marketing area such as human resources, capital, and budgeting. It can help micro and small businesses in event planner industry to survive and to be competitive in the market with another competitor. The theoretical implication of this research is to enrich the research literature for promotional mix and purchase intention in event planner industry. For managerial implication, this research will help event planner in Bandung especially Mind-set Creative Project to develop and make an improvement in their promotional mix.

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## GREEN BEHAVIOR TOWARDS FASHION PRODUCT CASE STUDY: YOUNG PEOPLE IN BANDUNG CITY

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### EXTENDED ABSTRACT

Using the model of sustainable behavior motive approach, this paper aims to explore the green fashion behavior among young people, with case study sample to undergraduate student in Bandung.

As a preliminary study, the data is collected with qualitative approach. The result indicates Bandung young people show their recognition of today environmental issues. However, in term of green purchasing behavior in fashion show that they are still in the instrumental motives or self-interest motives in term to the extent the quality and the price the product meets to their need. Environmental aspects is just becomes addition factors in purchasing a fashion product.

**Keywords:** : green consumer behavior, green purchase behavior, green fashion

### INTRODUCTION

Nowadays environmental issues have become a global concern. People are starting to think and show their aware to the environment, including in business sector. This concern also spread as new lifestyle that called as green consumer (Narula & Desore, 2016; Young, 2010). Green consumers term refer to people whose put environmental consideration in their purchasing decision of a particular product or service (Kaufmann, Panni, & Orphanidou, 2012).

One of becoming recent global interest is sustainability issues for fashion products. A study revealed around 11 million ton of textile product are trashed every year and wastes around 700 gallons of water during the manufactures<sup>2</sup>. Fashion product is accounted as the second industry that making the highest waste to the environment globally (Choi, Lo, Wong, Yee, Chan, & Wong, 2012; Ting-yan & Wong, 2012). In Indonesia, fashion industry is one of the fastest growing business, and become the biggest part of Indonesia's creative sector with around 1.3 million companies from 2.5 million business in this sector<sup>3</sup>.

This research discusses green consumer's behaviors in fashion industry among young people in Bandung. As a one of city with good reputation of education, Bandung is also well known as center of fashion business.

This study explores young people's green fashion behavior in Bandung City to answer three research questions: 1) How is Bandung young people awareness about today environmental issues? 2) Do their environmental awareness drive to their fashion lifestyle particularly to their green consumer behavior on fashion product. 3) what factors that affect to their green fashion purchasing decision.

### LITERATURE REVIEW

#### Green Consumer and Green Consumption

Green consumer behavior differ from general consumer behavior (Narula & Desore, 2016). General cosumer bahaviour is usually motivated by costs and other benefits when buying a product or service (Oliver, 2007; Olson, 2013). While, green consumers behavior belong to people who considering positive impact of environment and oriented into future by giving benefit to society of their purchasing decision (Kaufmann, Panni, & Orphanidou, 2012).

Green consumer behaviors is always integrate with green consumption term. The green consumption its self refers to sustainable consumption, that link to sustainable lifestyle, in which this people with this behavior tent

<sup>2</sup> <http://www.ecouterre.com/infographic-how-many-pounds-of-textiles-do-americans-trash-every-year/>

<sup>3</sup> Ministry of Trade Republic of Indonesia; Trade Research & Development. (2009). Indonesian Women's Fashion : The Inspiration of New Style. *Handbook of Commodity Profile*.

consumption only for products that consider the implication for the future impact both social and environment (Chen & Kong, 2009; Gilg, Barr, & Ford, 2005).

### **The Sustainable Motive Behaviour**

Drawing from (Aguilera, 2007), this study is designed by using their three sustainable behavior characteristics. Aguilera et al (2007) said that, basically there are three behaviour motives to engage on sustainable initiatives: Instrumental, relational and moral-based motives.

**Instrumental motives.** People with this motivation consider their behaviour as a control instrument. They act based on their rational and self-interest. Usually, an individual behaves environmental friendly because they refuse from a punishment or get reward and benefit from the action. This sustainable behavior is considered as a control instrument. For example, an individual who buy a green product because of the quality of green products better than the similar product without environmental concern (Kaufmann, Panni, & Orphanidou, 2012). Other example of this motive behaviour may be because the pressure of government regulation. Government plays important role to push environmental friendly behaviours and one of the behaviour could be drive to green purchase behavior (Sinnappan & Rahman, 2011). Individuals who engage on environmental behaviour due to this reason look at their green behaviour to control themselves from the penalty.

**Relational motives.** Relational motives belong to individual logical needs for belongingness or related to self identity (Aguilera, 2007; Ashforth, 1989). In our conceptualisation of green behaviour, green behaviour promotes a positive image, in a modern society become behave "green" as a new trend of habit (Sorono, 2010). For example, people green behaviour could be considered as well educate people. In many case, intention to have a good image through green actions is also one of the motivations why people buy a green product (Lee, Opportunities for Green Marketing: Young Consumers, 2008). Dermody, Hanmer-Lloyd, Koenig-Lewis, and Zhao (2015) revealed that pro-environmental self identity have high correlation to sustainable consumption choice makers.

**Moral-based motives.** the third motive of sustainable behaviour is based on the need for existence of meaningful. Most individuals share their basic respect about what they consider as good and worse. Education impact and also changing in cognitive institution in our community could bring to new concern (Peattie, 2010). For example, the increase of awareness to today environment condition (Sinnappan & Rahman, 2011) due to climate change or some harm created in our society bring to changing behaviour toward environment including to buying behaviour preference (Lee, Gender Differences in Hong Kong Adolescent Consumers' Green Purchasing Behavior, 2009).

## **METHODOLOGY**

This research is using qualitative approach. Around 23 people of university students studying from four universities in Bandung was invited to be interviewed for this study. The interviews were recorded and then transfer to transcripts. The data then analyses with thematic approach by using coding method. Some interviewee's statement is quoted to support this research analysis and argumentation.

## **FINDINGS AND ARGUMENT**

### ***Green Concern among Young People***

According to our interview finding, it is shown that Bandung young people show their interest on environmental issues. They are not only recognize some today environmental problem in our society but also show their knowledge how should respond on the issues.

*"Keeping the environment is our duties, we could perceive how is today environment had change rapidly, issues such global warming and climate change are real become our future problem. It is our responsibility to do something to improve the environmental condition"*

### ***Green Fashion Behaviour***

Majority Bandung young people recognize the term of green fashion and able to identify what is the green fashion characteristic such as eco material and produce through eco friendly process and technology. Some of them, indeed, well know about recycle materials in fashion.

*"One of the principle of green fashion behaviour is you need to consisten to use the principle of 3R (reduce, reuse and recycle). If your clothes are still able to be used keep use it, if you don't like anymore you could give it for charity or recycle it"*

Even though, their insights of green fashion is quite advantage, but majority of their fashion behaviour are still motivated by their self interest. Green fashion practices and criterias do not put their main priority on select a fashion products yet, green issues is just as additional options.

*" I buy a fashion product, actually, it is just because of the need and the deal in price and quality of the product. I do not take much attention who is the producer, do they have environmental concern or not? but if I know they have environmental concern they may put my purchasing consideration".*

*" I aware and concern to the environment. so I am willing to buy green fashion product as long as I keep comfortable to use"*

*" According to my opinion, if we want to encourage sustainable fashion, government should play their role on regulation, but in the reality, it is not on government concern".*

It is indicate a gap between knowledge and the cognitive behaviour of young people in term of green fashion behaviour. Carrington, Neville, and Whitwell (2010) the gap between consciousness and behaviour could occur due to three factors: 1) implementation intention, it refer to a consideration how is easy the individual found the sustainable product and how many effort they should produce to get the product. 2) individual perception of their capacity to to perform the given behaviour (PCB), for example, someone consider the price of sustainable product is so high compare to general products; 3) situational contexts; it is depend on the situation in the place where the purchasing activities is conduct. For example, discount price for a product could encourage willingness to buy of consumer even they do not have intention to buy.

Interestingly, some interviewee also show relational behaviour. She said, the relational factors occur because she join a eco-interest community that pressure them to engage in sustainable practices, such below comment.

*" I joint earth hour community. This community indirectly push me to act my environmental concern until it become a habit. For example, I try to avoid to use plastic bag when I go shopping, I bring tumbler every day form my drink, I also try to be economic of using electricity".*

We argue that relational behaviour could reduce the gap between environmental consciousness and purchasing behavior. Individuals with relational behaviour, sometime overlook their rational decision to decide buying a green product (Dermody, Hanmer-Lloyd, Koenig-Lewis, & Zhao, 2015).

#### **Environmental Factors in Buying Decisions**

Even though, the behavioral action of sustainability is still low, our respondents argue that they may take green issues in their buying decision. The green qualities according to our respondent could be divided in some aspects: 1) the product made from material that easy to recycle or made from natural material; 2) made from a good quality material that could be use for long time; 3) easy to clean; 4) using green packaging, such bio degradation plastics 5) made by good corporate with sustainable reputation.

#### **CONCLUSIONS**

This study had given a perspective of green behaviour among young people in Bandung. We come to a summary that Bandung young people awareness of the environment condition is quite good, majority respondents are able to show their interest on today environmental problem and show their respect and insight how contribute to make environment condition better on their surroundings. Nevertheless, their purchasing behaviour on fashion product is not directly affect by their environmental friendly consciousness. Greening issues just become the supporting factor when they buy a fashion product.

Some interesting aspect how to bring the environmental awareness to be real action of young people sustainable behaviour is by encouraging the development of eco-communities. Where the young people do not only share their eco-insight but also create together commitment to real actions.

This study contributes in both theoretical and practical issues. Theoretically, this study had highlight behavioural theoretical framework on understanding an issues in marketing subject how understanding the green behaviour of young people consumers. Even though, this is not a new approach but limited studies exploring the issues from perspective of young people. In term of Practical aspect, this study provides information related to green behaviour problem in our community and provide some alternative approach to increase the green behaviour, particularly to young people.

Nevertheless, this study just employed 23 students as the example, this may be still a low number compare to the big young people population in Bandung. As clarify the finding, it is need a quantity confirmatory study to convince the finding.

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# REDESIGNING MARKETING STRATEGIES FOR THE UP-CYCLED FASHION BRAND: KLACHÉ

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## EXTENDED ABSTRACT

As the business opportunities in the up-cycle fashion industry emerge, many entrepreneurs are now trying to enter the industry and it increases the competition in the market. Entrepreneurs who run their businesses in this field needs to determine their brand positioning and strengthen it in order to face the competition. But in fact, not every brand has a strong positioning and it messes their marketing strategies. Therefore, the objectives of this research are to know the perceptions of green consumers towards the wooden reused clutch bag and to redesign the marketing strategies of the up-cycled fashion brand based on market insights that collected from the green consumer. Author of this research used the qualitative method to collect data by performing the semi-structured interview. As for the analysis, the data collected were analyze using the qualitative data coding technique and based on the analysis, researcher conduct the interpretation.

**Keywords:** *Reused Product, Up-cycled Fashion, Marketing Strategy, Entrepreneurship, Creative Industry*

## INTRODUCTION

The demand of wood products are forecasted to increase in the next half-century (Union of Concerned Scientists, 2014). In our daily life, the wood products demands are arose mostly because people want to create furniture, flooring, and constructions using the wooden material (Butler, 2005). People choose to use wood as the basic material to make things because wood has been considered to have more strength and protection if compared to the other materials (Craters & Freighters, 2015). In addition, some types of wood are also known for its beauty and eye-catching patterns. By recognizing its fineness, some people then utilize the potential of wooden material and see it as a business opportunity to create wooden fashion items from it.

The trend of the wooden fashion product has been ascending in the past few years in a steady condition (dotcomwomen, 2014). At first wood was considered as a niche element for fashion goods but now it has exceeded its basic stereotypes and became an on-trend choice for fashion statement (Reyhle, 2015). The growth and the existence of wooden fashion goods trend can be seen from many entrepreneurs that now try to sell different kind of wooden fashion items such as the wooden watches, wooden bracelets or cuffs, wooden shoes, and wooden bags in the market (Northwood Rings, 2017). But when running business in this industry, entrepreneurs should not only focus on the business opportunities, but they also need to think and consider the aforementioned forestry sector problems. They need to optimize the usage of wood materials. To make the usage of woods become more efficient, reusing the wooden product wastes could become a good option. Reuse can be defined as a process of reintroduction of a by-product or waste materials from product as the basic material for manufacturing process. Usually this process happens without any physical or chemical change (Business Dictionary, 2017).

The usage of the reused material then could lead to another creation of new kind of products (ReDo, 1995) and one of them is the fashion product. For example, people could create wooden clutch bag from reused wooden materials. Just like any other clutch bag, the wooden clutch bag also has small size and can be carried with hand even if it did not use straps (Farlex, 2003). The only difference that wooden clutch bag has if compared to the other clutch bag is the basic material that it uses to create the clutch bag, which is wood. The types of wood that can be used to create this product are also really varied and one of them is the Germany Pinewood. By changing the waste material into fashion product, it makes the waste become something more useful and also has higher environmental values. This kind of modifying process has also known as the up-cycle process (Wilson, 2016) and the product results that have transformed through the process known as the up-cycled product. This kind of product replaces new items that would need more water, energy, timber, and other limited natural resources during the process. (ReDo, 1995). The usage of reused materials has helped many people get a chance to generate significant number of dollars from the up-cycled product.

## LITERATURE REVIEW

### Green Consumer

When it comes to the eco-friendly product, there are three types of consumers that could be categorized as green consumer based on their motivations to buy the product. One of them is the environmentalist who likes to purchase green product as a form of his contribution to the environment protection (Matic & Puh, 2015). This type of green consumer refers to people who concerned about the environment that it affects their buying behavior, their activities that associated with marketplace, and their consumption habits. Their awareness about the environmental issues also makes them examine the effects of their behavior to the environment around them (Shabani, Ashoori, Taghinejad, Beyrami, & Fekri, 2013).

### Up-cycling Process

Up-cycling is a progressive trend that has been considered as one of the most sustainable things that people in the fashion industry can do. Up-cycling is a process that makes an item better than they used to be (3P Contributor, 2014). It also can be defined as the process of modifying or refashioning the disposable things into something that has higher quality and values. The process itself often done by using several resources and it makes the “unwanted” stuffs out of the waste stream (Wang, 2011). One of the resources examples that can be used in the up-cycling process is the reuse material.

#### **Reused Material**

One of the ways to apply the waste management is by doing the reuse process that will finally lead us to generate the reused material. Reused material, which also known as salvaged material, is waste that is saved to use again in its original form. (Green Buildings Online Inc, 2017). It could be used whether for the same or different purpose (Green Plus, 2009).

#### **Wooden Fashion**

More than the functions that it has, wood is now being admired for its beauty. Its various patterns and textures are appreciated and valued by different kind of people. Mixing wood tones with different colors and tones ease designer to make varied creations in the world of design (Emerald Expositions, 2017). In order to be different, wood details and wooden accents are now among the emerging fashion trends. It turned out that the wooden fashion trend has become one of the trends that customers can indulge over. It is a trend that cannot be overlooked (ASD Insider Editor, 2015).

#### **KLACHÉ Wooden Reused Clutch Bag**

The authentic patterns and textures of Germany Pinewood are the hallmarks of KLACHÉ. Crafted with passion since 2015, KLACHÉ is a brand developed under a corporation named MOLKA Company. The word KLACHÉ is originated from Telugu language, “Klac,” which means clutch. Through the creator’s audacity and avant-garde approach, under the brand currently there are two types of products that being developed and one of them is the wooden reused clutch bag.

KLACHÉ wooden clutch bag is made of reuse Germany Pinewood. KLACHÉ chooses to use the Germany Pine wood as its main material because the wood is known for its durability and beauty at the same time. The Germany Pinewood previously has been used to create things like wooden crate and then finally got processed until it became a wooden board. The wooden board then will be crafted into the wooden clutch bag. After done, the wooden clutch bag will also be assembled with the other materials like *Mata Tujuh* clamshell or acrylic. As for the final touch, it will be integrated with chain and packaged so that it would be ready to sell in the market.

Rising as a revolutionary product in the craft world, KLACHÉ tries to bring a bigger perspective for woodcraft products. KLACHÉ hopes that woodcraft could be preserved and seen by people in a whole different way. As something that has values, as something that is not old-fashioned.

#### **KLACHÉ Wooden Reused Clutch Bag Sales Performance**

At the present time KLACHÉ products are sold in both offline and online platforms. In the early beginning, after its product launched, the sales performance of KLACHÉ products can be considered as low. KLACHÉ was having really stagnant sales and reached its lowest profit. The roots of that problem were the niche target markets that they have and lack of innovations in its marketing activities. Handling the issues, the company tried to find ways to address the problems and improved their performance. Finally the sales growth in February 2016 showed the positive results. The number made a turn in fortunes after falling revenues for months. But as the trend emerges, the competition in the market is also increases. Hence, KLACHÉ needs to strengthen its positioning in the market in order to differentiate its brand from its competitors.

#### **METHODS**

In this research, qualitative method was conducted by performing the semi-structured interview. At the beginning of the preliminary stage, the study was started by doing a semi-structured sample interview. Author of this research used 3 different respondents as samples. All of the respondents were female with age around 21-40 years old who also join a non-governmental organization (NGO) that have concern about the environment. Respondents were asked 12 different open-ended questions. After conducted the semi-structured sample interview, author of this research then analyzed the results. In order to improve the interview’s quality and avoid biases, author of this research fix the list of questions before conduct another semi-structured interview. Subsequently, author of this research conduct another semi-structured interview with 11 different respondents. The respondents of the interview have same characteristics like the samples that being used for the same interview. All of the respondents were asked 16 different open-ended questions that adapted from the previous sample interview.

The results of the semi-structured interview then were being analyzed using the coding method (open coding, axial coding, and selective coding). From the interview, author of this research got 117 open coding. The 117 open coding then categorized into 31 different axial coding. After that, the 31 axial coding was also organized into another 9 selective coding including upcycle, environmentalist sentiment, environmentalist’s concern, environmentalist acceptance, environmentalist value, environmental impact, social impact, product recommendation, and marketing recommendation.

#### **Conceptual Framework**



- Core Benefit: Rigid container to place women's belongings or essentials (make up, phone, cards, money, etc.)
- Generic Product: Clutch bag
- Expected Product Functional, reachable high-quality, light-weight, and durable
- Augmented Product On time shipping/delivery, Warranty, Positive review
- Potential Product (Emotional needs met): Give customized greetings card for each customer inside the packaging, special birthday offer (discount)

This research uses this Kotler's 5 Levels of Product as the basis for the conceptual framework. As a part of this model, author then define the 8 positioning elements of KLACHÉ including the target market, problem, frame of reference, point of parity, point of difference, reasons to believe, distinguished from competition, and emotional end benefits. Unfortunately, the reason to believe and the emotional benefit is still not coherent. Therefore, author of this research conduct a research to improve the brand positioning based on the Kotler's 5 Levels of Product.

### FINDINGS AND ARGUMENT

Based on data that have been gathered from the in-depth interviews, author of this research found out that most of green consumers take the wooden reused clutch bag as something positive, unique, and innovative but some of the others still see it as something ordinary. From the research, author also found out that green consumers consider the environmental impacts of producing fashion products as something important yet it is not their main concerns when they were about to buy a reused or upcycled fashion product. Instead, it is the quality, design, price, durability, creativity, functionality, and material of the product itself that they consider first. As for the materials that being used to create the wooden reused clutch bag, green consumers admit that they agree with the use of reused Germany Pinewood as basic material to create the wooden reused clutch bag since it extends the product life cycle and gives more benefits to customers. On the other hand, the usage of the reused material turned out also gives different kind of feeling for green consumers. They admit that they tend to feel more proud and have more prestige when they use the reused the product because they want to walk the talk and be role models for other people.

### CONCLUSIONS

Green consumers agree with the usage of the wooden reused material as the basic material to create the wooden reused clutch bag. The word 'reused' or 'up-cycled' resonates positive associations in the green consumers' minds yet the values that the words reflected are still secondary to the performance of the product. Thus, the product design and its values should come first, and reused or up-cycled values are just additional but not detrimental to the brand. Since the product design becomes one of the green consumers' concerns, wood should be designed as the jewel of the crown of the bag or it should be the integrated part of the luxury of the bag even though the wooden part is a recycled material. In addition, using the eco-friendly product also brings enormous prestige for the green consumer. They admit it increases their confidence and makes them feel more unique. Therefore, KLACHÉ should be ready to become their statements.

In order to serve as the statement of green consumers, KLACHÉ should be active in bringing the basic values of up-cycling by developing brand stories. KLACHÉ should be active in green consumer community conversations and ready to accept insights from them.

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# THE INFLUENCE OF PRODUCT INNOVATION, SERVICE QUALITY TO BUYING DECISION AND THE IMPACT TO REPEAT BUYING IN PROGO ROAD BANDUNG

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## EXTENDED ABSTRACT

*The growth of culinary industry has encourage the entrepreneur to create more innovative product and good service that will affect customers buying decision and create customer engagement to repeat buying. Progo Road, one the culinary clustering in Bandung city have an attractive growth at the last year. Many housing now change to culinary industry and grow faster. Most of them have a very innovative product and serving customer well. The purpose of this research is to analyze the influence of product innovation, the service quality towards buying purchasing decision and the impact to repeat buying. Survey will be conducted in the culinary industry along the Progo Road. This research is associative research using SEM-PLS. Samples taken as many as 384 people who come to Progo Road. By Using WarpPLS 3.0, this research found that product innovation and the service quality have an impact to buying decision in the culinary industry along the Progo Road, but did not give an impact to repeat buying.*

**Keywords:** Product Innovation, Service Quality, Buying Decision, Repeat Buying.

## INTRODUCTION

Ridwan Kamil as the mayor of Bandung city state that Bandung is chosen as one from four best Asian destinations besides Bangkok, Seoul and Mumbai (Kompas, 2015). Bandung which namely Parijs van Java has a very beautiful culture, nature, resources and climate for holiday, hang out and vacation. That conditions support some creative industry in Bandung city to grow up and become the main sector in creating major role in city economy. Creative industries define as the sector depends on skill in manage idea, arts, and technology to creating sustainability indicated as the main contributor in developing economics and employment of worker (Hermawati & Runiawati, 2015). With the increasing of creative industries means the growth of city economic (Badan Pusat Statistik Kota Bandung, 2015). Culinary is one of the creative industry that should be developed as a superior product to become a tourism attraction as identity of the city. To achieve a good performance in the culinary industry, innovation playing important roles. Innovation moves the implementation on introduction new product, process, marketing technique and reorganizing (Abouzeedan A. , 2011). Good performance in culinary entirely was heavily influenced by the innovations they do. The roles of innovation in the creative economy sectors closely related to the growth and development of world trends, changes in consumer behavior, purchase ability, and consumer educational background. Culinary industry dealing with the dynamic world market, where they challenged to survive, grow and develop (Lahindah & Mitra, 2017).

Bandung become more famous because of the growth of the culinary industry. A lot of places in Bandung now change to be an culinary area. The city of Bandung become a paradise place for food lover, Bandung has many types of snacks or foods. Therefore, many restaurants and food stalls found in Bandung City. And more domestic tourists came to spend their weekend season to visit the city of Bandung (Badan Pusat Statistik Kota Bandung, 2015). The development of the culinary industry in Bandung is increasingly making entrepreneurs have to create innovative products, and good service for consumers. With innovative product and good service people decided to remain loyal to the restaurants and cafes they have visited. The current culinary attraction of Bandung is not only about the taste of various diverse food and drink menu. The culinary industry in Bandung continues to race in creating something unique and different from other competitors.

One of the region in Bandung city that is getting famous for many attractive culinary is progo road. Restaurants and cafes on progo street offering various types of food such as; Indonesia, Western, Japan and Middle East.



Progo Road is one of the roads in Bandung which is located close to the government building called “Gedung Sate”, which was built since the Dutch era and is an old residential area. Progo Road was once a residential area of ITB and UNPAD dormitory housing that changed into commercial area due to the emergence of Jonas Photo and then followed by many cafes that also caused the atmosphere in the progo crowded with visitors who come to restaurants and cafes on the progo road (Asri & Humairo, 2015). Restaurants and cafes on the progo street have different nuances & themes, service quality, and product innovation. Some of the cafes and restaurants are on the progo road as follows: Giggle Box, Hummingbird, Coffee Progo, Tokyo Connection, Qahwa, Mom's Bakery, Sejiwa, Please Please Please, Monster Bite, Ngorea. The increasing of culinary business in Progo area causes culinary entrepreneur to create creative ideas and attract consumers' attention and become purchasing decisions, in order to compete with competitors among another. With product innovation and good service quality, creative industry is expected to survive and develop so as to support the economy of the city. The purpose of this study is to find out how big the effect of product innovation and service quality to purchase decisions and their impact on repeat purchase. With understanding of the factors influenced culinary industries entrepreneur can achieve their goal.

## **LITERATURE REVIEW**

### **PRODUCT INNOVATION**

Abouzeedan (2011) state that innovation is the instrument to realize entrepreneurship economy. Product or service innovation is the company's ability to improve product design, features, or specifications as per the customer's wishes or enhance the value of products or services by creating new products or services (*Pejabat Pengelola Informasi dan Dokumentasi, 2016*). The higher the company's product innovation will improve the company's performance through increased buying decision. In the global competition, companies must be able to modify their products to add value to the products they produce and must meet the needs and tastes of consumers. The added value of the resulting product may be the design or model of the product to produced and the service of the product being sold (*Firdausi, 2016*). Product innovation specifically a set of new idea in creating product or services which achieve competitive advantage to organization (*Polder, Leeuwen, Mohnen, & Raymond, 2010*)

### **SERVICE QUALITY**

Quality of service is an activity that offers services perceived by customers who already use the service. Quality of service is essential to customer satisfaction and trust (*Nejad, Firoozbakht, & Taghipoor, 2014*).

Quality of service is a capital that gets describes the condition of the customer by comparing the service they expect with what they receive in evaluating the quality. Good service quality is one of the most important factors for determining purchasing decisions. Quality of service can be said good or quality if the services provided a company can satisfy its customers (*Wibowo & Soedjono, Pengaruh Kualitas Layanan, Harga dan Lokasi Terhadap Keputusan Pembelian di "D'Stupid Baker" Surabaya, 2014*).

### **BUYING DECISION AND REPEAT BUYING**

Kotler & Armstrong (2012) states that the purchase decision is the consumer's decision to buy the most desired brand. Purchasing Decision is an activity or action that evaluates two or more behaviors and chooses one as an alternative choice as a form of behavioral desire (*Mardhotillah & Saino, 2013*). Purchasing decisions are the stage of the decision process in which the consumer actually purchases the product. Consumers as the main actors in the buying process have always been a concern of the producer. Purchase decisions made by consumers can occur if the customer has received services from the provision of services and after that consumers feel the satisfaction and dissatisfaction (*Wibowo & Soedjono, Pengaruh Kualitas Layanan, Harga dan Lokasi Terhadap Keputusan Pembelian di "D'Stupid Baker" Surabaya, 2014*). In performing an action, consumers must take a decision, consumer purchasing decisions can be influenced by many factors. If businesspeople want to successfully sell their products, they must actively influence buyers about the benefits, benefits and prices of the products they sell because they can influence potential buyers in the decision making process (*Nofiaty & Yuliandi, Pengaruh Store Atmosphere Terhadap Keputusan Pembelian Konsumen pada Outlet Nyenyes Palembang, 2014*)

Consumers who have decided to buy will experience satisfaction and will re-purchase. Here are the elements in measuring consumer satisfaction, namely (*Kotler & Keller, 2012*): (1). Overall customer satisfaction, which concerning how satisfied they are with the company's products. (2). Interest in re-purchase, when consumers

will buy the company's products back and (3). Willingness to recommend where willingness to recommend a product to a friend or family becomes an important measure for analysis and follow-up.

## RESEARCH FRAMEWORK

Culinary is one of the attractions offered by the city of Bandung for domestic and foreign tourists. This condition causes entrepreneurs in the field of culinary should be able to create business in this culinary field as attractive as possible in order to keep his business survive (Irawan R. , 2016). Businesses that have the advantage will be the choice of consumers in making decision in purchases. This condition because the actions of consumers in taking a decision to buy a product that is influenced by various factors, as; Service quality, store atmosphere, or product innovation from the company (Nofiaty & Yuliandi, 2014). Product innovation is the organization's ability to improve design, quality and new products. Product Innovation will create value from the product and make the consumer decide to buy. Innovation is a generic factor that adds value to the organization through strategy, behavior, and motivation and encouragement in conducting various activities (Kusumawardhani, Mc Carthy, & Perera, Autonomy and innovativeness: understanding their relationship with the performance of Indonesian SEMs, 2012), so innovation encourages consumers to decide to buy. Quality of service is the action or performance of the employee to the consumer because the quality of good service is one important factor to determine the purchase decision (Wibowo & Soedjono, 2014). Good service quality makes consumers feel comfortable, so that consumers will feel happy and make purchasing decisions because it has felt the quality of service from the restaurant or cafe they have visited. At the end of their purchasing behavior, consumers who have decided to buy will experience satisfaction and will re-purchase. Their satisfaction develop when consumers satisfied with the company's product. Their satisfaction will bring up the interesting to re-purchase and follow with their willingness to recommend a product to their friend or family (Kotler & Keller, 2012).

## METHODOLOGY

This research uses the descriptive and verification method of approach to the survey, with data collection through questionnaire (question form), interview, observation, and documentation. Where descriptive format aimed at explaining, summarizing the various conditions, circumstances, also there are variables, while verification is the research aimed to verify the truth of the results of previous research. The survey approach is a method of research that aims to get a conclusion that can describe and explain an idea against the results of the verification of the sample being studied. This research will study how product innovation and service quality effects the buying decision, and how its impact in repeat buying.

The sampling frames of this study consisted of consumers in Progo Road. Based on the results of the data collecting, there are 384 questionnaires valid to analyses.

## FINDINGS AND ARGUMENT

In this study constructs developed were operationalized using existing scales identified in the literature and tested using some measurement. Direct survey and interview did to the respondent and found 384 questionnaires valid to analyses. The validity and reliability are supported and can be used to measure the constructs. Data showed that all the constructs are valid and reliable.

Structural Equation Modeling technique used to measure model and hypothesis. The result indicates that model fit to continue analyse. The research model show on figures 1 below. Figures 1 show p-value of innovasi product on buying decision is  $<0.01$ . P-value of innovasi product on buying decision is significantly and the hypothesis is accepted, the model show that innovation product effect buying decision. P-value of service quality on buying decision is  $<0.01$ . P-value of service quality on buying decision is significantly and the hypothesis is accepted, the model show that service quality effect buying decision. P-value of buying decision on repeat buying is  $<0.30$ . P-value of buying decision on repeat buying is not significantly at  $\alpha$  5% and the hypothesis is rejected, the model show that buying decision have no effect to repeat buying.

Figures 1 show  $R^2$  of buying decision and repeat buying.  $R^2$  show 0.37 or 37 persen. This result mean that innovation product and service quality simultaneous effect decision buying. Mean that 37 percent of buying decision are influence by innovation product and service quality.

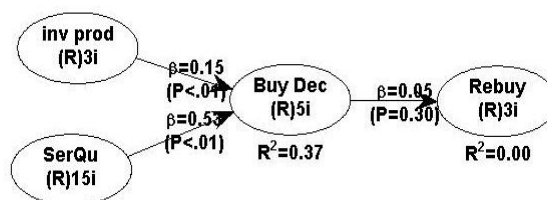


Figure 1. Research Model

## CONCLUSIONS

Based on the data analysis found that product innovation and service quality significantly effect buying Decision, but buying decision did not impact repeat buying. This result support some previous study that state of the influence of innovation product and service quality on buying decision.  $R^2$  of the data show the numbers of the effect of product innovation and service quality on buying decision as simultaneously. From the analysis the impact of both product innovation and service quality as simultaneously variable is 37%, it means that there is another factors influence buying decision of consumer in their purchasing behavior. On the next analysis found that buying decision is not influence repeat buying. This fact is very interesting to investigate, because when consumers do not repeat their purchasing it means their satisfaction are not achieve. This conditions supported with the depth interview result. The result of depth interview describes that consumers decide to buy because of their curiosity of new menu. But the engagement of costumers has not been built in culinary of Bandung city. People comes and join the culinary euphoria in Bandung city without engagement with the product. For the long strategic planning, many policies should be developed to increase the sustainability of culinary industry in Bandung city. And as the backbone of the city culinary should compete with many global players.

## LIMITATION AND FUTURE STUDY

This study has some limitation cause of some constrains. Respondent of this study are people that comes to the restaurant, this could create inconsistent findings when consumers felt disturb of their mood. Culinary in Progo road has just been blooming recently, perhaps the result will different in the mature business.

For future study, research in culinary industry should be done in creating economic value of the city. Especially research in creative economy sector should be done seriously to establish the fundamental of creative economy. Culinary is the most potential segment to develop creative economy. Research in Bandung city should be done in a large numbers of culinary entrepreneur and should found some comprehensive analyses to increasing new successes concepts.

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## Valuation Model for Digital Startup in Seed Fund Level: A Literature review

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### EXTENDED ABSTRACT

Currently, a digital startup is becoming a trend especially in Indonesia and based on data in 2016, Indonesia is listed as a country which is having the highest start-up in Southeast Asia. The number gradually increase up to 6.5 fold to about 13,000 by 2020. Similar to any other businesses in general, digital startup need the investment in developing a business. The investment process requires a method of valuation, so that both parties have a strong basis in a business agreement. Startup business valuation is certainly different from the mature business valuation. In a startup valuation it is not just a matter of the method used to assess, and not merely assessing a company based on financial analysis but also subjective judgment of several factors that are not easily quantified. This study aims to identify the determining factors in assessing a digital business startup and provide insights for government and policy maker. The research method is done by conducting open ended interviews to digital startup businesses which are still in seed fund level and also to investors in the business.

**Keywords:** : Startup business, digital start-up, valuation, seed fund

### 1. Introduction

Nowadays, digitalisation is very influential in the development of a business. Digital capital will simplify the companies to introduce their products to global markets. An example of digital capital is e-commerce, which is an online-based business used to conduct marketing activities. In Indonesia, e-commerce activity has a very high opportunity. It is supported by many internet users in Indonesia, which reach 88.1 million people with a percentage of 48% every day.

Definition of digital startup valuation is determined by several things, such as traction, the reputation of the founder's team and company, range of distribution, revenue or income, and other factors such as the country's security and political conditions. However, there are several startup founders who find themselves ambivalent in valuing their own startup companies. As an example of a successful startup in Indonesia, Tokopedia could perhaps be called as a startup with outstanding valuation. Until mid-2016, the amount of funding provided by the investor of Tokopedia reached IDR 3 trillion. If this amount is converted into 50% of shares, it means that the total valuation Tokopedia could reach IDR 6 trillion. Unfortunately, such a high valuation is only a nominal value on paper. Not tangible cash that can be used directly to raise the company. In fact, until now the startup cash flow is still a mystery. This research aims to identify and answer the variables that influence investor to invest in a seed fund level of startup company, and also provides insights for government and policy maker:

### 2. Literature Review

The word startup is currently synonymous with the utilisation of technology and the Internet, it cannot be separated from the first outbreak of the term startup at the end of 1990s until 2000s. The trend of startup became known internationally when it stemmed from the dot-com bubble phenomenon (1998-2000), at that time when many companies were opening personal websites, also the growth of public interest on the Internet and immediately glanced at it as a new business area, for instance Google and Yahoo could survive and be successful until today. The limitation for the criterias for startup businesses are, they have to be less than three years of establishment, employ less than twenty people, the annual turnover is less than IDR 1.3 billion, operate in the field of technology in general, the products are made in the form of applications in digital forms, and typically operate via websites.

#### Defenition of Valuation

Valuation is the process of determining how much assets, company, or business is worth. Valuation is highly subjective, but it is easiest when one is considering the current value of tangible assets (Farlex, 2012). For example, if we run a startup business and we want to know how much the value of our business for the next 5 or 10 years, so we need to value the company by valuation method. To calculate it, we need to make some assumption like return that we would accept, business growth and also forecast for the sales and cost for the certain period.

#### Stage of Valuation for Investment

There are 5 stage of valuation in a company to find a capital that each stage have a different purpose.

1. Angel or pre-seed stage  
This stage is the first level for the company who are looking for investment. This level purpose is to hypothesis validation. Pre-seed schemes aim to reduce the organisational uncertainty and make the nascent venture attractive to investors
2. Seed fund stage  
Early stage in funding investment for a company that purpose to figuring out the product and getting to user or product it. Seed funding schemes provide early-stage equity financing. The seed funding initiatives seek to improve the supply of funding, while there seems to be an increasing number of pre-seed and PoC schemes seeking to bridge the financing gap from the demand-side by increasing the attractiveness of the spin-offs towards investors
3. Series A  
The 3rd level is Series A that purpose to scaling the product and getting to business model such as getting true product and market fit.
4. Series B  
The next level is Series B that typically all about scaling. You have traction with users and have business model also that has come together.
5. Series C  
This stage is often used by a company to accelerate what it is doing beyond the series B. This may include going international or costly acquisition.

#### The Valuation Method

There are 3 approach to valuing a company, such as asset approach, income approach, and market share approach. Meanwhile based on Ros (1978), there are 3 kind of valuation, which are fundamental valuation, technical valuation, and relative valuation. Fundamental valuation is that we look for fair value and then we compare it with market value to make a decision to buy business or not. Technical valuation is that usually for trader who look the historical data or historical company performance. Relative valuation is that the valuation based on P/E ratio and host of other multiples. The valuation compare with similar asset to decide the best buy.

1. Income approach  
We calculate projected revenues and profits for the next few years and then calculate the present value of the profit values. For income approach there are 2 method that we can use, are Discounted Cashflow method and Capitalized Income Method. Discounted Cashflow method is a method to calculate the value of the company by calculate present value from the company income with specific discount rate. While Capitalized Income Method is the method where earnings economy at a particular time is converted into a value by dividing a certain level of capitalization.
2. Market Approach  
We calculate the business through compare between object that we can value with other business. There are 2 method in Market Approach, are Guideline Publicly Traded company method and Guideline Merged and Acquired Company method. Guideline Publicly Traded company method is company value calculate by estimated by multiplying a measurement value obtained from the data of the transaction before. While Guideline Merged and Acquired Company method is a variation of a public company comparison method.
3. Asset Based Approach  
Valuing the business by calculate the activa and passiva in the company. There are 2 method for this approach, are Asset Accumulation method or adjusted book value method and Capitalized Excess Earnings method.

### 3. Research method

Reviewing the literature on a certain topic can provide an academically enriching experience. The review should be regarded as a process fundamental to any worthwhile research or development work in any subject irrespective of the discipline. The research method has the responsibility to find out what already exists in the area in which the research proposed. The review forms the foundation for the research proper (Hart, 1998).

Following are the review literature purposes in research:

1. Distinguishing what has been done from what needs to be done
2. Discovering important variables relevant to the topic
3. Synthesizing and gaining a new perspective
4. Identifying relationships between ideas and practice
5. Establishing the context of the topic or problem
6. Rationalizing the significance of the problem;
7. Enhancing and acquiring the subject vocabulary
8. Understanding the structure of the subject
9. Relating ideas and theory to applications
10. Identifying the main methodologies and research techniques that have been used
11. Placing the research in a historical context to show familiarity with state-of-the-art developments

This research is conducted by doing the literature review. The literatures are searched from January 1995 to Mei 2017, using keywords startup valuation, digital startup valuation. The source of searching is including journal, proceeding, and book. The interviews with investors are also conducted to validate the result. According to Hart (1998) Literature review is the selection of available documents (both published and unpublished) on the topic, which contain information, ideas, data and evidence written from a particular standpoint to fulfill certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being proposed.

### 4. Findings and Argument

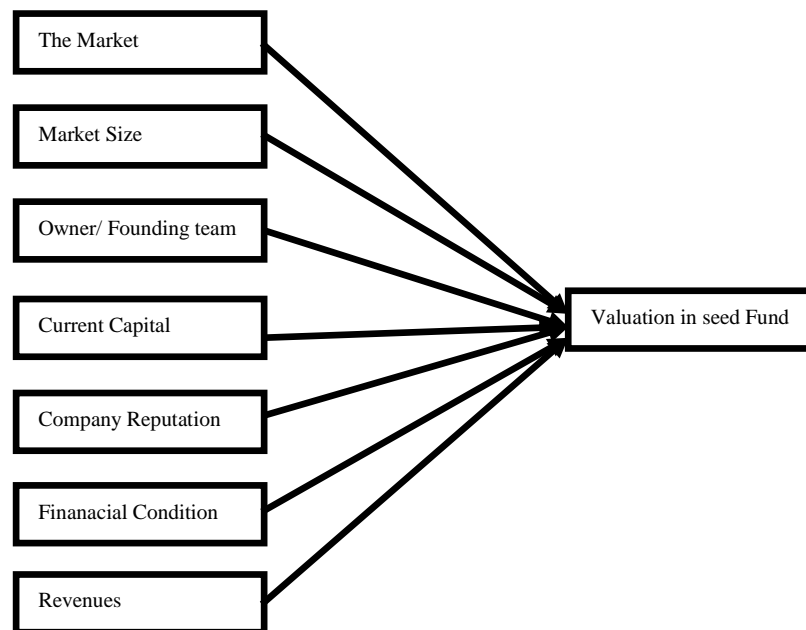
Finding from the literatures review are described in Table 4.1 as follows.

**Table 4.1 Result of Literature Review**

NO	Name of Journal	Author	Title	Year	Result
1	Journal of Finance	Philip Berger, Eli Ofek, and I. Swary	Investor Valuation of the abandonment option	1996	Investigation to know whether investors price the option to abandon a firm at its exit value. The empirical implications are that firm value increases in exit value
2	Regional Studies	Gordon C Muray	A Policy Response to Regional Disparities in the Supply of Risk Capital to New Technology-based Firms in the European Union: The European Seed Capital Fund Scheme	1998	The comparative internal dynamics of the Seed Funds are explored. The Scheme realized its goal of encouraging private investment into innovative, technology-based young firms.
3	Book	Tapscott, David Ticoll, Alex Lovy	Digital Capital : Harnessing the power of business web	2000	Company does their business activities through digital media to run the business faster
4	Journal of Intellectual Capital	Pena, I.	Intellectual capital and business startup success	2002	The human capital of the entrepreneur, organizational capital and relational capital are important intangible assets, which seem to be related positively to venture performance.
5	Journal of Economics and Business	T Astebro, I Bernhardt	Start-up financing, owner characteristics, and survival	2003	There is a negative correlation between having a bank loan and business survival, and a positive correlation between having a non-bank loan and survival
6	Entrepreneurial	Paul Burns	Entrepreneurship and	2010	Startup business create a free competition in

NO	Name of Journal	Author	Title	Year	Result
	book 3rd edition		Small Business: Start-up, Growth and Maturity		global market and each company should faced it by using competitive advantage
7	Book	Conway, S. C	If it's in the game, it's in the game: an analysis of the football digital game and its players	2010	Digital capital will help to understand the dynamic of the market and economy will change erratically
8	Technology analysis and strategic Management	Einar Rasmussen and Roger Sorheim	How governments seek to bridge the financing gap for university spin-offs: proof-of-concept, pre-seed, and seed funding	2012	The seed funding initiatives seek to improve the supply of funding, while there seems to be an increasing number of pre-seed and PoC schemes seeking to bridge the financing gap from the demand-side by increasing the attractiveness of the spin-offs towards investors.

Based on the above result of the literature review, then the researcher come up with valuation model for digital startup companies in seed fund level. The model is showed in the below Figure 4.1.



**Figure 4.1 Valuation Model for Digital Startup Companies in Seed Fund Level**

There are seven independent variables that show intangible and tangible values of the company. Variables of startup digital in seed funds variables are as follows:

1. Markets
2. Market size
3. Founding team or owner chosen because some investor would invest because they know the owner.
4. Current capital
5. Financial condition
6. Revenues
7. Company reputation that is very influenced to the investor

## 5. Conclusions and Future Research

There are 7 variable that chosen to be independent variable because those are shows the intangible and tangible value of the company. Markets and market size means that customer target of the company Whether from lower, middle or upper class and their amount in Indonesia and global. Founding team or owner chosen because some



investor would invest because they know the owner. Current capital, Financial condition and Revenues are related because all about finance. We want to see how big the current capital and then we can see their financial condition and also the revenues. The last variables is company reputation that very influence te investor to invest in a company.

Future research will focus on valuation model in different level of invesments, which the variable can be different and various. The research on analysis of the weight of each variable also challenging, because it indicates the interest of the investors on each variables. The future research will include more stakeholders to be involved such as investors, government, financial institution, banking, and the entrepreneurs or the owner of the startup as well.

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# IDENTIFICATION OF BUSINESS OPPORTUNITY BASED CREATIVITY AND INNOVATION IN ENTREPRENEURSHIP

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## ABSTRACT

Entrepreneurs are people who are able to recognize products, services and processes with an innovative approach and see it as a business opportunity, he must also dare to deal the business risk. This study aims to determine and describe how start up entrepreneurs identify business opportunities using entrepreneurship creativity and innovation. Ten purposive sampling is used and presented through descriptive qualitative methodology using a strategy case study in Pencetakan Seratus Ribu Wirausaha Baru 2016 program in Bandung, West Java. Data were collected through direct interviews and over the phone, and analyzed using keywords in context and word count. The result of this research is how entrepreneur alertness see the gap between the market needs and unemployed resource and process of how creativity and innovation applied to the product, market and delivery process makes they able to select the best opportunities for business. Creativity plays a role as idea trigger that provide an awareness of benefit that will be obtained, and innovation plays as a value proposition for market, product and delivery process. We also recommend some research that should be studied in the future. Creativity and innovation are very important in the process of identifying opportunities in entrepreneurship, so that improving creativity and innovation programs should be continually done.

**Keywords:** entrepreneur, entrepreneurship, creativity, innovation, opportunity identification

## INTRODUCTION

Successful entrepreneurs are those who have an ability to identifying and selecting right opportunities for a new business. This paper build on existing theoretical and empirical studies in the area of opportunity identification of business using creative and innovation of entrepreneurship. We focused on start up entrepreneurs, those who participated on provincial government of West Java program. Pencetakan Seratus Ribu Wirausaha Baru 2016 is a program of the provincial government of West Java that has been set in their Medium Term Development Plan (RPJMD) West Java provincial government in term 2013-2018. This program will generate as many as one hundred thousand new entrepreneurs from various business sectors. The program not only absorb the productive forces but a source of inspiration to utilize its potential in the form of job creation.

## LITERATURE REVIEW

### A. Entrepreneur

Entrepreneur is one's ability to see business opportunities, conduct business and the courage to bear the risk of loss of the business, practically all theorist agree that entrepreneurship involves by definition, taking risk of some kind, and risk taking be the most distinctive feature of entrepreneurial behaviour (McClelland, 1961) in Gnyawali & Fogel (1994). Cromie (2000) in (Jong and Weekeners, 2008) states that entrepreneurs frequently have to take decisions with incomplete information, and thus must have considerable tolerance for ambiguity. Entrepreneurs are people who are able to recognize products, services and processes with an innovative approach and see it as a business opportunity, implement and dare to bear the risk of losses of business.

### B. Opportunity Identification

People are always looking for opportunities, and entrepreneur should have an ability to identify business opportunities in the environment and initiating steps to produce and sell product or services from these opportunities (Drucker, 1985). A core attribute of entrepreneurship is the ability to develop and exploit business opportunities (Shane, 2000). Entrepreneurs identify business opportunities to create and deliver value for stakeholders in prospective ventures. There are major factor that influence a process of opportunity recognition and development leading to business formation: 1) entrepreneurial alertness; 2) prior knowledge; 3) Social networks; 4) personality traits; and 5) type of opportunity it self (Ardichivilli, et al. 2003). Ardichivilli state that creation of successful business result from a successful opportunity development process, which includes recognition of an opportunity. The level of entrepreneurial alertness is likely to be heightened when there is coincidence of several factor: certain personality traits, relevant prior knowledge and experience, and social network. What entrepreneurs should do is having sensitivity to market needs and as well as an ability to spot unemployed resources which may help an entrepreneur begin to develop an opportunity.

### C. Personality Traits

Entrepreneurship is a complex phenomenon. This is why entrepreneurs are always need to be creative, many people tend to think that creativity is only owned by a genius person. Personality traits associated with creativity and related to creative achievement. Amabile (1998) showed that individuals have certain characteristic and abilities that play a role in creativity. Personality traits are defined as the relatively enduring pattern of thought, feelings, and behavior that distinguish individual from one another (Robert, Wood and Caspi, 2008). In our term, personality define as a characteristics that describe an individual's behavior. Ardichvili et. al.(2003) explain that personality traits like creativity and optimism are critical determinants of entrepreneurial alertness, two personality traits - first: the connection between optimism and higher opportunity recognition and second: creativity plays factor in entrepreneurial decision making- shown to be related to successful opportunity recognition. Since personality become one of major factor of opportunity recognition, we want to find out how is the big picture of startup entrepreneurs who participated on provincial government of West Java program.

#### D. Prior Knowledge

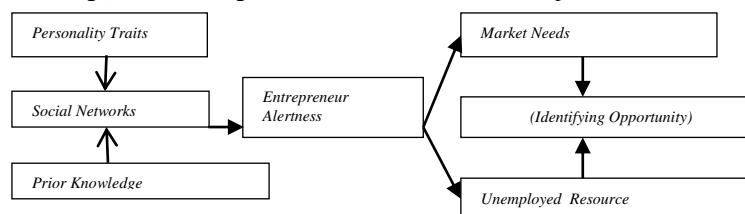
People recognize the opportunities related to information that they already possess that is why people discover some entrepreneurial opportunities and not others? Different people will discover different opportunities because they possess different prior knowledge (Venkataraman, 1997) in Shane (2000). Three major dimensions of prior knowledge are important to the process of entrepreneurial discovery: prior knowledge of markets, prior knowledge of ways to serve markets, and prior knowledge of customer problems. (Ardichvili, et.al. 2003).

#### E. Social Networks

Three social sources of opportunity-related information (mentors, informal industry networks, participation in professional forums) had direct, positive effects on opportunity recognition by entrepreneur (Ozgen & Baron, 2007). Ozgen also says that informal industry networks were found to be directly related to entrepreneur's alertness to a new opportunities, social source of information –mentors and participation in professional forum (e.g., conference, meeting, seminar) play as a role to opportunity recognition. Participation in professional forum allow them obtain information about recent trends and development in their field and exchange information to help them identify a viable business opportunities.

#### F. Entrepreneur alertness

Kirzner (1979) in Tang (2012) defined alertness as an individual's ability to identify opportunities which are overlooked by others. Important component of alertness is the aspect of judgment which focuses on evaluating the new changes, shifts, and information and deciding if they would reflect a business opportunity with profit potentials, Tang says alertness as consisting of three distinct elements: scanning and searching for information (social networks), connecting previously-disparate information (prior knowledge), and making evaluations on the existence of profitable business opportunities.



**Figure 6. Opportunity Identification**

(Shapero, 1975; Sathe, 1989; Hisrich, 1990; Gaglio dan Taub, 1992) in Ardichvilli., et al. (2003) claimed that personality characteristics and the environment interact to create conditions that foster higher entrepreneur alertness. Higher alertness increases the likelihood of an opportunity being recognized, there are five key factors in the opportunity identification and development process: alertness, creativity, optimism (related to self-efficacy), social networks, and prior knowledge. Ardichvilli., et al. (2003) state that alertness is likely to be heightened when there is a coincidence of several factors: certain personality traits, relevant prior knowledge and experience; and social networks. The particular activities within the process are also affected by the degree of specificity of knowledge about market needs and resources. Based on the review we conclude that the identification of business opportunity is the process certain personality traits, relevant prior knowledge and experience; and social networks that foster higher an alertness in seeing the gap between market needs and unemployed resources as it seen in Figure 1.

#### G. Creativity

Creativity is central of human activity that becomes an intangible asset to produce something new, innovative and valuable. Most theorists have defined creativity as the development of ideas about products, practices, services or procedures that are (a) novel and (b) potentially useful to the organization (Amabile, 1996; Zhou & Shalley, 2003) in Shalley and Oldham (2004). Entrepreneurs must come up with ideas for new goods or services that can be brought to a market, and having identified such, they must figure out how to effectively carry out this process, there are strong influence of personal creativity on entrepreneurial intentions. (Yar Hamidi, et al. 2008). Creativity without innovation does not produce results, and innovation without effective management, does not produce marketable products, processes, or services. Mooney

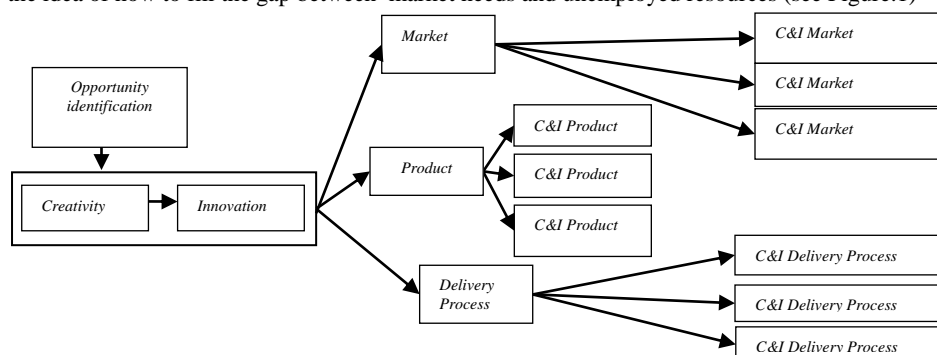
(1963) in Beattie, R. (1999) considered four approaches to creativity as : a) the creative environment; b) the creative product; c) the creative process; or d) the creative person. The definition also supported by Garham and Oatkhill, (1994: 237–239); Stein, (1974) in Beattie (1999) by suggesting that the *person* focuses on creativity as an ability; *process* on creativity as a mental activity; *place* on conditions that facilitate or inhibit creativity; *product* on creative outcomes, Beattie also state that creativity is ability; it is a mental activity; it takes place in conditions that facilitate or inhibit creativity; its product is creative outcomes. Creative ideas flows through new ideas and challenges. Creative entrepreneurs possess high levels of energy with a great degrees of perseverance and imagination, and it combine with willingness to taking a risk and enable them to transform the idea into something real. So we can say that creativity is the ability to develop new ideas and find new ways of looking at problems and opportunities for the best solution.

## H. Innovation

Innovation in new product development can be in the form of improving existing products or develop an entirely new concept, genuine and innovative (Larsen & Lewis, 2007). Suryana (2008:2) states that innovation is the ability applying creativity to solve problems and identify opportunities. Hills (2008) says that innovation is an idea, practice or object that is considered new by an individual or a unit of users. Timmons and Spinelli (2009: 17) state that the heart of the entrepreneurial process is the innovative spirit. Innovation and creativity are in the same domain area but has strict limits. Creativity is the first step towards innovation, creativity associated with the production of novelty and helpful ideas whereas innovation involves the production or the adoption of useful ideas and their implementation (Goerge and Zou, 2001). Creativity and innovation become inseparable in entrepreneurship, as both will be realized in the act of starting and running a business.

## I. Product , Market, and Delivery Process

There is a gap between market needs and unemployed resource which is filled by new ideas (thinking a new things), creativity is the idea of how to fill the gap between market needs and unemployed resources (see Figure.1)



**Figure 7. Identification of Business Opportunity Based Creativity and Innovation in Entrepreneurship**

Carefully investigation to and sensitivity to market needs and unemployed resource may help an entrepreneur begin to developed an opportunity (Ardichvilli., et al. 2003), to device a business concept, a model business and plans about what opportunities can be achieved through the terms of the product (what to offer), market (to whom the products will be offered), and the delivery process – supply chain / marketing / operational - (how products and services to the customer) in innovative way, that in the end the concept and the business model is to be acquired by choosing where the best opportunities to be selected, implemented, and commercialized into a real business. Identifying business opportunities base creativity and innovation are needed in order to create products that have more value to improve competitiveness and create new jobs both for oneself and for others.

The literature review gives rise to the following research questions that require to be investigated, how does entrepreneur (start-up) creating business opportunity using creativity and innovation.

1. How is the creativity and innovation of the entrepreneur who participated in this program
2. How creativity and innovation used to identify opportunity of business in market, product and delivery process.

## METHODOLOGY

The research methodology was qualitative, descriptive qualitative methodology using a strategy case study in startup entrepreneurs who participated on provincial government of West Java program. The population are all (2000) participant of Pencetakan Seratus Ribu Wirausaha Baru provincial government of West Java program, the sample is nonrandom and purposeful. Ten sampling purposive were selected, each subject is an entrepreneur (start-up) and owner of his/her business of food and beverages at Bandung - West Java. Data collected through interviews to entrepreneur (start-up) by direct interviews and over the phone. Neergaard and Ulhøi (2007:334) explain the characteristic of different qualitative data source

they mention that telephone interviews are give very good instan feedback, transmission of multiple clues, use of natural language and personal focus the medium from participants of interview as it seen in Table.1

**Table.1 Characteristic of different qualitative data sources**

	Instan Feedback	Transmission of multiple clues	Use of natural language	Personal focus the medium
Face to face interview	Very good	Very good	Very good	Very good
Observation	(Very) good	Very good	Good /mediocre	Good /mediocre
Telephone Interview	Very good	Very good	Very good	Very good
Instan messaging	Very good	Good /mediocre	Good /mediocre	Good /mediocre
Email	Good	Good/mediocre	Good/mediocre	Good/mediocre
Fax	Mediocre	Poor	Good	Mediocre
Letter	Poor	Poor	Good	Mediocre
Archival Records	Poor	Mediocre/Poor	Mediocre/Poor	Poor
Websites	Mediocre/Poor	Mediocre	Mediocre	Poor
Reports	Poor	Mediocre/Poor	Mediocre/Poor	Poor

Source : Neergaard dan Uhløi (2007:334)

The question were open-ended interviews to allow the expert to discuss how they-the entrepreneur- identified opportunity business using creativity and innovation to product, market and delivery process. The interviewees were asked how they define characteristic of entrepreneur, how they describe market needs and resources and make them telling about opportunity business. Finally they were asked how to implement creativity and innovation to product and what is the implication to their business? The organizing and reporting of the data are followed an analytical framework, in which the question answered by respondent were be organized question by question, to facilitate comparison, to find the similarity and different exist among the entrepreneur (start-up). We are not use any software program for qualitative analysis in this study. We used graphical instrument to aid in the understanding of data: Excel worksheet, and wordle (word clouds). The data was coded in order to facilitate the analysis, the codes were categorized and theme emerged from categories. Word clouds count the word frequency in a text, and then use a graphical representation to depict the frequency (Bravo, 2016). The graphical helps user to have a general idea of the most important concept in a text. Word clouds are being used as a preliminary tool for data analysis, and as a findings validation tool (McNaught and Lamp, 2010)

## FINDINGS AND ARGUMENT

In describing what is the personality traits of a start up entrepreneurs, they explain that entrepreneur must have the characteristic of innovative, creative, and strong mentally, they must have an interest (passion), never give up ,reckless and open mind in order to become an innovative entrepreneur who always introduce a new things, these represent the characteristic features of their characteristics as a start up entrepreneur.



**Figure 8. The Big Pictures of Personality Traits, Social Network, Prior Knowledge and Entrepreneur Alertness**

Respondent mentioned types of relationships and social interaction made by a start up entrepreneurs are through exhibition activities, joint community and association, make a connection with friends, communicate with suppliers, being a member of business incubator. Respondent explain that the relationship and social interaction brings many benefits during they entrepreneurial activity, they exchange of information, introduce their product/brand, find links, expanding opportunities, sharing knowledge, support sales, find a source of inspiration and motivation. Respondents mention experience and hobbies as a dominant role as the background of their interest in the process of running the business (prior knowledge). Hobby is a pleasure which is done with high intensity if done with high intensity will certainly add to the experience, the experience that many will make a person able to know more and understand everything he was doing. Respondents explain that the entrepreneur alertness in seeing a gap between market needs and unemployed resource in food and beverage industry are seen from an exist of a demand and an enthusiast needs (high demand) for a healthy lifestyle, the alertness is awoken by watching on consumer behavior, the trends, the needs, the taste and situation of competition in the market. The needs of market are meet with them (the entrepreneurs its self), and the entrepreneurs, family, neighbors and friends are identified as human resource that has not been used optimally.

Majority of respondent mention new ideas (creativity) arise from variations of taste, different packaging, varied raw material and a use of quality materials. Respondents more often mentioned will make product innovations through varied flavors,

combined basic ingredients and packaging (function and form). They mentioned will make innovation in delivery process through a new concept of business process, they have a vision to be a hub among entrepreneurs network and thinking about franchising their business.

## CONCLUSIONS

Generally, the results of this research is to support the theory of opportunity identification process (Ardichvili, et al, 2003), it identifies entrepreneur's personality traits, social networks, and prior knowledge as antecedents of entrepreneurial alertness to business opportunities, this study try to brings creativity and innovation as a base of business opportunity identification in Pencetakan Seratus Ribu Wirausaha Baru provincial government - West Java program of 2016. Answering the question of this research creativity and innovation of the new entrepreneur (start up) in this program can be described that the ability to develop new ideas are obtained from variations of taste, different packaging, varied raw material and a use of quality materials, and a form of innovation to product will be done through varied flavors, combined basic ingredients and packaging (function and form), innovation in delivery process will be done through a new concept of business process, they do not innovate on the market because they still focus to introduce product to the market. Creativity plays a role as an idea trigger that provide an awareness of benefit that will be obtained, and innovation plays as a value proposition for market, product and delivery process. Creativity and innovation are very important in the process of identifying opportunities in entrepreneurship, so that improving creativity and innovation programs should be continually done. According to the data of this research, exhibition, community and association are have many positive benefits for the start up entrepreneur in running their business, they should join with the community and association so they can consult and discuss with fellow entrepreneurs in order to get useful information for progressing their business seeking and idea and inspiration. Those start up entrepreneur are requires knowledge of how to market their products, increasing sales and may have increased market so that the business can move to the next stage (growth). If innovation really done, they must concern to maintenance of legality of the business, especially in the field of food and beverage are legality in food industry of household and Halal certificate, these two licenses are very important for the sustainability of their business. Government support to communities, associations and business incubators are very important to accommodate the aspirations and support growth and development of Micro, Small and Medium Enterprises. We recommend some research that should be studied in the future for doing the same research in another field, and according to the objective of this program, it said that one of the objectives in this program is to encourage further motivation for entrepreneurship, so future researcher can examine the motivation of the start up entrepreneurs in the program of Pencetakan Seratus Ribu Wirausaha Baru provincial government - West Java program of 2016.

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## EXPLORING RELIGIOUS MOTIVATION IN LUXURY HIJAB CONSUMPTION

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### EXTENDED ABSTRACT

Even though religion was an important life influences, motivation, and rules; it hasn't been revealed clearly for its role in fashion clothing consumption. Lately, study found that Muslim women's religiosity is affecting negatively towards status consumption of western luxury brand. Today, considering Muslim women presented by modernity of luxury and branded religious clothing, it is insightful to explore how behavior, religiousness, and fashion clothing interacting. Therefore, the purpose of this study is to explore the impact of religious motivation or religiousness (i.e. intrinsic religiousness, extrinsic religiousness) on the association of status consumption and fashion consciousness specifically for hijab fashion clothing among Generation Y Muslim women consumers. Partial Least Squares (PLS) with preliminary analysis and hypothesis testing sequence were used to analyze data. Data were collected using convenience sampling to 350 university students aged 18 - 24 in Bandung, Indonesia. The result of the study shows that high intrinsic religious consumers are not necessarily in conflict with luxury hijab. Moreover, the current study shows that extrinsic religiousness positively moderates the relationship of status consumption and fashion consciousness. In other words, consumers with extrinsic religious motivations may develop positive affection towards status consumption and fashion consciousness of luxury hijab fashion brands.

**Keywords** Religion, Branding, Clothing, Consumer behaviour, Young adults

### INTRODUCTION

Muslim consumption practices and lifestyles have raised interest and conflicts, especially their hijab preferences are questioned by both secular and Muslim (Sandıkçı and Ger, 2006). Islam taught that materialistic wealth and possessions are distractions and ought to be abandoned. Quran says, "and let not their wealth or their children amaze you. Allah's Plan is to punish them with these things in this world, and that their souls shall depart (die) while they are disbelievers" (Quran 9:85). Whilst Islam against materialistic wealth and possessions, research shows that materialism is still existed in religious people through consumption (Essoo and Dibb., 2004). Religious consumers are not necessarily anti materialism, they often opt for luxury brands over purely utilitarian possession.

Regarding differences between Islam rules and Islamic fashion consumption practices, it is becoming interesting to explore the distinctiveness and influence of Islam on the massive consumer market. Considering the confluence of modernism and tradition, paying attention to the distinctiveness of consumer behavior among Muslims of this day and age within the fashion clothing context is likely to become more insightful (Al-Mutawa 2013). Therefore, the main purpose of this study is to examine how differences in religious motivations influences the relationship between status consumption and brand status perception, by expanding the previous research by O'Cass et al. (2013). Specifically, this study explores religious orientations (i.e. intrinsic religiousness and extrinsic religiousness) role for hijab branded fashion clothing among Generation Y Muslim women consumers in Indonesia.

### LITERATURE REVIEW

#### Islam and Islamic fashion

Fashion clothing used to bridge differences in social status (Flugel, 1966), define consumers based on how they dress (O'Cass and McEwen, 2004), help individuals to self-express their own image and identity (Michaelidou and Dibb, 2006), project an index of professional character, social and moral qualities (Craik, 1994), and becomes an aspect of the material world that helps provide status (O'Cass et al., 2013). In contrast, hijab is a fashion practice of modesty for Muslim women that possess a different code to western fashion. It serves as restriction code of gender manners in forms of ethics and Islamic morality. A woman's "hijab" reduces sexual tension in public places, frees her from the competition of being sexually appealing, negates her image as a sex object, and attenuates differences in wealth and/or physical attractiveness (Sherif, 1987).

However, recently has been increasing luxury hijab consumption by Muslim women (Beta, 2014; Sandıkçı and Ger, 2002, 2007). Their apparels and consumption patterns were similar to the secularists, but, the products they consumed were of these Islamist (Sandicki and Ger, 2001). They morally skeptical about materialism and conformism offered by modern consumption because of a religion they belong to. However, they can find a way to consume them while they are religious as they pretend that Muslim deserves worldly matters (Arli et al., 2016) as long as they still faithful to their religion regarding wealth (i.e. giving alms) and bring no harm to Islam (Alimen and Tuna, 2009).

#### **Status consumption and fashion consciousness**

Status consumption defined as the motivational process by which individuals strive to improve their social standing through the conspicuous consumption of consumer products that confer and symbolize status for both the individual and surrounding others (Eastman et al., 1999). As one of various reasons consumers purchase goods for, status consumption considered the dominant motives for status-needy consumer, especially on fashion clothing consumers. As such, it can be seen that the consumption of fashion clothing represents an important mechanism through which consumers communicate to others about themselves in a social setting (O'Cass and Frost, 2002).

#### **Fashion consciousness, brand status, and willingness to pay a premium price**

Status brand has elements or values that see consumers imbuing them with connotations such as symbolic, luxury, prestige, distinctive, sophisticated, and premium price (O'Cass, 2013). Status function elicits feelings of admiration and prestige from others, it is a vehicle for achieving higher social status rather than for economic or physiological utility and as those that have higher perceived quality, luxury or prestige ascribed to them and their consumption O'Cass and Frost (2002). Consumer has a tendency to be more willing to pay extra for symbolic brand or a brand with symbolic value (e.g. Johar and Sirgy, 1991). In this instance, consumers' willingness to pay a premium for a brand can be referred to as their acceptance to pay extra money for a brand in excess of its utilitarian value (Netemeyer et al., 2004). In this sense, fashion clothing is an appropriate tool through which consumers obtain sought after symbolic benefits (Goldsmith et al., 1996). It has the ability to be used for higher level needs such as conveying self-image, status and prestige among peers (Gould and Barak, 1988). Similarly, it is expected that consumers' perception of brand status will have a direct effect on their willingness to pay a premium price. It is argued that consumers will have a stronger tendency to pay a premium price for a brand that is perceived to be in possession of the symbolic features that are required to effectively reflect or enhance their self-image to surrounding others within the social context (Eastman et al., 1999).

#### **Religiousness and luxury Islamic fashion**

Islam taught and urged Muslim to dress modestly (Al-Mutawa, 2013), refrain from the pursuit of materialistic goals (Chapra, 1992), to create ethics and Islamic morality boundary by wearing hijab (Sherif, 1987). However, the practices of hijab consumption, display, and attention of modern Muslim women seems to be against the purpose of modesty in the Islamic faith (Alimen, 2009). There seems to be a high degree of incongruity between the Islamic identity or belief and the act of purchasing status goods that confer status and allow for the improvement of an individual's social standing (Riquelme et al., 2011). It is arguably that there is a rift that create a different way between Islamic rules and practices of hijab from the point of view of religious motivations. Studies shows distinctive characteristics between religious motivation. Intrinsic religiosity and extrinsic religiosity are negatively correlated (i.e. Arli and Tjiptono, 2014; Vitell et al., 2015). Individuals with high intrinsic religiousness may go against materialism while individuals with high extrinsic religiousness were found to support materialism and a self-presentation attitude towards luxury brands (Arli et al., 2016).

#### **Hypotheses**

Below are hypotheses used in this study.

- H1.* Status consumption is positively related to fashion consciousness among Generation Y Muslim consumers.
- H2.* Status consumption is positively related to fashion consciousness among Generation Y Muslim consumers.
- H3.* Fashion consciousness is positively related to perception of hijab brand status among Generation Y Muslim consumers.
- H4.* Fashion consciousness is positively related to willingness to pay a premium price of hijab fashion clothing among Generation Y Muslim consumers.
- H5.* Perception of hijab brand status is positively related to willingness to pay a premium price of hijab fashion clothing among Generation Y Muslim consumers.

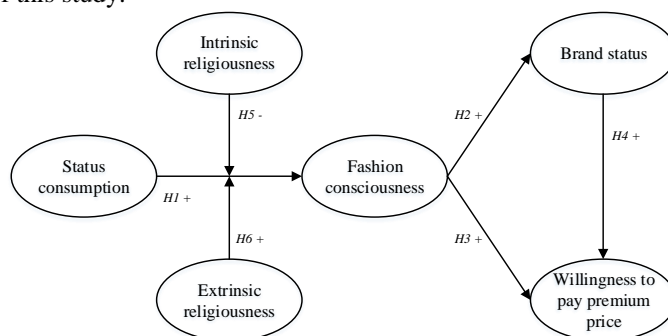


*H6.* The relationship of status consumption and fashion consciousness is negatively moderated by intrinsic religiousness among Generation Y Muslim consumers.

*H7.* The relationship of status consumption and fashion consciousness is positively moderated by extrinsic religiousness among Generation Y Muslim consumers.

## METHODOLOGY

Partial Least Squares (PLS) with preliminary analysis and hypothesis testing sequence were used to analyze data. Data were collected using convenience sampling to 350 university students aged 18-24 in Bandung, Indonesia. The questionnaires were hand-delivered in public spaces of universities. Among the questionnaire returned, 328 were found usable indicating response rate of 93.7 percent. Five hijab brands respectively from the highest availability, familiarity, ownership, and purchase intention brands screening process were Shafira, Zoya, Elzatta, Rabbani, and Dian Pelangi were used as measurement object for brand status perception. 28 items questionnaire were developed adopting from Allport (1967) used to measure intrinsic and extrinsic religiousness adapted from O'Cass and Frost (2002) and Eastman et al. (1999) for status consumption, from Sproles and Kendall (1986) and Ghorbani et al. (2002) used for fashion consciousness, from O'Cass and Choy (2008) for perceived brand status, and from Netemeyer et al. (2004) for willingness to pay. Figure 1 below shows the conceptual framework of this study.



**Figure 9. Conceptual Framework**

## FINDINGS

Table I & Table II shows result from 5000 bootstraps runs performed to estimate the significance of the proposed model. The results in Table III indicates all path weights of direct relationship shown are significant. All bootstrapped t-values (critical ratios) and path variances are higher than the acceptable threshold for all paths. The results shown in Table IV indicates all path weights of moderating relationship are varied. H5 with intrinsic religiosity (IR) was predicted negatively moderating the relationship of status consciousness (SC) and fashion consciousness (FC). Whilst, H6 with extrinsic religiosity (ER) was predicted positively moderating the relationship of status consciousness (SC) and fashion consciousness (FC).

**Table VIII. Hypothesis test results**

Hypothesis	Structural parameters	Path Weights	Variance due to path	t-Values	Test
<i>H1</i> (+)	SC → FC	0.17*	0.04	3.87**	Supported
<i>H2</i> (+)	FC → BS	0.25*	0.05	4.51**	Supported
<i>H3</i> (+)	FC → WTP	0.29*	0.05	6.54**	Supported
<i>H4</i> (+)	BS → WTP	0.18*	0.06	2.57**	Supported

**Notes:** \*Exceeds minimum acceptable level 0.015; \*\*exceeds minimum acceptable level 2.576 ( $p < 0.01$ )

**Table IXI. Results for moderating model**

Hypothesis	Structural parameters	Path Weights	Variance due to path	t-Values	Test
<i>H5</i> (-)	IR → SCxFC	-0.03*	0.06	0.61	Not supported
<i>H6</i> (+)	ER → SCxFC	0.18*	0.15	1.68**	Supported

**Notes:** \*Exceeds minimum acceptable level 0.015; \*\*exceeds minimum acceptable level 1.645 ( $p < 0.10$ )

The finding of a positive relationship between status consciousness and fashion consciousness is consistent with O'Cass and Choy (2008), which indicate the support of fashion as way of fulfilling the inherent needs of social approval and recognition. A positive relationship between fashion consciousness and brand status is consistent with O'Cass and Choy (2008), which indicate that consumers' perception of brand status is contingent on the degree to which they are fashion conscious. They, who are fashion conscious have a strong awareness about all things fashion. The more fashion conscious the consumer is, the more they are able to discern fashion brands on the basis of their perceived status. Even there is a positive relation between perception of brand status and willingness to pay, there are no significant indirect effect of fashion consciousness and willingness to pay mediated by perception of brand status. It seems, hijab brands are not perceived enough to drive their tendency of willingness to pay, which inconsistent with the notion of consumer's tendency to pay a premium price for is determined by the extent to which the embodied brand carries status appeals (O'Cass and Choy, 2008). In another perspective, this result can be seen more rational if they perceived as a student, that may didn't have the ability to purchase luxury items even they have strong motive and affection as noted by Arli et al. (2016).

## CONCLUSIONS

The current study shows that high intrinsic religious consumers are not necessarily in conflict or go against with luxury hijab. Moreover, the current study shows that extrinsic religiousness positively moderates the relationship of status consumption and fashion consciousness. In other words, consumers with extrinsic religious motivations may develop positive affection towards status consumption and fashion consciousness of luxury hijab fashion brands. Another finding indicates positive relationships between respecting relationship status consciousness, fashion consciousness, brand status, and willingness to pay according to the underlying framework.

Concerning the implication of this study, preferably suggested in specific ways for a particular role in society. This research is providing conjecture to view interrelating matter between religion, living environment and modern businesses. In practical matters for business managers, this research has shown that luxury religious goods can be marketed to religious consumers. In the interest of business growth, an effective and non-conflicting (by the view of major religious people) strategy of marketing luxury religious goods need to be developed.

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# CREATIVITY, INNOVATION, COLLABORATION, AND KNOWLEDGE BASED ECONOMY AS STRATEGIC MANAGEMENT TO ENHANCE CREATIVE INDUSTRY IN INDONESIA

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## EXTENDED ABSTRACT

Indonesia has a rich cultural diversity which provides profuse resources for its creative industry. We cannot depend only on non renewable energy resources for economic growth. Now, we face complex challenges which require strategic development to uncover the creative potential in order to meet challenges in economic, cultural, social, and technological domains, through Innovation, strategic alliance, knowledge based economy and collaboration among prominent variables in roles which include 3 parties—government, education institution and keyplayer point of views to enhance creative industry. The primary objective is to find solutions to support and maintain the growth of our varied creative industry and minimize lack of capital and investment. This research focuses on the creative industry in Indonesia, SME and startups which are limited and related to only creative industry. The research methodology used is qualitative by observation and interviews. The analysis to develop sustainable competitive advantage using blue ocean strategy, value innovation, and strategic alliance. After analyzing the data, strategic solutions such as demand establishment, cross promotion, lean production, and knowledge based economy will be presented. As per our findings; mobile application and web based IT system that manage functions about: (1) Selling (2) Business strategic and management can be implemented.

**Keywords:** strategic creative industry, strategic alliance, value innovation, knowledge based economy

## INTRODUCTION

Creative economy in a new economic era refers to information and creativity from idea and knowledge of human resources. These ideas and knowledge are the main factors of production or services. With its rich cultural diversity, Indonesia, has a resources and opportunities to develop its creative industries. Initially, the Indonesian creative industry was a programme of the Ministry for Tourism and Creative Economy in Indonesia, but now it is under Badan Ekonomi Kreatif (Bekraf)/ Creative Economy Agency and Badan Koordinasi Penanaman Modal (BKPM)/ Investment Coordinating Board of the Republic of Indonesia. It was designed as an implementation of the economic development launched in 2008. The development of the creative economy is believed to face and challenges the problems such as unemployment, low competitiveness of the industry, and economic growth. Base on BPS data in 2011, the output of this industry generated was 7% of the country's GDP. There are 16 sector in creative industry (2015-2019): (1) Culinary (2) Fashion (3) Crafts (4) Film, Animation and video (5) Music (6) Application and game developers (7) Architecture (8) Interior design (9) Visual communication design (10) Product design (11) Photography (12) Publishing (13) Advertising (14) Performing Arts (15) Visual Arts (16) Television and radio. 3 Sectors of creative economy that give biggest contributors to Indonesia GDP are culinary, fashion, crafts. Six focus creative industry sector in Indonesia are culinary, fashion, craft, film, animation and video, music, application and game developers. These rich cultural diversity can be function as resources to create sustainable competitive advantage (SCA) in creative industry.

The assets in creative industries sector are intangible not tangible. Because of this reason, creative industry is facing many problems that need to be solved, such as—lack of capital which is usually a high risk investment sector and low banking credibility. Government policy and intervention are really needed to support and develop these sectors. Creative industry is one of the sector that has high income from export and low import supply material. This sector also can reduce unemployment and help economic growth in Indonesia. Growth of these creative industries can bring many benefits, such as a significant contribution to Indonesia's GDP, creation of a positive business climate, utilization of renewable resources, and a stronger international presence. The objective of this paper is to find a solutions for the following question:

3. How to minimize lack of capital and investment in Indonesia creative industry
4. How to have demand of establishment, sustain growth, and create sustainable competitive advantage (SCA) of the Indonesian creative industry

Parameters that are to be used to determine whether this research can claim success or not, can be determined by trends which will highlight an increase and growth in the creative industry in Indonesia towards a better and optimal point to reach its sustainable competitive advantage through implementing its strategy solution through research findings. Minimal gap between strategy solution and implementation plan with the actual condition of creative industry is what will be an indicator to determine whether the research is feasible to provide a benefit and optimal contribution to creative industry in Indonesia or not. The results will be used as research tools to solve real business problem for practical purposes. Regarding the lack of capital, tangible asset, and investment; the creative industry needs an effective strategy to optimize growth and potential opportunities in the future.

## SCOPE OF THE RESEARCH

This research focuses purely on the creative industry in Indonesia. There are 16 sectors in the creative industry in Indonesia. Small medium enterprise (SME) and start up in this research are limited and related to creative industry only.

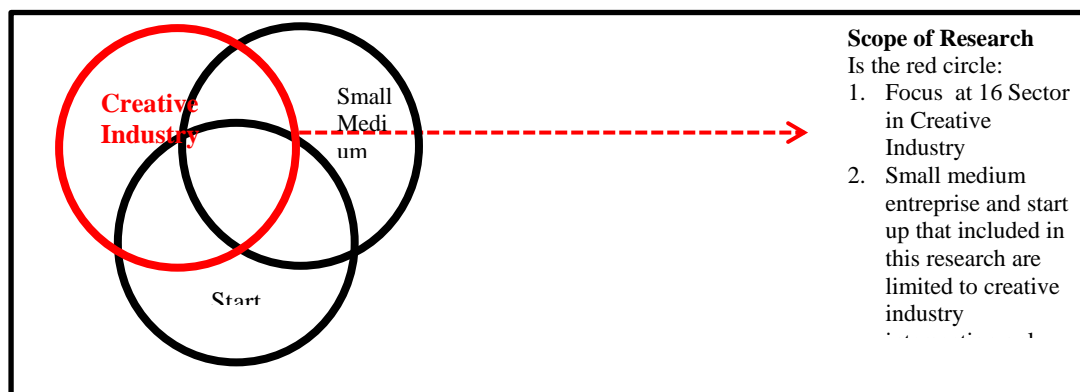


Figure 1 Scope of Research

## LITERATURE REVIEW

### Mapping Activity System

An activity map is a diagnostic tool to identify your organisations competitive advantage. It connects your organisation's value proposition to the activities of your organisation that enable you to deliver this value proposition better than any competitors.

### Sustainable Competitive Advantage

A sustainable competitive advantage occurs when an organization acquires or develops an attribute or combination of attributes that allows it to outperform its competitors. These attributes can include access to natural resources or access to highly trained and skilled personnel human resources. Creativity is identified by many business around the globe as an important source of Sustainable competitive advantage because in a knowledge based economy the barriers to reproduction of ideas, products and concepts have been dramatically reduced (Terry Flew, 2012)

### Blue Ocean Strategy

(1) Changes the competitive landscape (2) Opens up new areas of competition (3) Requires the firm to reconcile tradeoff (increasing value, lowering production costs) and pursue both business strategies simultaneously. Value innovation accomplished through the simultaneously pursuing differentiation ( $V \uparrow$ ) and low cost ( $C \downarrow$ ).

### Blue Ocean Space

(1) Unknown market space (2) Industries not in existence (3) Demand is created rather than fought over (4) Opportunity for both profit and growth (5) Two ways to create: completely new or from within existing red ocean (Kim and Mauborgne, 2004)

### Strategic Positioning

"Strategy should reflect a distinctive value chain that configures all key business processes and operations (operations, HRM, marketing, service delivery, etc.) in a unique way that is difficult for competitors to imitate (Porter, 2001)."

Strategic positioning is concerned with the way in which a business as a whole distinguishes itself in a valuable way from its competitors and delivers value to specific customer segments (Wickham, 2001: 230)

### Strategic Alliance and Collaboration

Greater integration in creative industry can be achieved using Strategic Alliance. These alliances arrangement involves sharing of knowledge, resources and capabilities with the intent of developing processes, industries, or services (Rothaermel, 2016). Collaboration helps in creating spaces where connections can be made, ideas sharing are cross fertilized and collective knowledge is developed. Collaboration can help to generate rich opportunities for innovation (London: Tate, 2012)



Figure 2 Agriculture to Knowledge Based Economy Transition

### Characteristic of Knowledge Based Economy:

(1) Open Innovation (2) Education (3) Knowledge Management (4) Creativity

### Knowledge Based Economy

“The knowledge based economy” is an expression coined to describe trends in advanced economies towards greater dependence on knowledge, information and high skill levels, and the increasing need for ready access to all of these by the business and public sectors.” (OECD, 2005). ERIA research project report states that creating high industry standard will be a good technique to protect sustained economic growth in the knowledge-driven economy. As the economy becomes more knowledge-intensive, infrastructure generates new opportunities for innovation (Simatupang, T. M., S. Rustiadi and D. B. M. Situmorang, 2012: 173-270).

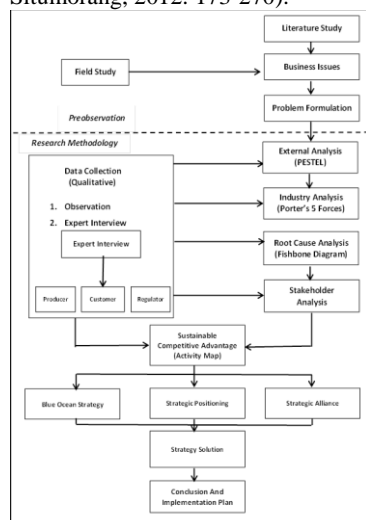


Figure 3 Conceptual Framework

### B. Methods of Data Collection and Analysis

This paper uses qualitative approach for data collection. Expert interview from keyplayer or creative industry actor from 16 sector, government as regulator, education institution, and community or club related to these 16 sector in creative industry. They are experienced and knowledgeable in this sector. In conducting this research, generally consists of four main processes, there are:

1. Observations of business processes in 16 sector creative industry in Indonesia.
2. Observation on current condition and major sector of creative industry in Indonesia.
3. Observation and assessment of the existing strategy on current condition.
4. Designing the strategic management and problem solving of research question through interviews with creative industry stakeholders, such as keyplayer and actor in these industry, customers, regulators, institution and communities.
5. Provide recommendations and implement strategy solution for creative industry sector in Indonesia.

This research will be analyzed from an external point of view by using PESTEL (Political, Economic, Social, Technological, Environment, Legal) and from an industry perspective using Porter's 5 Forces Analysis. In search of the root causes to sustain growth and create sustainable competitive advantage using Fishbone Analysis. After the data collection, analysis process will use Stakeholder Analysis to find out the key player related to current situation. SCA activity map was drawn to analysis the data using Blue Ocean Strategy, Strategic Positioning, and Strategic Alliance or collaboration for demand establishment, maintain growth, and create sustainable competitive advantage

Figure 4 Methods of Data Collection and Analysis

### FINDINGS AND ARGUMENT

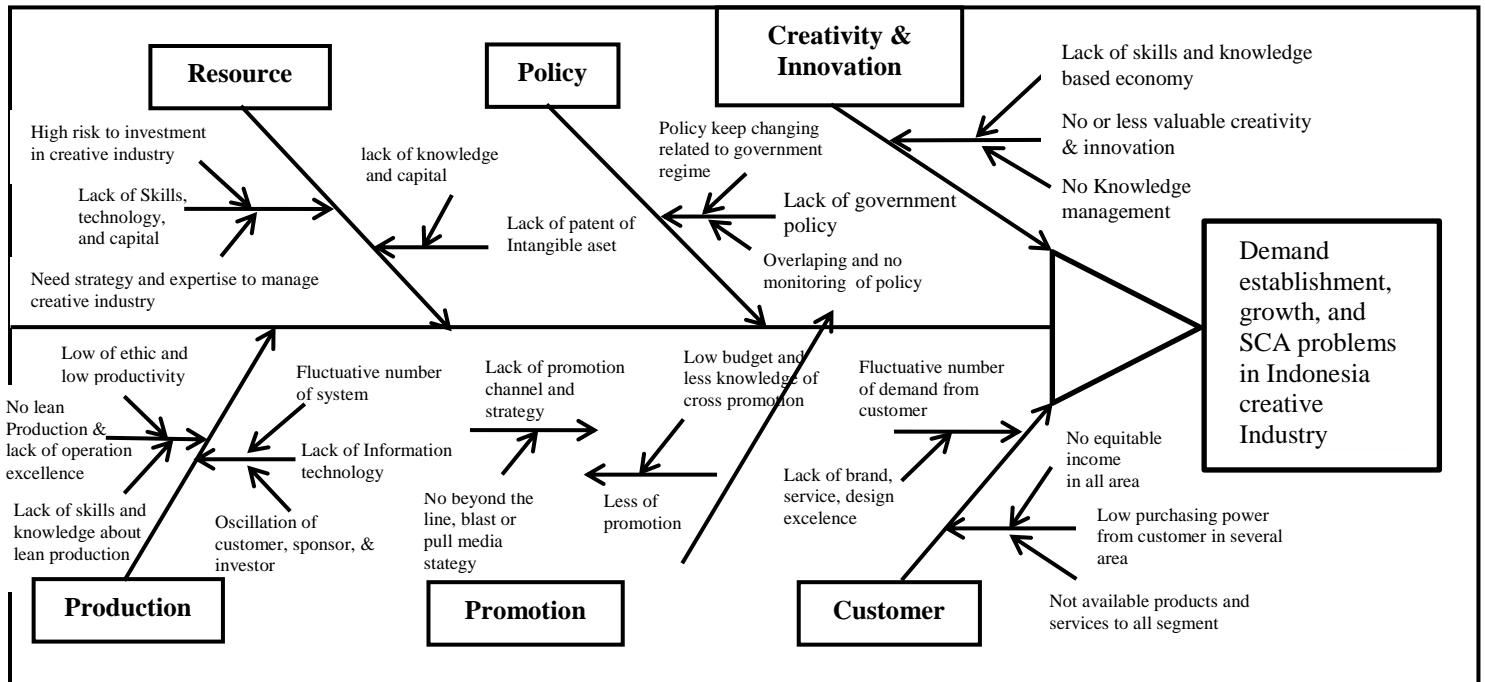
From observation and interviewing 20 stakeholders in the creative industry, such as creative industry producer, government, education institution, and customer, this research finds that the key player in this sector should collaborate with all the stakeholders to minimize lack of capital and investment problems, to have demand establishment, sustain growth, and create sustainable competitive advantage with these solutions:

- (1) Create new market, such as local market, national market, export, or niece market to have demand establishment.
- (2) Create positioning, brand excellence, service excellence, and design excellence to develop demand establishment.
- (3) Develop and implement lean production and operation excellence to have value innovation.
- (4) Create and develop knowledge based economy with open innovation, education, knowledge management, and creativity.
- (5) Improved capacity to maximum capacity or at least as regular lean production requirement which is 80% from total capacity.
- (6) Create a collaboration with establish brand, service or product and create a new product or services as collaboration.
- (7) Create and manage online and offline distribution channel strategy.
- (8) Promotion support from community, word of mouth, joint promo or cross promotion from media partner, community, association, company's Customer Social Responsibility (CSR), and government.
- (9) Develop mobile application (*android* and *iOS* compatible) and web-based integrated system to enhance creative industry growth and SCA in Indonesian with 2 main functions:

1. Demand establishment with selling activity for 16 sector of Indonesia creative industry with 3 to 6 major sector as focus.
2. Knowledge based economy using blue ocean strategy, strategic positioning, and strategic alliance as business strategy and management for 16 sector creative industry in Indonesia.

These mobile application are useful to have lean production and distinctive value chain. If 16 of creative industry sector can have distinctive value chain and lean production, they can deliver value innovation to customer. Demand establishment can be achieve and also the growth and SCA in these industry. Beside that, key player or actors in these 16 sector and all stakeholder in this industry should have a knowledge and a networking about disintermediation channel value chain. Both, online and offline channel are also important. When identifying possible causes for the problems, fishbone diagram is developed. There are six root cause that effected Indonesia film distribution channel using fishbone analysis, they are:

- (1) Resource (2) Government or authorities policies (3) Innovation (4) Production (5) Promotion and (6) Customer, as stated in the figure 5.



interest to improve and make the creative industry fuelled and buoyed with more economic growth, thus giving the industry a sustainable competitive advantage. After finding and interviewing the Key Player, three best creative industry sectors with the highest contribution to Indonesia GDP from 2004—2016 show that exponential growth and contribution pattern are to be found in the sectors of culinary, fashion, and crafts. Behavior over time pattern of the creative industry sector depends on the value of a variable such as market size, local or foreign investment in these industries, source of supply, copyright, inventory, quality, government policy and intervention.

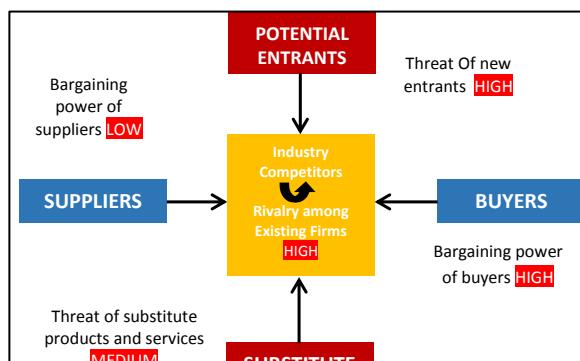


Figure 6 Porter's 5 Forces of Indonesia Creative Industry

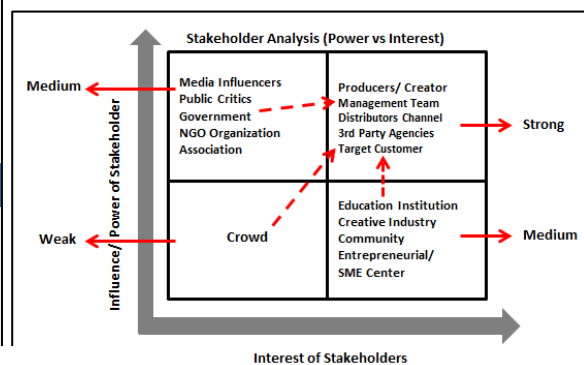


Figure 7 Stakeholder Analysis of Indonesia Creative Industry

## CONCLUSIONS

From observation and interview this research finds that there are 7 components that can be implement as strategy solution for current condition problems. Using PESTEL, Porter's Five Forces, Fishbone diagram to find root cause, and Stakeholder analysis to find key player to develop sustainable competitive advantage (SCA) activity map (figure 8). From PESTEL analysis we can see that Indonesian government already have the policy to support creative industry under Dana Ekonomi Kreatif/ Creative Industry Funds for pre startup. Blue ocean strategy, strategic positioning, and strategic alliance are used to analyse the data and create strategy solution for the problems. This strategic management approach can then be linked to the strategy for the sharing of resources, big data analytics, structure disruption, new business model, and new cost structure. Mobile application and web-based integrated system can be worked in accordance with two functions as (1). Demand establishment with selling activity for 16 sector of Indonesia creative industry and (2). Business strategy and management to maintain knowledge based economy and knowledge management using blue ocean strategy, strategic positioning, and

strategic alliance for 16 sector creative industry in Indonesia are the recommendation. The strategy solution interrelationship between components of this system are:

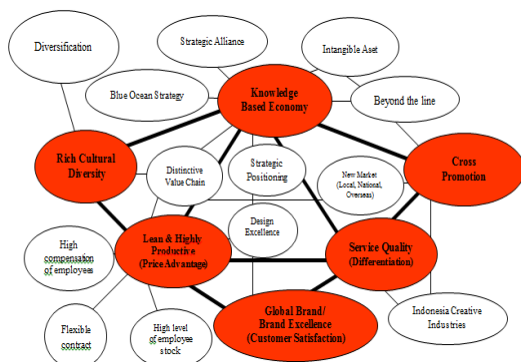


Figure 8 SCA Activity Map

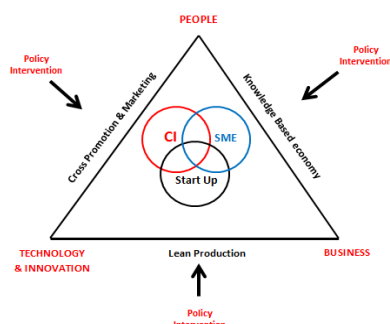


Figure 9 Strategy Solution

From research findings, key player in Indonesian creative industry such as producer, main actor, creator, or content developer should create these mobile application and a web-based integrated system. These mobile application (android and iphone compatible) and web-based integrated system will establish the demand, sustain growth, and create sustainable competitive advantage of the Indonesian creative industry from intangible and tangible resources to all stakeholders in the long term.

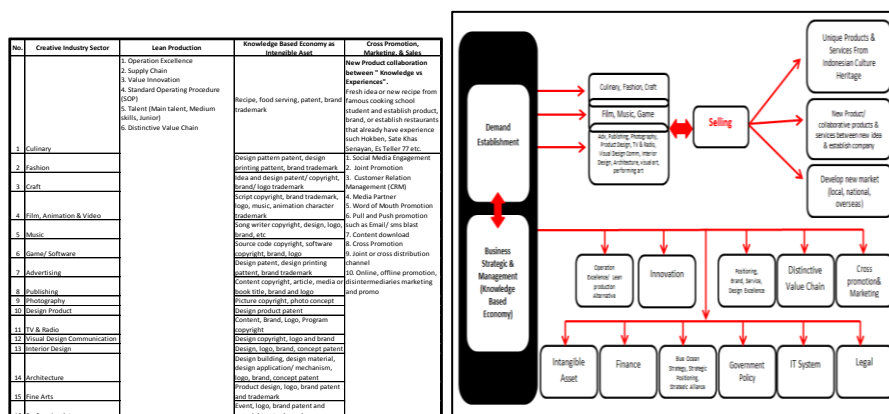


Figure 10 Implementation and Recommendation of Mobile Application and Web Based Integrated System

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## THE INFLUENCE OF COOPERATION PARTNERS TOWARDS TYPES OF INNOVATION IN INDONESIAN COMPANIES

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### EXTENDED ABSTRACT

The aim of the study is to explore the influence of cooperation partners on types of innovation in Indonesian companies. This study uses data from the Survey of Innovation Practice in Indonesia carried out by CIC-PPM Manajemen (2014). Respondents are 157 managers from various companies in Indonesia. Logistic regression is used in the research methodology. This study finds that enterprises within enterprise group significantly influence product and process innovation. Client or customers; consultants/consultancy firms, commercial labs and profit oriented research institute, have a significant influence towards marketing innovation. The managerial implication is that companies need to focus on specific cooperation partners in order to be able to innovate. Furthermore, public sector partners need to evaluate current cooperation scheme in order to create impactful support for companies' innovation.

**Keywords:** *Cooperation Partners, Innovation, Indonesia.*

#### INTRODUCTION

Since the competitive landscape is getting wider, technology and product life cycle are getting shorter, there is a growing awareness among practitioners and researchers that companies' internal knowledge alone is not sufficient to support innovation activities, but companies need to cooperate with external partners to enhanced their knowledge capacity (Faria, Lima, & Santos, 2010). Cooperation supports intensive knowledge exchange and learning process which help companies to combine complementary capabilities and develop synergy among those innovation actors (Dachs, Ebersberger, & Pyka, 2008; Becker & Dietz, 2004). The Organisation for Economic Co-operation and Development / OECD (2005) has proposed three types of cooperation partners which the company can work with : partnership with other enterprises within enterprise group, partnership with external market and commercial, and partnership with public sector.

However, one thing which remains unclear within literature is to what extent different types of cooperation partners influence different types of innovations. Previous studies showed conflicting finding. A study conducted by Tödtling, Lehner, and Kaufmann (2009) in Austria shows that product innovations are stimulated by cooperation with universities and research organizations. Differently, study by Fitjar and Rodríguez-Pose (2013) in Norway reveals that radical product innovations tends to be influenced by cooperation with supplier and customer. Furthermore, collaboration with suppliers support greater levels of process innovation, and collaboration with competitor degrade company's tendency to innovate.

Furthermore, both studies above are conducted in developed countries. There is dearth of research about developing country's experience. Supporting Pavitt (2005) statement that innovation practices will be varies from one country to another, this paper is intended to analyze the influence of cooperation partners towards types of innovation in a developing country, Indonesia. Thus, research questions for this study are:

1. Does partnership with other enterprises within the enterprise group influence types of innovation in Indonesia?
2. Does partnership with external market and commercial influence types of innovation in Indonesia?
3. Does partnership with public sector influence types of innovation in Indonesia?

## LITERATURE REVIEW

### Cooperation Partners

Innovation networks and related works have been subject for several previous studies (Tödtling et al., 2009). Those studies assess particular relationship among network actors as well as their motives in engaging cooperation such as specific knowledge or resources ownership. The ideas behind innovation network existence is that using internal knowledge resources alone is not sufficient for companies to survive and innovate, but they need to adopt the concept of open innovation (Díaz-Díaz & de Saá Pérez, 2014; Chesbrough, 2012; Chiang & Hung, 2010; Dahlander & Gann, 2010; Gronlund, Sjodin, & Frishammar, 2010), where external information sources are used optimally for the benefit of the company's operations. Open innovation is defined as the use of knowledge flow from the outside to the inside of the firm or from the inside to the outside the firm deliberately to speed up internal innovation and enlarge the market (Chesbrough, 2006).

There are various innovation actors that have been identified by previous literature involved in innovation process (Tödtling et al., 2009), such as: customer (Porter, 1998; Von Hippel, 1988), suppliers (Nieto & Santamaria, 2007; Amara & Landry, 2005), competitors (Malmberg & Maskell, 2002; Porter, 1998), universities and research organizations industries (Keeble & Wilkinson, 2000; Powell, 1998; Saxenian, 1994). OECD (2005) clusters those cooperation partners into three types: partnership with other enterprises within enterprise group, partnership with external market and commercial, and partnership with public sector. Partnership with external market and commercial involves several actors: a). suppliers of equipment, materials, components, software and services, b). client or customers, c). competitors, d). consultants/consultancy firms, commercial labs, profit oriented research institute. While partnership with public sector engages: a). universities and other higher education institutions, b). government/public research institutes.

### Types of Innovation

The innovation concept was popularized Schumpeter in 1934 who said that innovation was a source of economic change, and the type of innovation could be distinguished by the changing object, e.g. product, process, market and organizational innovation (Huhtala, Sihvonen, Frösén, Jaakkola, & Tikkanen, 2014; Varis & Littunen, 2010). Other authors, Yuan, Joe, Ding, and Lin (2013) state that innovation is a new way of doing something new.

OECD (2005) describes four type of innovation as follows:

- a. Product innovation is the creation of new products / services or having significant change in order to be in lined with their intended use. Product innovation includes changes in technical specifications, components or raw materials, the use of software or particular functional characteristics.
- b. Process innovation is the new way of product usage or new methods of product delivering. Included in this process innovation definition is the use of techniques, equipment or new software.
- c. Organizational innovation is the realization of a new organizational method of business processes, work organization and external relations.
- d. Marketing Innovation is the utilization of new marketing methods. Included in the definition is significant changes in the packaging, placement and sale of products

## METHODOLOGY

Data for this study is taken from the Survey of Innovation Practice in Indonesia by the CIC-PPM Manajemen (2014). Total respondents for this quantitative research are 157 managers from multi-industries. Most of respondent (18.52%) comes from Electric Generator, Gas, Steam and Cold Air industry sector. Types of companies are mostly foreign investment (21.6%). The biggest proportion of the participating companies (27.80%) employs around 1000-4999 employees.

The Independent variables are taken from OECD (2005) cluster of cooperation partners: other enterprises within enterprise group, external market and commercial, and public sector. The dependent variable is types of innovation where its dimensions are taken from OECD (2005): product, process, organizations, and marketing innovation.

Since the dependent variable represent by nominal data, the regression techniques used to assess the influence of cooperation partner towards type of innovation is logistic regression.

## FINDINGS AND ARGUMENT

The confidence level for this study is 95%. Therefore, the significant level of the regression is at  $p < 0.05$ .

Table 1. Logistic Regression Output Explaining Cooperation Partners and Types of Innovation

Cooperation Partners / Actors	Sig			
	Product	Process	Organization	Marketing
Other Enterprises within Enterprise Group				
- Other Enterprises within Enterprise Group	0.001*	0.018*	0.165	0.127
External Market and Commercial				
- Suppliers of equipment, materials, components, software and services	0.978	0.655	0.078	0.794
- Client or customers	0.202	0.502	0.536	0.037*
- Competitors	0.171	0.069	0.412	0.735
- Consultants/Consultancy Firms, commercial Labs, Profit Oriented Research Institute	0.223	0.126	0.349	0.000*
Public Sector				
- Universities and Other Higher Education Institutions	0.354	0.362	0.945	0.293
- Government/Public Research Institutes	0.334	0.332	0.907	0.823

\*significant at  $p < 0.05$

Table 1 shows that other enterprises within enterprise group significantly affects product innovation ( $p = 0.001$ ). Other cooperation partners do not significantly affect product innovation. The table also shows that the influence of other enterprises within enterprise group on process innovation is significant ( $p = 0.018$ ). Among all cooperation partners, none of them significantly influence organizational innovation. It is also found that client or customers; consultants/consultancy firms, commercial labs, profit oriented research institute from external market and commercial cooperation partners that influence marketing innovation significantly ( $p = 0.000$ ).

## CONCLUSION

In general, this study find that different innovation types are associated with different cooperation partners. There is a significant influence of other enterprises within enterprise group cooperation partners towards the introduction of product and process innovation. The study also uncovers that external market and commercial cooperation partners, especially client or customers, consultants/consultancy firms, commercial labs and profit oriented research institute, have a significant influence towards marketing innovation. However, none of the cooperation partners that able to promote organizational innovation.

Perhaps, the most unexpected finding is that public sector cooperation partners do not promote any type of innovations significantly. This is contradicting with some studies' proposition that public sector partners have significant contribution toward company innovation initiatives (e.g. Garcia-Perez-de-Lema, Madrid-Guijarro, & Martin, 2016; Nissen, Evald, & Clarke, 2014).

The insignificant influence of some innovation partners on certain innovation types might be due to the inability of the companies to acquire external knowledge and or to assimilate it with internal capabilities. It is because involving certain degree of openness requires companies simultaneously to integrate external and internal information to enhance their organizational knowledge based and innovation performance (Lin, Che, & Ting, 2012). This sort of ability is called by Cohen and Levinthal (1990) as well as (Zhara & George, 2002) as absorptive capacity. A further study is needed to capture the real phenomenon.

## Managerial Implications

For companies, perhaps the most significant contribution of this study is the request for the manager to focus on specific cooperation partners in order to be able to innovate. Based on this study, other enterprises within enterprise group; client or customers; consultants/consultancy firms, commercial labs and profit oriented research institute, are cooperation partners that manager should pay attention on whenever they would like to make the company more innovative.

For public sector partners, there is a need to find the reason why their cooperation with companies could not promote innovation. Understanding the reason would help public sector partners and companies to create a better partnership in the future.

### Limitations and Future Research Possibility

There are some limitations of this study which future research needs to refine. Firstly, the data used for this research is based on self reported data by managers of the sampling companies. Thus next research could be enhanced by involving companies' stakeholders as the informant. Secondly, this study assumes companies involved in the study as homogenous cluster. This study does not differentiate companies by their industries, size, ownership and so on. Next research might need to study different pattern which might happen in particular condition.

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# ANALYSIS OF NEUROPHYSIOLOGICAL REACTIONS TOWARDS TOURISM ADVERTISING VIDEO CAMPAIGN

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## EXTENDED ABSTRACT

Tourism industry in Indonesia has grown rapidly since the last five years. In addition, since the launch of Big Leap Tourism program by President Joko Widodo in 2014, the growth of tourists' visit number in Indonesia reaches 2% every year. However, in West Java area, the tourists visit rate even continues to decline since the beginning of 2015. This is a business issue that need to be concerned by the government, especially the Department of Tourism and Culture of West Java. It is found that one of the main factors that causes the low level of tourists visit rate to West Java is due to lack of effectiveness in promotion activities. To make an attractive promotion activities of West Java tourism, this research analyze the consumer neurophysiological reactions towards West Java tourism advertising video campaign.

**Keywords:** Tourism, West Java, Neurophysiological reactions, Advertising

## INTRODUCTION

West Java – Indonesia has a very promising tourism potential with it's beautiful nature, diversity of flora and fauna, ancient and historical heritage, as well as arts and culture. With that kind of resources, West Java should be able to take advantage of the tourism sector as one of their main income. However, the tourism sector traffic in West Java decline especially in 2016.

To strengthen the competitiveness of West Java tourism in domestic and international, Ministry of Tourism of Republic Indonesia, released a thematic video featuring the characteristic of tourism potential regions in West Java as part of Wonderful Indonesia tourism campaign, which was released in November 2014. In collaboration with a professional production team, the cinematography in each video was made with high technology to produce a great quality video campaign. This video campaign has been released in various medium such as television, social media, airport, and cinemas.

Wonderful West Java promotional video campaign has been airing since November 2014 and was watched more than 40,000 times. This amount is far below the other region videos that was released in about the same year, such as Raja Ampat (513.000 views), Sumatera Utara (130.000 views), and even compared to other provinces' video within Java island, such as Wonderful Yogyakarta (182.000 views) and Wonderful East Java (181.000 views). To overcome the low level attractiveness campaign problem, in this research we asses the attractiveness of Wonderful West Java promotional video campaign towards the consumer by gathered their neural response as an input to make the effective west java tourism campaign strategy in the future.

## LITERATURE REVIEW

*Neural Response (Electroencephalograph-EEG) and Advertising*

EEG known as a medical method to capture human neural response activity in the brain. Since founded the early of 20th century, this procedure has brought a revolutionary change in medical World. This method was widely used for supporting the diagnosis of epilepsy, as well as non epilepsy such as sleep disturbances, and wheelchair controlling. Although it has been known for a long time, the development of EEG method is still very limited.

The main factor of the limitation is due to the complexity of EEG devices. Most components of EEG tools are very expensive, large-sized, and requires a special skill that can only be obtained through a professional training (Knutson *et al.*, 2007).

In the advertising industry, the use of EEG has not been widely used in research, especially in Indonesia. The use of this method is still being developed, along with increasing doubts on the reliability and validity of traditional survey methods to measure the effectiveness of an advertisement. Measurements of human neural response reactions considered to be a revolutionary thing in the science of marketing, thus arose the term Neuromarketing, which is an amalgamation between Neuroscience and Marketing. As a relatively new method, there are still many shortcomings of EEG methods that need to be considered, such as the issue of privacy and ethics, and measurement of consumer response can only be conducted generally due to the complexity of the human brain in response a stimulus (Hubert & Kenning, 2008).

The use of EEG method was believed to provide objective and honest information about the reaction of sensory, cognitive, and emotion of the human brain. In addition, this method allows the researcher to explore the things that trigger one's interest to an ad, as well as things that motivate someone to do a particular action based on their response. By using EEG method in advertising can help to identify the viewers emotions when they watch the ads, so in the future it can be used as input to generate an effective and attractive advertising strategy.

## METHODOLOGY

In determining the population of this experiment, there are several conditions that must be met to obtain the optimal result. According to Oldfield (1971) the respondent should not be experiencing or have the following characteristics: (1) Experiencing neurosensory impairments; (2) Possess psychiatric problems, and (3) Left-handed people. The sample size of this experiment consist of 30 tourists.

To measure the nural response, we use “Emotiv Insight”. This tool shows the brain activity in real-time and can tracks the brain cognitive performance that divided into eight indicators: Attention, Focus, Engagement, Interest, Excitement, Affinity, Relaxation and Stress. This tool has five EEG sensors: AF3 (left frontal), AF4 (right frontal), T7 (left temporal), T8 (right temporal), and Pz (parafacial zone) that covers the cerebral cortex areas of the brain.

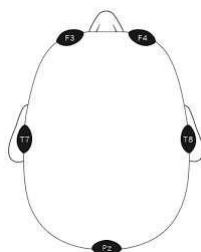


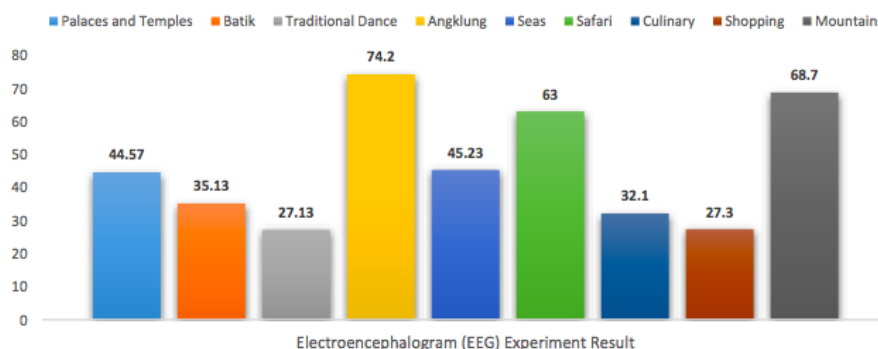
Figure 1. The placement of Emotiv Insight electrodes

The Wonderful West Java advertising as the main stimulus is retrieved from Youtube, the 5 minute 37 seconds video will be divided into nine sequences based on the types of tourism, which are historical tourism (the palace and the temple), culture tourism (divided into batik, angklung, traditional dance), sea tourism, mountain tourism, shopping tourism and culinary tourism. Between each sequence will be given a three second gap to neutralize the emotions of the respondents before shown next sequence. After that we measure the interest level and analyze it using One Way ANOVA.

## FINDINGS AND DISCUSSIONS

Based on the experimental results of consumer neural response towards Wonderful West Java advertising video campaign (Table 1), it is found that there are significance difference on their interest level in each ads scene ( $p=0.031<0.05$ ). Angklung scene has the highest interest rate (scored 74.2). Angklung visualization scene in the video had been done properly and supporting the survey results stating that tourists recognize angklung as a cultural representation of West Java.

**Table 1.** Interest level towards various scene in Wonderful West Java advertising video campaign



While, the shopping scene in the video is considered to be lowest attractive to respondents (scored 27.3). To increase the interest rate, change the selection of the color tone, music, as well as the content to be featured in the advertising campaign to help consumer aware, learn, and store the memory of the West Java shopping object.

Based on the result on Table 1. batik has quite low attractiveness level in consumer. However, based on previous research by Kartika & Gumilar (2015) batik is perceive as one of cultural tourism representative in West Java alongside with angklung. As an important element of tourism advertising that easily can be altered, displaying batik pattern that can enhance the visual of the advertising is one of the strategy proposed to improve the promotion of West Java tourism. Almost every areas in West Java has a traditional batik pattern that shows the characteristic of each region. Batik Ciamis, Garutan, Tasik, Kasumedangan, and Cirebonan are some of the most recognized batik pattern in West Java. Quite often, the traditional textile motifs contained elements of stories, history, and reflect local communities' identity and ideology. The authentic designs of traditional fabric may attract many foreign and domestic tourists to visit West Java learn the technique of making traditional fabrics in West Java thus contribute to the tourism industry and increase the intention to visit West Java for experiencing the cultural tourism.

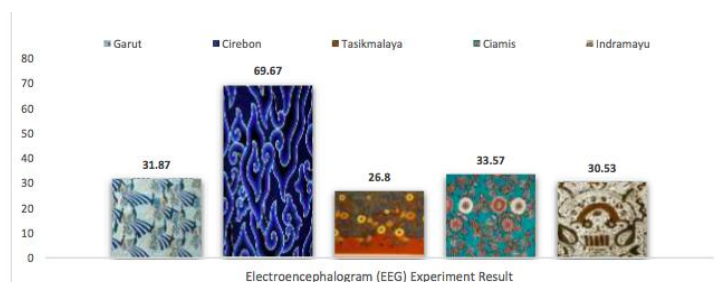
In the context of visual advertising, the way of dressing is one form of nonverbal communication. Clothing can be used to convey a person's social status or to adress a particular message about the object being advertised. In an advertisement that feature an apparel design with a certain style, the ad can be translated and understandable by identifying the pose from the models, fashion, hair style, accessories, and other aspects that are able to show what is the intent of the advertisement. The intention formed through clothing is visible in the micro-visual system, and the macro image of a visual message will be formed from many micro systems components (Dewi, 2013).

On that basis, it is important for West Java to concern visualization of clothing displayed in the campaign advertisement. Clothing can be a medium to delivered the messages contained in tourism advertisements as a part of the culture. Regardless of the clothing design types that is chosen, clothing in West Java tourism ads is better to feature batik component as the representative of culture tourism of West Java.

The clothing design featured in the experiment is divided into classic kebaya, modern/casual batik, and Haute Couture batik. The various clothing design is tested to see whether there is any difference between each design that affect the interest towards the advertisement and increase the intention to visit West Java. Based on Table 2. The interest level toward several featured Batik patterns shows that the most likeable pattern Batik pattern is from Cirebon (scored 69.67). The least favorable pattern to be featured in West Java tourism advertising is Tasikmalaya Batik pattern (scored 26.8).

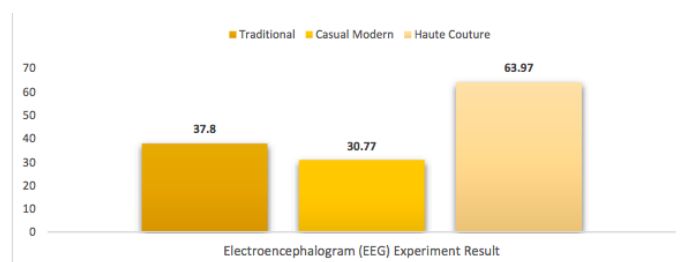
**Table 2.** Interest Level Towards Various Batik Pattern in Several Regions of West Java in Wonderful West Java campaign ads





In addition n, based on Table 3 results, the majority respondent choose Haute Couture Batik as the best design type to be featured in West Java tourism advertising (scored 63.97). The following likeable design type is traditional clothing design (scored 37), and the least favorable design to be featured in tourism video is the casual/modern batik wear (scored 30.77).

**Tabel 3. Interest Level Towards Various Batikwear Design**



## CONCLUSIONS

West Java tourism industry has competitive advantage in the field of mountain tourism, culture and culinary compared to tourist destinations in other provinces in Indonesia. As national tourism trend increases, tourism in West Java is experiencing a downward trend both in domestic and foreign tourist arrivals from 2015 to 2017. It is found that one of the main factors that causes the low level of tourists visit rate to West Java is due to lack of effectiveness in promotion activities. By using neural response in advertising, can help to identify the viewers emotions when they watch the West Java campaign ads, so in the future it can be used as input to generate an effective and attractive advertising strategy. These findings are then can be used as recommendation for improvement of the Wonderful West Java advertising campaign to be more appealing.

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# LINKING EMOTIONAL INTELLIGENCE AND JOB PERFORMANCE THROUGH ORGANISATIONAL CITIZENSHIP BEHAVIOUR

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## EXTENDED ABSTRACT

With the challenges and increased obstacles along with the ever- changing work environment organisations face today, the focus on understanding emotions in organisations recently has produced a great interest in studying emotional intelligence and its effects on job performance. Emotional intelligence is a factor that helps individuals to recognise, monitor, and manage emotions. Emotional intelligence is important for success in life in general, and in organisations in particular to gain competitive advantage and sustainability. Although research to date has investigated emotional intelligence (EI) and its effects on job performance, organisational citizenship behaviour (OCB) remains a key to be studied and its relationship with emotional intelligence and its effects on job performance remains inconclusive. Therefore, the objective of this paper is to examine the linkage between emotional intelligence and job performance through organisational citizenship behaviour. Emotional intelligence and organisational citizenship behaviour have been found as an antecedent of job performance in the workplace positively. It also has been found that the concepts of emotional intelligence, organisational citizenship behaviour and job performance in the area of organisational psychology can contribute to the body of knowledge and enhance the performance of individuals and organisations as well.

**Keywords:** : Emotional Intelligence, Organisational Citizenship Behaviour, Job Performance.

## 1.0 INTRODUCTION

Today's work environment experiences rapid and drastic change on a daily basis. Therefore, performance is a very essential element within organisations today, as it is a key element to determine their survival. Organisations work in an ever-changing environment. At the backbone of this context, previous studies have found that "emotional intelligence" is a key element of performance (Murensky 2000; Wolff, Pescosolido and Druskat 2000; Wong and Law 2002; Abraham 2004; Suan, Anantharaman, and Kin, 2015). However, emotional intelligence has been noticed as "the most needed topic to be extensively studied" on organisational scenery (Chiva and Alegre, 2008). Increasing and enhancing performance is influenced by increasing competition, globalisation and the growth of the business and delivery speed with good quality. Leaders/managers, however, in order to provide outstanding performance, are required to be more engaged effectively in their work environments, not only physically, but also emotionally and mentally (Lopez, and Snyder, 2009). Thus, in order for organisations to maintain their positions successfully, and to gain a competitive advantage, they put pressure continuously on their employees to perform effectively. This ongoing pressure is observed clearly in the work environments where the need for high performance is highly required. It has also been noticed that there are logical conclusions of the emotional intelligence- job performance relationship, particularly when organisations do not only face pressure and difficulties in the times of seeking new people and appointment process as they need to consider emotional intelligence of job seekers, but also in the times of organising and conducting programmes for individuals' development. Moreover, it has been concluded that the level of emotional intelligence of individuals is the key factor to predict job performance. (Chaudire, and Usman, 2011).

## 2.1 LITERATURE REVIEW

### 2.1 JOB PERFORMANCE

Job performance (JP) is one of the essential and key elements in industrial and organisational psychology. Therefore, its study with other key elements in organisational psychology comes as an advantage and added value (Austin, and Villanova, 1992; Reaves, 2015). Job performance is also the key variable in industrial and organisational psychology (Austin, and Villanova, 1992, Campbell 1990, Murphy and Cleveland 1995, Schmidt and Hunter 1992; Viswesvaran, and Ones, 2000). It has been observed that those applicants who are most likely to perform outstandingly on the job, they have more potential to be selected. This, however, is one of the criteria for personnel selection for the job. Organisations from time to time design training programmes to improve performance, to identify the strengths and weaknesses of employees, and make assessments (Guion, 1998; Viswesvaran, and Ones, 2000). It can be summed up that job performance is the key element and variable in work psychology. In industrial psychology, management and human resources workforces, performance is utilised regularly in the organisations. Job performance can be described through unobserved and observed behaviours with the possibility of making evaluations (Viswesvaran, Ones, and Schmidt, 1996). Building on the streamline of this thought, job performance can be clearly known from the successful actions performed by an individual to achieve a final product. The organisation's overall performance, thus, makes dynamic effects on the individual process.

Furthermore, it has been found that the success of the organisation as a whole depends on job performance as it is the critical issue in the organisational management (Rocco, et al, 2008). Therefore, identifying elements which are essential in predicting job performance becomes more important for organisations as they need to review policies and even to find the key elements which have dynamic effects on job performance and impact the dynamic work environment (Wan, and Chan, 2013). Since the decisions individuals take in the workplace are the key to determine the success of the organisation, job performance plays the pivotal role in this process, particularly making decisions on performance-based rewards and promotion (Scullen, Mount and Goff, 2000; Shamsuddin, and Rahman, 2014; Suan, Anantharaman, and Kin, 2015).

### 2.2 EMOTIONAL INTELLIGENCE EI

Although there is argumentative debate on emotional intelligence, Literature review supports the argument that it is still booming and growing (Davies, Stankov, and Roberts, 1998). It is noticed that its popularity dates back to the work done by Daniel Goleman in his famous and -best-selling books" Emotional Intelligence: why it can matter more than IQ?" (Goleman, 1995). It has also gained more popularity in the media when it has appeared in Time magazine's cover (Gibbs, et al, 1995; Wolfe, and Kim, 2013). It has to be stressed that the brain is the main source of all emotions. Therefore, those who think positive, they are successful at work (Gardner and Stough, 2002). However, with the growing importance in the role of emotions in organisations, the prevailing assumption is that emotions have not received much attention in the psychology of work and the process of decision-making and the focus was on cognition and rationality (Abraham, 1999; Barrett et al., 2001; Becker, 2003; Ciarrocchi et al., 2001; Huy, 1999; Goleman, 1995; Mathews et al., 2002; Sternberg and Kaufman, 1998; Bachkirova and Cox, 2007). Individuals who experience anger would have to face tough times in their workplace in building relationships with others and their confidence will fade away over time. Emotions are engine of daily activities and dealing with others. Emotions and moods are overlapping and each one has a meaning and description, but the best-accepted way of identifying them is they both have positive and negative effects. Therefore, emotions and moods can be described by the following terms such as distress and hostility, excitement, and enthusiasm (Jones and George, 1998). Although the critiques that have been observed of the concept of emotional intelligence entirely and each of three major models reviewed in this study, recent body of knowledge and research on emotional intelligence has shown that the concept remains lively and timely most studied. Moreover, it is still a valid construct as it has dynamic effects on behaviours of individuals, organisations and the way of life in general. Therefore, it has been stressed that emotional intelligence is also influenced by the warmth and much care received from parents (Mayer, Caruso, and Salovey, 1999; Mayer, et al, 2001). Emotional intelligence has been grasped considerably by organisations as it serves as determinant of high performance in the workplace (Jayan, 2006). Furthermore, emotional intelligence has been recognised as it is "array of competencies that can help individuals to utilise their emotions properly, to monitor one's own and others' feelings, to assist potential results such as job satisfaction (Alnidawy, 2015), and work-related positive

attitudes (Fisher, 2000), and leadership performance (Trabun, 2002), strengthening the usefulness of training programmes, (Saber, 2012), work performance (McKinley, 2014), and organisational management (Rojas, 2014).

## **2.3 ORGANISATIONAL CITIZENSHIP BEHAVIOUR OCB**

Literature review has documented that Bateman and Organ have been the first authors who presented the term "citizenship" as behaviour through which individuals in the organisation dubbed as "good citizens" (Dash, and Pradhan, 2013). However, the history of organisational citizenship behaviour OCB has been traced its roots back to the work which has been undertaken by Barnard, who spotlighted that individuals must show their enthusiasm and determination to contribute to the organisation as a whole. Additionally, Katz (1964) and Katz and Kahn (1966) have noticed that extra behaviours that are performed by individuals in the organisation beyond their formal and prescribed job are the key element in order to achieve the organisation's objectives and high performance (Lester, Meglino, and Korsgaard, 2008). The organisation, without these extra behaviours, can be observed as "flimsy social organisation" which cannot be flourished Katz (1964; Herholdt, 2015). Furthermore, it has been found with growing of body of knowledge and research that OCB helps individuals in the organisations to perform their jobs (Suan, Anantharaman, and Kin, 2015). It has to be stressed that since its appearance in the early 1980s, organisational citizenship behaviour has received momentum considerably and a great deal of attention (Bateman, and Organ, 1983; Smith, Organ, and Near, 1983), (Podsakoff, et al, 2009; Chinomona and Dhurup, 2015). It has been clarified in the Organ's book (1988) in which the term has been dubbed as "The Good Soldier Syndrome" (Burton, 2003, Podsakoff, et al, 2000). However, two variables of behaviours have been spotlighted to inform general discussion and debate as: 1) general obedience (to demonstrate following good work by a good employee), and 2) altruism or unselfishness (to demonstrate a voluntarily help to other employees for the purpose of their well-being in the organisation (Bateman, and Organ, 1983, Smith, Organ, and Near, 1983).

## **2.4 JOB PERFORMANCE AND EMOTIONAL INTELLIGENCE**

The studies that have been undertaken on performance have spotlighted on emotional intelligence as the key driver of performance. Therefore, it has been found that positive outcomes in the workplace have connections with emotional intelligence, putting effects also on other drivers in the workplace, such as leadership (Scott-Halsell, Shumate, and Blum, 2007), withstanding stress (Bar-On, and Parker, 2000), (Mikolajczak, Menil, and Luminet, 2007), work attitude (Carmeli, 2003). Furthermore, studies showed that the differences in performance in the workplace among individuals are because the level of emotional intelligence (Higgs, 2004). The more feelings of individuals are expressed, the more positive emotions they have that can help them to facilitate and anticipate high performance (Küpers, and Weibler, 2006). It is also found that the level of emotional intelligence of leaders has affected job performance and OCB of followers (Wong, and Law, 2002; Kiyani, et al, 2013). It has been noticed that individuals in the workplace perform better when they enjoy high emotional intelligence as it helps them to have innovative ideas and thoughts (Hasanzadeh, 2009; Ganji, 2011). Moreover, emotional intelligence, through the role of communication which provides facility in cooperating within the organisation, can help processing job performance better and this is the pivotal significance for individuals to think creatively and perform better (Shahhosseini, et al, 2012). If the levels of emotional intelligence enhanced, individuals will have the capabilities to better elaborate how they think and behave in the workplace, then, job performance as a whole in any organisation is observed consequently. In addition, individuals are capable to build solid interpersonal relationships with others because their awareness of one's own emotions and others' are enhanced (Mayer and Salovey, 1993, 1997). In other accurate words, when individuals' capabilities are improved, their way of thinking and behaving also recognised, thus, performance improves as a result. It is also observed that individuals with reasonable high emotional awareness might be more effective in treating others with no doubt in the workplace (Bar, 1997, Matthews, Roberts, and Zeidner, 2004; Shih, and Susanto, 2015). As previous studies have found experimentally positive correlations between emotional intelligence and job performance (Goleman, 1998; Mayer et al., 2000; Wong and Law, 2002; Law et al., 2004; Shih, and Susanto, 2015), it is noticed that emotional intelligence has dynamic effects in total and complete job performance. It has been also debated that the correlations will be whether directly or through mediation between emotional intelligence and job performance. Previous studies have also validated the effects

of emotional intelligence on individual performance (Wong, and Law, 2002) and team performance (Druskat and Wolff, 2001; Jordan et al., 2002; Jordan and Troth, 2004) but they did not validate any mediation as an antecedent to high performance.

## **2.5 ORGANISATIONAL CITIZENSHIP BEHAVIOUR AND EMOTIONAL INTELLIGENCE**

Although there is a dearth in the study of organisational citizenship behaviour OCB and emotional intelligence, the body of knowledge has been growing significantly (Sitter, 2005, Schmidt, 2006; Devasagayam, 2013). Therefore, the study, which has been conducted to examine organisational citizenship behaviour- emotional intelligence relationship, has found a significant relationship. However, although the study has repeated what previous studies have concluded, the role of emotional intelligence in OCB of individuals remains positive (Solan, 2008, Harmer, 2008; Jabari, and Soleimannezhad, 2014). Studies also showed that there are dynamic effects of emotional intelligence on the potentials of OCB of individuals (Moghadami et al (2010; dabifirozjaee, Abbaspour, and Azizishomami, 2014). It has to be stressed that all the variables of emotional intelligence have significant correlations with organisational citizenship behaviour (Abraham and Yousmann , 2009, Nolley, 2011, Antony, 2013; Chehrizi, and Shakib, 2014). On the other hand, it has been observed that those individuals who are ill-tempered, they will create more problems and the way to anticipate OCB in the workplace is not reachable (Saathoff, 2009). In a study on “A Survey of Relationship between Emotional Intelligence and Organizational Citizenship Behavior in Iran” has found that the correlation between the emotional intelligence and OCB, particularly conscientiousness and altruism is strong and positive. It has also concluded that those individuals who have high levels of emotional intelligence, they work beyond their prescribed job and perform better. The study, lastly, recommended that extensive investigations and research must be undertaken to include more sample population and show other evidence of solid correlations (Salarzehi, et al, 2011). However, although the research has been found there was not a strong correlation between organisational citizenship behaviour and emotional intelligence (Solan, 2008), it has been found later such a relationship (Ahmadzadeh Mashinchi, 2011).

## **2.6 ORGANISATIONAL CITIZENSHIP BEHAVIOUR AND JOB PERFORMANCE**

Although the research has been undertaken to examine the potential correlations between organisational citizenship behaviour and performance, scholars and researchers in this area have a common understanding that any type of correlation is characteristically related to more concepts and logics than empirical support (Borman and Motowidlo, 1993, Organ and Konovsky, 1989). Based on the studies undertaken, it is found that individuals who perform beyond their official and prescribed job by the organisation, they are indeed successful and get their duties done properly with quality and they definitely have high organisational citizenship behaviour towards their organisation and the opposite holds true (Podsakoff, Ahearne, and MacKenzie, 1997). Moreover, it is found that the concept of OCB is the same as the concept of contextual performance in which performance assists the social and psychological setting and task performance comes as a result. Although the idea which states that the more individuals engage in OCB, the more they get promoted and salaried (Van Scotter, Motowidlo and Cross, 2000; Werner, 1994), the informal comprehension of OCB as “extra-work or behaviour “in assisting others don not only remain the familiar and understandable idea, but also the idea to be continued as popular to understand OCB (Organ, 1997). With the growing of the trend of research on organisational citizenship behaviour, empirical studies propose that the closer individuals are to their organisations, the higher performance they perform, the higher intelligence of ownership they enjoy, and the higher commitment to their duties in the workplace they show (Ehrhart, and Naumann, 2004; Jabari, and Soleimannezhad, 2014). It is also found that OCB associates positively with performance ratings (Bateman and Organ 1983). However, organisational effectiveness is found to have been influenced by OCB, thus, it is further imperative that leaders must treat followers nicely and fairly in the workplace, so as they can involve in OCB effectively (Chinomona, and Dhurup, 2015).

## **2.7 CONCLUSIONS**

The overall understanding is consistent with the presence of the relationships among the constructs. It has been found that emotional intelligence is a very key element within organisations. Previous studies have shown that emotional intelligence has dynamic effects on the dimensions of organisational citizenship behaviour which at the end of the day, EI and OCB can predict high performing individuals. It has been observed that individuals in the workplace perform better when they enjoy high emotional intelligence as it helps them to have innovative

ideas and thoughts. Moreover, emotional intelligence, through the effects of OCB of which provides extra job within the organisation, can help individuals in thinking, behaving, the way they control one's feelings and emotions and others', and most importantly, how to perform better in the workplace. It has to be stressed that those individuals who contribute more to their organisations, they enjoy high levels of OCB and bring more productivity in the workplace. While those individuals who do not contribute beyond their formal job, they are ill-tempered and there is likelihood that they create problems and obstacles in the workplace. Job performance in the workplace is greatly enhanced by OCB of individuals so, it can be concluded that those individuals who enjoy OCB they perform better in the workplace. However, the moderating effects of OCB are found to be characteristic related to more job tasks than empirical support in the workplace. It is worthwhile to highlight that the more individuals contribute in the workplace, the more they get promotions and awards from their organisations.

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# GENERATION Y EMPLOYEES: AN EXAMINATION OF WORK TURNOVER IN THE ISLAMIC BANKING INDUSTRY

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## EXTENDED ABSTRACT

Employee turnover is a significant challenge for human resource management (HRM) strategies and organisational performance. The real challenge for organizations is managing employees turnover in the workplace, especially Generation Y employees. This study aims to investigate the factors influencing Generation Y employee turnover in the Islamic banking industry. To meet the objective, this study used a semi-structured interview question to collect data. Interview data were analyzed using thematic analysis. The result shows that the main reason for employees to quit is the lack of work-life balance in an organization, while the weakest reason is poor work environment. This study provides few strategies to be implemented to reduce employee turnover.

**Keywords:** : Employee, Employers, Quit, Turnover, Islamic banking, Malaysia

## INTRODUCTION

One of the key challenges facing employers is overcoming short tenures and frequent staff movements. According to a report by Randstad (2014), 70% of Malaysian employees plan to quit their jobs. In addition, a survey conducted by Wong (2012) found that about 100 companies in various sectors in Malaysia had an annual turnover rate between 1.8% to 75%. High number of turnover affects an organisation in many ways. First, employee turnover is costly as it is associated with the costs of recruiting and retraining a replacement, as well as the costs associated with the lost productivity of employees. Second, employee turnover lowers the knowledge base as a result of reduced average years of experience and background of employees in an organisation. Third, employee turnover decreases organisational performance and forth, it is time consuming as the hiring process involves advertising, selecting, and recruiting new employees. Thus, this study aims to discover the reasons why employee quits and what were the reasons that they believed for others to quit.

## LITERATURE REVIEW

### Employee Turnover

Employee turnover refers to the number or percentage of workers leaving an organisation. Employee turnover may occur when there is a mismatch between an employee and his job. Evidence from the literature reveals that employee turnover is associated with job tension, role conflict and role clarity (Abdullateef et al., 2011; McNally, 2007), job insecurity (Ho et al., 2013), lack of recognition at the workplace, non-competitive salary, less opportunity of personal development (Randstad, 2014) and to seek work-life balance (Queiri et al., 2015).

### Gen Y and Employee Turnover

The Generation Y population, which is usually known as Gen Y, is the generation who were born during the 1980s and early 1990s. They grow up with technology, and they are connected and equipped with the latest technology and gadgets. Most Gen Y population grow up seeing their parents working hard and doing stressful jobs. This then shapes their views on workforce and the need for work-life balance.

According to Cairncross and Buultjens (2010), Gen Y is always viewed negatively by some employers. Although this generation is well educated, keen to make a difference and seek intellectual challenge, they are rarely satisfied in their career. Saridakis and Cooper (2016) states that Gen Y has lower employment stability and they prefer to switch jobs frequently due to higher expectation. Many researches have been done on the characteristics of Gen Y and employee turnover. For example, Bertranou and Casanova in 2013 conducted a study on employee turnover in Argentina and found that high turnover rate is highly associated with young people, both in the formal and the informal sectors. Ramoo et al. (2013) conducted a study on job satisfaction and demographic variables, particularly among Gen Y, and found that about 40% of the samples intended to leave their current employers.

## METHODOLOGY

For the purpose of this study, 10 respondents from the generation Y, who aged between 26 to 36 and were working in Islamic banks in Klang Valley were selected using a purposive sampling technique. The data for this study were gathered using the primary data collection method through semi-structured interviews. The participants were requested to respond to two questions regarding employee turnover. In one instance, they had to indicate what they believed were the reasons for others to quit, and then they were required to give reasons for why they would quit. The average duration of the interviews was approximately an hour. The shortest was about thirty minutes and the longest was about one hour and fifteen minutes. In several cases, interviews were held in two or more sessions. The interview descriptions are detailed in Table 1.

**Table.1. Interview and Interviewee Descriptions**

No.	Ownership of the Islamic bank	Gender	Interviewee Characteristics				Age
			Qualifications	Number of Previous Employers	Years with current employer	Training (Self-initiated or Employer initiated)	
1	Local	Male	Master degree	4	1	1	36
2	Local	Male	Bachelor degree	5	<1	0	36
3	Foreign	Female	Bachelor degree	3	2	1	30
4	Local	Female	Diploma	2	4	3	31
5	Foreign	Male	Master degree	6	1	1	33
6	Local	Female	Bachelor degree	4	2	1	31
7	Local	Male	Diploma	3	3	2	28
8	Local	Female	Master degree	4	2	0	28
9	Local	Male	Bachelor degree	5	<1	1	33
10	Local	Male	Master degree	5	1	0	31

Thematic analysis was used to analyse the data. A ‘thematic analysis’ is a coherent way of organising or reading interview materials in relation to specific research questions<sup>3</sup>. These readings are organised under thematic headings in ways that attempt to do justice to the elements of the research question and to the preoccupations of the interviewees. In simple words, thematic analysis is a process of encoding qualitative information. The use of thematic analysis enables the interviewer to use a variety of information to enhance the accuracy and the sensitivity in understanding and interpreting the research questions. Thematic analysis requires six steps of examinations<sup>4</sup>. (see Figure 1).



1. Data familiarization	<ul style="list-style-type: none"> <li>Transcribe data, read and re-read the data, note down initial ideas.</li> </ul>
2. Initial code generation	<ul style="list-style-type: none"> <li>Code interesting features of the data systematically across the entire data set; collate data relevant to each code.</li> </ul>
3. Search for themes	<ul style="list-style-type: none"> <li>Collate codes into potential themes; gather all data relevant to each potential theme.</li> </ul>
4. Review of themes	<ul style="list-style-type: none"> <li>Check if the themes work in relation to the coded extracts (Phase 1) and the entire data set (Phase 2); generate a thematic map of the analysis</li> </ul>
5. Defining and naming themes	<ul style="list-style-type: none"> <li>On-going analysis to refine the specifics of each theme, and the overall story that the analysis tells; generate clear definitions and names for each theme.</li> </ul>
6. Producing the report	<ul style="list-style-type: none"> <li>The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts; relate back the analysis to the research question and literature; produce a scholarly report of the analysis.</li> </ul>

Source: Braun and Clarke<sup>4</sup>

**Fig.1. Six Steps of Thematic Analysis**

## FINDINGS AND ARGUMENT

The 10 interviewees gave at least 15 different reasons why employees would quit an organization and what were the reasons that they believed for others to quit, can be classified according to certain themes and presented in Table 2 below.

**Table 2. Themes for leaving an employer**

1	Lack of work-life balance
2	No career growth (lack of training and flat organizational structure)
3	Poor management
4	Changing career goals
5	Poor work environment

Based on the table, the main reason for employees to quit is lack of work-life balance. Most interviewees generally agreed that work-life balance is important. For example, interviewee 4 stated that as she is a single mother, hence she really needs a job that emphasizes work-life balance. In addition to that, interviewee 2 stated that with the advancement of technology such as Whatsapp group and email integration in mobile phone, it is difficult to have work-life balance. "My superior is always asking questions/reminding me of deadlines/assigning task using Whatsapp, even during my day off. It is very disturbing". Interviewee 6 claimed that, "I hate that my boss emails me at night or after working hours. That's the time for my family and myself". The second theme was on career growth. Interviewee 4 mentioned that the flat organizational structure in the organization that she is working with limits her career advancement. Interviewee 1, on the other hand, mentioned that he intends to attend trainings to enhance his understanding and capabilities to do his job. However, such trainings are not offered and his employer is really selective in choosing the participants and types of training. Poor management was the third reason for employees to quit. A comment from interviewee 9

was, “This is my sixth job and I’ve been here for less than a year. The reason for why I left the previous jobs was solely because the way the organization treats the employees. One way communication, unsupportive, poor directions are some of the poor management treatments that I received”. The forth reason for why employees quit is changing career goals. Interviewee 5 claimed that, “My career goals keep changing, that’s why I change my job. When I first changed my job years ago, I did it due to of financial reasons, but nowadays, I do it due for the stability of the job position”. Poor working environment is the weakest reason for employees to quit. Interviewee 8 expressed how inflexibility affects his decision to quit, “I know job and career are important, but my family is important too. I can’t stay at work till more than 6.30pm. Therefore, I will constantly search for jobs which do not require me to stay till late night”.

## CONCLUSIONS

This study has explored the reasons for employees quitting their organisations. Data were gathered using semi-structured interviews. Ten respondents from amongst the generation Y, aging between 26 to 36 and working in Islamic banks in Klang Valley were selected using the purposive sampling technique. Based on interviews, a thematic analysis was generated. From the analysis, the main reason for employees to quit is due to the lack of work-life balance in an organisation, while the weakest reason is poor work environment. The result of this study is similar to the findings by Kim et al, (2015), which found that work-life balance is one of the factors that is able to retain employees from leaving their jobs. Therefore, it can be concluded that Gen-Y employees desire exciting and challenging careers without distracting their personal lives. Based on the findings, few strategies can be implemented to reduce employee turnover, especially among the Gen-Y population. First, employer should pay extra attention to employees’ personal needs and offer more flexibility. Second, Gen-Y is really aggressive, such that they want to know where they can be heading and how to get there. Therefore, employers should provide very clear career paths.

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# LEADER BEHAVIORS AND ITS INFLUENCE ON CHANGE READINESS (CASE STUDY: ISS INDONESIA)

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## EXTENDED ABSTRACT

ISS Indonesia is the integrated facility service company providing the hospitality services such as cleaning, security, parking, catering, etc. Elisa Lumbantoruan as new CEO of ISS Indonesia had the vision to change the organization by empowering people oriented.

This study has two objectives: (1) to know the influence of Leader Behavior on Change Readiness in context of ISS Indonesia, and (2) to assess the implementation of Leader Behavior and Change Readiness in this company to improve the change capability effectively of ISS Indonesia. Data were collected qualitatively from one down employees under CLT in all division at ISS Indonesia. The instrument was adopted from MLQ Form 5x Short established by Bernard M. Bass and Bruce J. Avolio to measure leadership and outcomes from the employees' perspective. While Change Readiness Assessment established by Associate Professor T. J. Jenney at Purdue to measure the level of Change Readiness.

The findings show that Leader Behavior takes an important role to support Change Readiness in ISS Indonesia. The unity of Leader Behavior dimensions positively influence Change Readiness. The questionnaire and assessment results that the implementation of Leader Behavior should be improved to influence the Change Readiness optimally at ISS Indonesia.

**Keywords:** : leaders behavior, change readiness, ISS Indonesia.

## INTRODUCTION

People who make up the organization are the one of factors which needed by organization to be success. Every business part comes down to people. We need to understand the human element to generate more profit, more effective, create the loyalty of brand, and get the better result. (Zach Ferres:2015)

As a service company, ISS Indonesia faces the obstacles to manage, empower and educate people to be the professional to deliver the best services and values. Not only the training which is to improve their skill, but also the other effort to make people ready for facing the service's obstacles. Elisa Lumbantoruan as CEO of ISS Indonesia is leading the change of ISS Indonesia to be the best service company in Indonesia through the value alignment to empower the employees. There are many changing system and structure to find the best man in the best place with the best job. Based on ISS Leadership Framework by CEO, Elisa Lumbantoruan, shows that there are organizational transformation which needs the readiness of all people in organization to change, flexible and ready to change anytime. The changing process of organizational transformation are organizational redesign, people selection, change management, next step to be done and support from other units. Based on the preliminary observation, the author found that the most people (leader level) were not really ready to change due to the transformation of organization needed so many changing at all aspects of the company.

While, according to the current business growth, in the second quarter or the first semester in 2015 ISS Indonesia's business growth is 15.9% which is the highest business growth ever. That achievement is reached by implementing the service principle to all elements in the company. Yet, it can not originally reflect the change readiness of ISS Indonesia's employees. Thus, it is necessary to synergize the leadership of CEO ISS Indonesia in making changes with the readiness of its employees to face the change. It is intended to achieve effective organizational change through leadership that is capable of driving the readiness of change in ISS Indonesia.

## LITERATURE REVIEW

### Transformational Leadership Theories

Burns (1978) defines transformational leaders as the leaders who instil the importance of the outcomes and the ways to achieve that goal. (page 141). Transformational leaders encourage their members to work harder to transcend their own interests, even increasing their needs (in Maslow 1954) to self-actualization. (Bass, 2008, p. 619). The concept of transformational was pioneered by Burns (1978) and later Bass (1985) who also built upon the scholarly literature by providing more in-depth explanations. In the early years, transformational leadership is defined as the process of leaders and their subordinates mutually improve the morality and motivation one another (Burns 1978, p. 20). In harmony with Burns (1978), fellow researchers Tucker and Russell (2004) posit that transformational leaders concentrate on the development and influence of their employees as they transform their organization with new and dramatic changes and processes. Moreover, Conger (1999) praised Burns as the foremost authority to articulate the transformational model as a usable, practical, leadership tool.

Bass (1998) suggests the reason transformational leaders have exceptional performance with successful results is by executing any or a combination of the four categories of transformational leadership named as idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. According to Bass (1998), the category of idealized influence proposes that transformational leaders are appreciated, trusted, and respected as an example, or idealized leader. Whereas, the inspirational motivation category of the transformational leadership model is to inspire, and encourage their followers by offering enthusiasm, optimism, value, clear expectations with mutual goals and objectives (Bass, 1998). Per Bass (1998), the transformational leader inspires their subordinates' attempts at creativity and innovation by probing old paradigms and issues without fear of condemnation for an idea or subsequent failure. The individualized consideration category of the transformational model, the leader will actively mentor and coach his followers, paying particular notice to their specific progress and developmental requirements. Furthermore, followers are deliberately developed to their highest potential. The leader establishes a climate of education, training, and development for their followers (Bass, 1998).

### **Change Readiness**

Readiness is rooted in preliminary organizational change research by Schein & Bennis, (1965). Probably the greatest challenge of change is the general assumption of change which employees need be ready for the changes in the organization (Armenakis & Harris, 2002). The increasing of power, participation, and status of the population, often require further changes in authoritative managerial approaches to participatory (Antonacopolou, 1998). Perhaps will be more important to prepare the employees to become ready for change than facilitating employee readiness to change.

The most models of readiness change emphasize the importance of (a) instill awareness of the essence of change and (b) supporting the ability of people to change. So that is important to distinguish the different types of change as environmental changes, both inside and outside the organization, pose challenges to organizational leaders who then demand responses and involve organizational change. The message that change is often coming from external factors (social, economic, political, or competitive) and comparing the results of the organization's current performance and organizational goals (Katz & Kahn, 1978; Pettigrew, 1987). Organizational change as the necessary, so the organizational change then demands changes to every element that begins with change at an individual level. Unclear change management strategies often lead to a shift in change (Beckhard, 1992; Beckhard & Harris, 1987). Leaders' attitudes toward change also affect the structure of organizational change, facilitation of individual change, and the success of overall organizational change.

Recent studies also show that organizational transformational change is successful in order to better understand how leaders prepare for external change, thereby facilitating change in the organization better. Readiness for change is more peaceful, tolerant, or open to change. Thus, the readiness of change is defined as the consciousness of within a person to change because it is most appropriate for environmental change, whereas the challenge is how a leader gets employees ready to change.

### **METHODS**

This research using combination methods of qualitative and quantitative by using Multifactor Leadership Questionnaire (MLQ) and using the Change Readiness Assessment (CRA) for employees of ISS Indonesia while using the interview to CEO and the other leaders for understanding the change implementation.

#### **The Multifactor Leadership Questionnaire**

The Multifactor Leadership Questionnaire (MLQ-5X) by Bass & Avolio, 2000; Avolio & Bass, 2004 is the standard instrument for assessing leader behaviors (transformational and transactional). The MLQ Form 5x-Short is the most recent version of the MLQ and consists of 45 questions: 36 leadership and 9 outcome questions. The purpose of the MLQ is to collect and assess variables, to include: inspirational motivation, individual consideration, intellectual stimulation, and idealized influence which centres on attributes and behavior (Avolio & Bass, 2002).

The MLQ was used in this study to measure perceived leader behaviors as perceived by the rate (employee). Measurement of the 20 transformational questions took place on a 5-point scale, created by Bass and Avolio (2004). The results of these measurement calculations were then applied to ascertain whether a positive linear relationship or correlation exists among the dependent variables (leader behaviors and employees' perceived organizational change effectiveness). The MLQ survey instrument is successfully utilized worldwide within wide-ranging research options (Bass & Avolio, 2004).

#### **Change Readiness Assessment**

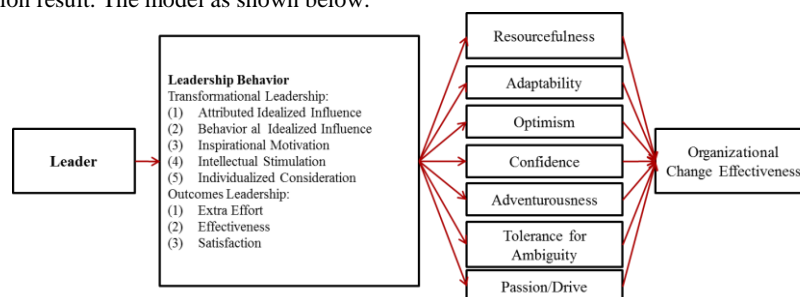
Change Readiness Assessment is an instrument that consists of 35 items to measure employee readiness for changing. This assessment was taken from Associate Professor T. J. Jenney at Purdue.

The change readiness has seven dimensions, named as resourcefulness, adaptability, optimism, confidence, adventurousness, tolerance for ambiguity and passion/drive. Awareness is defined as an essential person who is effective in utilizing most situations and utilizing whatever resources are available to develop plans and contingencies. They see more than one way to achieve a goal, and they can look to the less obvious places to find help. They have a real talent for creating new ways to solve old problems. Then, the ability to adapt includes two elements: flexibility and resilience. Flexible people have goals and dreams like everyone else, but they do not invest too much in them. If something goes wrong, they will say, "Plan A does not work, let's go to Plan B." Resilience is the ability to recover from difficulties quickly with minimal trauma. Failure or error does not throw it away. They do not think of them and feel depressed but bounce back quickly and move on. While optimism is illustrated as a half-empty or half full glass? Optimism is highly correlated with Change-Readiness because pessimists only observe problems and constraints while optimists recognize opportunities and possibilities. If optimism is the view that the situation will work, while belief is a belief in your own ability to overcome it. Adventurousness, there are two ingredients that capture the spirit of this adventurer: the tendency to take risks and the desire to pursue the unknown, to take

the less travelled path. Adventurous love challenges. Then, the tolerance for ambiguity defined as a certainty surrounding change is that it fosters uncertainty. No matter how carefully you plan it, there is always an element of ineffectiveness or ambiguity. The last is the passion/drive is the fuel that maximizes all other traits. If you have passion, nothing seems impossible. Otherwise, the change is tiring. Passion is the level of individual personal dynamism. It appears in a person's level of intensity and determination.

### Research Model

The MLQ and CRA were developed to find out the relation between Leadership Behavior and Organizational Change based on the each dimension result. The model as shown below:



**Figure 2. The Research Model**

In accordance with the literature, this study will statistically prove the influence of leader behavior developed by Bass & Avolio (2000; 2004) on change readiness in ISS Indonesia with hypothesis below:

$H_0$  : Leader behavior does not positively influence the change readiness

$H_1$  : Leader behavior positively influence the change readiness

### Data Collection and Sampling

Data collected by distributing the Multifactors Leadership Questionnaire and Change Readiness Assessment to respondents, interview to CEO, People and Culture Director, Vice President of Talent Management and employee of Strategy Management Office, and observation.

The selected sample was the result of consideration of CEO and Vice President of Talent Management, i.e. the employee under CEO and Directors directly (including the directors). Since the MLQ is intended to assess the leadership of CEO, while CRA is intended to measure the readiness of employees in the face of change by the CEO. So, the people who are involved directly with the CEO and the directors are the ones who understand these changes. The total employees of this group are 47 persons, but the minimum requirement is 30 persons to complete this assessment.

### FINDINGS AND ARGUMENT

#### Respondents

Data collected by 33 respondents which consist of directors, vice presidents and general managers from all division in ISS Indonesia. The composition of respondents of at ISS Indonesia are dominated by male about 82% than female perspective. From a number of selected samples consisting of 8 divisions contained in ISS Indonesia on the level of position at level 1, 2 and General Manager. At the level of office dominated by level 2 of 45%, then 36% at the GM level and the remaining 17% at level 1 of the CLT (Country Leader Team) or the directors.

Respondents scattered in each division also have enough representation for each division which has the different member number. This is because there is a limit level to be the respondent on this questionnaire and assessment, which is one down under CLT. The level limitation is because at that level it is believed to be more able to assess CEO behaviors and is worth following change readiness assessment. Level 1, 2 and GM report their work directly to CEO and directors, so it is at this level that most feel the policies and changes from the CEO or CLT to be implemented at the lower levels.

#### Regression Analysis

The influence of leader behavior to change readiness is proven that leader behavior significantly influence the change readiness, due to the P-value is 0.024 which is not more than the significant level (0.05). So, this result can be to reject the null hypothesis ( $H_0$ ) which the leader behavior does not positively influence the change readiness.

The result also indicates that from the five dimensions of leader behavior and three dimensions of outcomes, there are only Inspirational Motivation, Extra Effort, and Effectiveness which are statistically significant to influence change readiness. While the other dimensions also influence the change readiness but not significant.

The dimension Idealized Influence (Attributed) (P-value 0.097) and Idealized Influence (Behavior) (P-value 0.124) are statistically not significant influence change readiness due to the P-value is more than significant level of 0.05. Intellectual Stimulation (P-value 0.531) and Individualized Consideration (P-value 0.199) also fail to reject the null hypothesis ( $H_0$ ) because of the P-value more than 0.05. The last dimension which is not significant is dimension satisfaction, its P-value is 0.294 so not significant to influence the change readiness.

According the result also shows that there is correlation between leader behavior and change readiness, although the R is 0.393 which is low correlation. While, it indicates  $R^2$  result also is 15.4% which means that the influence of leader behavior to change readiness is 15.4% with the low correlation (0.393).

#### Leader Behaviors

**Table 2. Description Result- Eight Dimensions of Leader Behavior**

Leader Behavior Dimension	Mean	%	Category
Idealized Influence (Attributed)	3.56	71%	Good
Idealized Influence (Behavior)	3.67	73%	Good
Inspirational Motivation	3.77	75%	Good
Intellectual Stimulation	3.41	68%	Good
Individualized Consideration	3.14	63%	Good
Extra Effort	3.39	68%	Good
Effectiveness	3.52	70%	Good
Satisfaction	3.14	63%	Good

All dimensions of leader behavior got the score which classified as good. The individualized stimulation and satisfaction dimension had the lowest score with the mean was 3.14, while the highest mean score was inspirational motivation which had mean score was 3.77. This result is supported by the leadership competency assessment which also indicates that CEO ISS Indonesia has leadership competency beyond the average. From 12 competencies, all is classified as skilled and talented, while most of them are beyond the average. It means that CEO has well leadership competency, even compared to the other leaders in ISS Indonesia. So the questionnaire result similar as the leadership competency assessment which conducted on March-April 2017.

Based on the Multifactor Leadership Questionnaire (MLQ), the overall dimensions of leader behavior are classified as "good". So it can be stated that the CEO of ISS Indonesia has leadership behavior in leading ISS Indonesia for 1.5 years. Indicators in each leader behavior dimension also show similar, almost all are categorized as good. However, there are only 2 (two) indicators on the dimensions of individualized consideration classified as an average. The dimension of individualized consideration is also the dimension that has the lowest score with mean 3.14. However, these dimensions are still categorized as good in this study.

While the leader behavior that has the highest score with mean 3.77 is Inspirational Motivation. It shows the degree to which the leader articulates the vision that is appealing and inspiring to followers. This study found that all leader behaviors can be categorized as good, except individualized consideration.

Implementation of leader behavior can not be separated per indicator because based on the statistical test that influence leader behavior to change readiness equal to 15.4% significantly if implemented unity all indicator from leader behavior dimension. While the statistical test for each indicator of leader behavior, not all indicators showed significant results. Thus, the implementation of leader behavior must be carried out unified all the indicators that shape transformational leadership.

#### Change Readiness Assessment

Table 3. Description Result- Seven Dimension of Change-Readiness

Change-Readiness Dimension	Score	Category
Resourcefulness	27	Over
Adaptability	16	Less
Optimism	19	Less
Confidence	22	Optimal
Adventurousness	17	Less
Tolerance for Ambiguity	11	Less
Passion/Drive	27	Over

According to the calculation that showed in the table above, there is only one dimension which classified as optimal, it is dimension confident. While there are two dimensions; resourcefulness and passion/drive which classified as over. The other dimensions classified as less. The dimension tolerance for ambiguity classified as the lowest score compared the other dimensions. This result shows not good enough condition of respondents' change readiness.

The assessment result shows that the **resourcefulness** of ISS Indonesia is categorized as "over". It means that the people are not effective at the moment of planning and contingencies. This very high score (over 26) proves that might overlook the solution and create more work than is necessary. **Adaptability** is one of the dimensions categorized "less" based on the results of change readiness assessment. This adaptability encompasses flexibility and resilience, which is the flexibility to face a job or challenge that is not as expected, and the ability to re-rise after the failure. The result is the same as the adaptability dimension, that the **optimism** dimension is also in the "less" category. Where it shows that the enthusiasm and positive view of change are still low. Expressed by CEO ISS Indonesia, that the key to the success of change is to believe that change can be achieved. Furthermore, he also said that if a change plan failed, there may be among us who are unsure of the change. **Confidence** is the only one dimension which classified as "optimal" that represents the belief of the employees in their ability to handle the job. More specifically, the employees believe that they can make any situation work for them. The dimension **adventurousness** becomes one of the dimensions which classified as the weak category. This is derived from the results of MLQ calculations involving 33 respondents choice of ISS Indonesia. The interpretation of the results is still the weakness of ISS Indonesia employees to the challenges and new jobs that are different from their work routines. The score on the assessment shows that without a healthy **tolerance for ambiguity** which makes change is not only uncomfortable but also it is downright scary. Tolerance for ambiguity classified as "less" because the score is under the optimal line. The **passion/drive** dimension classified as "over" in the change readiness assessment. Very high scorers (over 26), however, may mean that people bull headed, obsessed, and heading for burnout.

#### CONCLUSIONS

It has been proven through the simple regression analysis that leader behavior has an important role in supporting change readiness the in context of ISS Indonesia because the P-value is less than significance level of 0.05. According to the value

of  $R^2$ , 15.4% of the variability in change-readiness can be explained by leader behavior, while the remaining 85.6% is influenced by other factors.

According to the correlation calculation, all leader behavior dimensions positively influence change readiness. The most influencing dimensions are the idealized influence, inspirational motivation, extra effort, and effectiveness. Separately, leader behavior profile shows good results, that all dimensions are categorized as "good". Meanwhile, if viewed from the results of change-readiness assessment showed the opposite result. One cause of leader behavior only significantly affects change readiness by 15.4%. Thus, although the overall leader behavior assessment results in the "good" category, but the change readiness assessment shows the results is still low.

Statistically, there are 85.6% other variables that influence change readiness other than leader behavior. However, the implementation of leader behavior can not be ignored because it significantly affects change readiness of 15.4%.

### **Recommendations**

To push the leader behavior to influence the change readiness, rolling project is the one of the right way to be implemented. With a rolling project for employees, employees can adapt to organizational changes smoothly. Namely incorporated with a variety of partners and different types of work. By engaging in subtle changes, employees can better enjoy change as challenges that increase knowledge, experience, and knowledge in working. As explained by Bandura (1982) and Fishbein & Ajzen (1975); That its core, that individual cognition can influence change readiness. Moreover, the previous competency and skill mapping have been done, to make it easier to start the rolling project. Beginning with things that are closely related to the competence and skills. Then can be rolled on the development work which is on new jobs that increase knowledge and experience. Thus, a new and different job is not a burden but rather an interesting experience that is realized to be necessary for its future work.

According to MLQ and statistical calculations, dimension individualized consideration shows the results of the lowest score compared to other dimensions. While this dimension belongs to the "good" category, there are two indicators of this dimension that fall within the "average" category. As mentioned earlier Bass (1985), the ability of the leader to treat his employees individually and the openness of the leader in providing guidance greatly influences the formation of transformational leadership. That is the leader will give personal attention, treat each employee individually, and coach and advise his subordinates.

So to encourage the implementation of individualized consideration is more optimal than the implementation of coaching program. This is also supported by the literature which informs that leaders take the important role to empower their subordinates through coaching and mentoring (London & Smither, 1999; Beattie, 2002; Ellinger & Bostrom, 1999; Ellinger, Ellinger, & Keller, 2003, cited in Ellinger, 2004: 169). Through this coaching program allows leaders, especially CEO ISS Indonesia, to deliver their mission/vision and targets to their subordinates in a way that more touches the individually. Communication and behavior that show individual attention are more touching for employees so they are more receptive to the policies and changes of the leader.

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# SOURCES OF MEANING AND MEANING IN LIFE IN STATE-OWNED AND PRIVATE COMPANIES: A LITERATURE REVIEW AND PRELIMINARY FINDINGS

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## EXTENDED ABSTRACT

Sources of meaning and meaning in life (SoMe) may vary depending on the contexts or circumstances where individuals are embedded (e.g. workplace). Investigating SoMe in various circumstances of the workplace might give insight about different factors that direct employees to live a meaningful life. The concept of SoMe needs to be culturally examined and adjusted and there had been no study about SoMe among Indonesian employees, neither in state-owned enterprises nor in private companies. This paper presents a literature review about SoMe and preliminary findings or profiles of SoMe in both state-owned and private companies in Indonesia. Next, these profiles are verified by asking some questions related to the SoMe to employees in the sampled companies (N = 20). Based on our literature review, it is expected that employees from these different kinds of companies should be in the same level of meaningfulness, but their source(s) of meaning might be different. Our qualitative study shows that employees from state-owned enterprises have higher sources of meaning in morality and external religiosity, but less in love. These findings lead to a recommendation for a further investigation using quantitative study with a bigger sample size to get a more accurate conclusion about SoMe among employees in both types of companies.

**Keywords:** : *source of meaning, meaning in life, meaningfulness, crisis of meaning*

## INTRODUCTION

Changes in business strategy, policy, and environment make employment becomes ever more precarious, and consequently employees need adjustment to be more effective in their job. Individuals need to find personal meaning and purpose to sustain a sense of well-being in those times of insecurity and change (Lips-Wiersma & McMorland 2006). Meaning in life is considered to be a major part of well-being and mental health variables, such as human flourishing and positive emotions (Scannell, Allen, & Burton, 2002; Schnell 2009a; Seligman, Steen, Park, & Peterson, 2005). More specifically, in the context of workplace, meaningfulness is associated with positive outcomes such job enrichment, work role fit, helping behaviors, and work engagement (Colby, Sippola, and Phelps 2001; May, Gilson, & Harter 2004; Höge & Schnell, in press). In contrast, crisis of meaning (a sense of meaningless) was associated with boredom, negative attitudes toward work, and low self-esteem (Isaksen, 2000). Several researchers argue that work is correlated with meaning in life (Allan, Duffy, & Douglass, 2015; Savickas, 1997), but this process might be depending on individual differences as well as organizational values and cultures. A survey among workers in the United States (US) showed that work itself, pride in the product, the social environment, the self and spirituality at work, and becoming a humane organization were source of meaningfulness at the workplace (Danielle, 2012). That survey is slightly contrast with a recent survey among Indonesian Students and Volunteers who reported spiritual, power, and explicit religiosity as the most significant sources for their meaning in life (Ginting & Rajagukguk, submitted). This different may be due to personality traits and cultural backgrounds as predictors of source of meaning and meaning in life (Schnell & Becker, 2006).

As “values put to action,” sources of meaning motivate commitment and give direction to life (Schnell, 2009a, 2009b) as well as enable a meaningful structuring of life. Meaning in life emerges from a global evaluation of life which can be independently distinguished: the (positive) experience of meaningfulness (i.e., coherent, significant, directed, and belonging) and the (negative) experience of a crisis of meaning (i.e., empty, pointless, and lacking meaning). Both meaningfulness and crisis of meaning may then be predicted in some extents by source of meaning. A combination of both meaningfulness and crisis of meaning scales enables researchers to



categorize individuals with respect to the dominant quality of meaning. Four types of meaning can thus be distinguished: (1) High meaningfulness, low crisis of meaning (meaningful); (2) High crisis of meaning, low meaningfulness (crisis of meaning); (3) Low meaningfulness, low crisis of meaning (existentially indifferent); (4) High meaningfulness, high crisis of meaning (conflicting). Researcher can compare the condition of those four types of meaning using its distribution and relation to demographic as well as organizational variables.

Subjective appraisal and experiences of work as meaningful can exhibit particularly close positive relations with performance in work. Meaningfulness has been suggested as mediator in the relationships between substantial job characteristics and work behaviors. Based on research by the Kelly Global Work Force Index (2009), more than half (51%) of about 100.000 participants accepted a lesser role or lower wage for a more meaningful work. Holbeche (2004) reported 72% of middle managers, 63% of board directors, and 69% of directors and senior managers are looking for a greater meaningfulness in their working lives. By investigating source of meaning and meaning in life in various circumstances of the workplace might give descriptions about different sources that direct employees to live a meaningful life which subsequently increase positive work attitudes, work engagement, and productivity.

As far as we know there are more studies about personality, and no study about source of meaning and meaning in life among Indonesian employees, neither in state own enterprises nor in private companies. Many studies claimed that the concept of meaning in life is closer to behavior than personality and by understanding source of meaning, meaningfulness, and crisis of meaning, we can more accurately predict individual behaviors, also at the workplace. This study used the Sources of Meaning and Meaning in Life (SoMe) concept to explain theoretically two dimensions of meaning in life (i.e. meaningfulness and crisis of meaning) as well as 26 potential sources (Schnell, 2003, 2004) among employees in state owned and private companies in Indonesia. That theoretical explanation is confirmed by a qualitative study using open and close ended questions.

**Table 1. Data Comparisons between Employees in State owned and Private Companies**

	Mean of Work Experience	Mean of Age	Gender (Male)	Perceived Income			Management Level		
				High	Enough	Less	Staff	Supervisor	Manager
State Owned	12.5(6.8)	39.7(7.2)	50%	67%	33%	0%	33.3%	33.3%	33.3%
Private	9.5(5.4)	38.4(11.5)	64%	43%	57%	0%	38%	20%	42%

Note: Mean in year (*SD*)

## METHODOLOGY

This study was a literature review followed by a qualitative data to get a preliminary sense about the comparisons of source of meaning and meaning in life among employees in state-owned and private companies in Indonesia. We used the theory of source of meaning and meaning in life (SoMe) as a baseline to approach the problem. We made predictions about source of meaning and meaning in life in those both types of companies by comparing their different characteristics. Those predictions were confirmed by analyzing qualitative data that we collected using a combination of close and open-ended questions regarding source of meaning and meaning in life. The participants of our qualitative study were employees that were recruited randomly from state owned enterprises ( $N = 6$ ; Mean Age = 39.7 [ $SD = 7.2$ ]) and private companies ( $N = 14$ ; Mean Age = 38.4 [ $SD = 11.5$ ]). Table 1 shows our participants demographic characteristics. In the close-ended questions, we asked participants' experience on meaningfulness and crisis in 1 to 10 scales. Meanwhile, in the open-ended questions, we asked participants to complete their demographic characteristics, to perceived their financial status, and to describe their source of meaning and their own definitions of a meaningful life.

**Table 2. Dimensions and Sub-dimensions of SoMe; Answers Frequency of Open and Close Ended Questions**

Dimensions	Sub-dimensions	Frequency	
		State-owned	Private
<b>Self-actualization:</b> Employing, challenging, and fostering one's capacities.	<b>Challenge:</b> Strive, adventure, risk.	1/6	2/14
	<b>Knowledge:</b> Questioning, get information, trying to understand.	1/6	3/14
	<b>Creativity:</b> Fantasy, a sense of beauty, originality.	0/6	0/14
	<b>Individualism:</b> Independence and realizing potential.	3/6	2/14
	<b>Power:</b> The power struggle, dominance.	0/6	0/14
	<b>Development:</b> Growth of self, determination, accomplishment.	2/6	5/14
	<b>Freedom:</b> Autonomy, freedom, self-regulate.	1/6	3/14
<b>Horizontal self-transcendence:</b> Committing oneself by taking responsibility for (worldly) affairs beyond one's immediate concerns.	<b>Achievement:</b> Competence, skill, success.	1/6	2/14
	<b>Social Commitment:</b> Commitment towards the respect of justice, public welfare, or human rights.	0/6	0/14
	<b>Unison with nature:</b> Harmony and unity with nature.	0/6	0/14
	<b>Self-knowledge:</b> Analyze and confront the individual.	0/6	0/14
	<b>Health:</b> Health, fitness, healthy nutrition.	0/6	0/14
	<b>Generativity:</b> Working or create something that is valued more than the interests of individuals.	2/6	4/14
	<b>Tradition:</b> Conservation, organized, stick to a strong stance.	0/6	1/14
<b>Order:</b> Holding on to values, practicality, decency, and the tried and tested.	<b>Practicality:</b> Pragmatism and realism.	1/6	2/14
	<b>Morality:</b> values, rules.	1/6	0/14
	<b>Reason:</b> Rational and logical.	0/6	0/14
	<b>Community:</b> close relationship and friendship, kinship.	4/6	9/14
<b>Well-being and relatedness:</b> Cultivating and enjoying life's pleasures in privacy and company.	<b>Fun:</b> Humor and pleasure.	0/6	0/14
	<b>Love:</b> Romanticism and intimate.	0/6	2/14
	<b>Wellness:</b> Happiness and hedonism.	0/6	1/14
	<b>Care:</b> Consideration, future thinking, help, and advantage.	2/6	6/14
	<b>Attentiveness:</b> Awareness, Sustainability, ritual activities.	0/6	0/14
	<b>Harmony:</b> The balance and harmony between the self and others.	0/6	1/14
<b>Vertical self-transcendence:</b> Committing oneself to objectives (e.g., ultimate power) beyond own needs and stands for an orientation towards an immaterial, cosmic power.	<b>Explicit Religiosity:</b> Religions and beliefs.	4/6	6/14
	<b>Spiritual:</b> Relation with ultimate realities.	1/6	2/14
<b>Meaningfulness:</b> The degree of subjectively experienced which encompasses the complementary facets of: (a) evaluating one's life and actions as having purpose and meaning; (b) perceiving oneself as part of something larger; and (c) having a goal in life.		6/6 (High)	12/14 (High)
<b>Crisis of Meaning:</b> The degree of suffering from a lack of meaning, emptiness, frustrations, and without goals.		6/6 (Low)	11/14 (Low)

## FINDINGS AND ARGUMENT

There are several ways in which employees' sense of meaning and its sources may differ in state owned and private companies. One of those ways of thinking is by theorizing about the different nature of governmental organizations compared to private organizations. For this purpose, there are at least three theoretical frameworks that seem to justify the assumption of this different nature. First, the nature of organization is arguably dependent upon the assumption(s) about the nature of human beings in organizations. To the extent where assumptions about human nature shape the kinds of organizations that exist, it can be theorized that there are fundamental differences in the nature of state owned versus private companies. People's fundamental needs and values can be argued to help shape the variety of organizations that exist. Second, the attraction-selection-attrition perspective asserts that "similar" people would eventually make up the organizations (Schneider, 1985). For the case being studied here, this entails that there are different characteristics of people (e.g. motives, values, behaviors) that make up these two organizational entities. Third, the society has already been structured in a way that would give rise to the idea that the government has a specific set of functions that fundamentally differ from that of the corporation. In other words, information about the differences between the government and the corporation has gone through a social construction process that leads to the belief in the differences. Taken together, we can assert that people may have different sources of motivation that lead them to work in governmental versus corporate organizations.

With respect to the political and social systems in Indonesia, too often, state-owned enterprises characterize by unclear or conflicting objectives, lack of transparency, concise corporate communications, and a desire to avoid comparisons with the private sector. The environment in the state-owned companies is perceived by their employees to be staid, hierarchical, and bureaucratic. Since career progression is often based on tenure rather than performance, employees with potential skills may see little reason to shine. In another side, most state-owned companies give higher levels of financial security to the employees while private companies give higher levels of financial opportunities. Work environment in private companies challenges their employees to work on projects with a broad impact, to experience the possibility of pursuing careers based on their performance (Nugroho & Wrihatnolo, 2008). Those different conditions may build the same level of sense of meaning, but different in their source of meaning. Employees in state owned companies may have order and horizontal as well as vertical self-transcendence as their source of meaning. Meanwhile, Employees in private companies may have self-actualization as well as well-being and relatedness as their source of meaning.

Based on SoMe concept, Table 2 shows the same level of meaningfulness among employees in state owned and private companies. According to our survey, all employees from state owned companies and almost all employees from private companies have high level of meaningfulness and low level of crisis in meaning. These preliminary findings support previous research that suggested work itself is associated with higher level of meaningfulness and lower level of crisis in meaning (Allan, Duffy, & Douglass, 2015; Savickas, 1997; Danielle, 2012). As long as individuals have jobs that support their financial as well as social security, their sense of meaning will not be disturbed. Of course this argument still need to be tested using more rigorous methodologies and larger sample size in various companies.

Table 2 also shows different source of meaning between employees in state owned and private companies. Employees in state owned companies tend to have morality and explicit religiosity as their source of meaning. Meanwhile, employees in private companies tend to have love as their source of meaning. With higher level of stability and hierarchy in their organization, employees in state owned companies may work comply to the rules and regulations. Most of those companies also use religious activities as the way to taking care of their employees' morality. Dissimilar with state owned companies, employees in private companies have freedom to balance their work and life as well as enjoying life's pleasures in privacy and company.

## CONCLUSIONS

Based on literature review and our qualitative data, we conclude that employees from state owned and private companies have the same level of meaningfulness, but their sources of meaning are different. The employees from state-owned companies have higher source of meaning in morality, and external religiosity, but less in love. These findings still need to be confirmed using quantitative study with bigger sample size.

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## **Implementing Key Account Management: THE MISSING FRAMEWORK FOR MANAGING CHANGE PROCESS**

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### **EXTENDED ABSTRACT**

With the proliferation of key account management (KAM) for the past three decades, starting late 1970's and early 1980's, academics attention on business-to-business (B2B) sales-marketing has shifted to key account management. KAM is a B2B seller initiated form of strategic alliance between buyer and seller. Much research has taken place to study KAM, and it's implementation. None of the extant research is actually providing a specific method to use in implementing KAM. As a solution, this research proposes the use Kotter's 8 step change process as an integrated part of guiding the change process of implementing KAM. Soft system action research is considered best suited to study this applicability.

**Keywords:** Key account management, Kotter's change process, implementation, SSM action research

### **INTRODUCTION**

For strategic business reasons, companies went through buyer-seller relationship, sourcing part of its operations to another business or simply procuring it needs from another business, creating the market of business-to-business (B2B). B2B studies urged the importance of buyer and seller productive and enduring relationship. Through improved understanding of customer (buyer) needs and proper relationship conducts, both buyer and seller will enjoy the reduction of uncertainty, more manageable dependencies between buyer-seller and reduction of overall costs (Cannon & Perreault, 1999). Millman and Wilson (1995) recognize the need to have a special relationship between buyer and seller as the urgency to form a strategic alliance between the two. Key account management (KAM) is one of seller initiated form of strategic alliance (Millman & Wilson, 1995).

KAM can be seen as a significant organizational change in sales-marketing, an evolutionary process from a product-focused to a customer-focused organizational structure (Homburg, Workman Jr, & Jensen, 2000). Existing organization structures and processes are modified, and the special unit is established to cater strategically important customers with adapted offerings based on customer specific needs (Pardo, Ivens, & Wilson, 2014). This change is not limited to operational sales-marketing only but rather as strategic management initiative that has organizational implications beyond sales-marketing function (Wilson & Woodburn, 2014). Especially bearing in mind that KAM implementation requires organization-wide change management process impacting the whole organization infrastructure, from top management through to operational levels (Davies & Ryals, 2009).

Considering such change effort and magnitude of implementing KAM, there is always the danger of failure in implementation. The fact that 70% of any change initiatives would end up in failure (Beer & Nohria, 2000; McKinsey&Company, 2008; Senturia, Flees, & Maceda, 2008), creates the urgency to properly handling the implementation of KAM, especially during the early stage.

Wilson and Woodburn (2014) suggests that KAM failure is not necessarily due to the faults of formal organizational elements such as strategy formulation, structures, system and processes (the 'content'). But among other is due to the lack of commitment (the 'context') and inadequacy of efforts to secure change itself (the 'process') (Wilson & Woodburn, 2014). Effective KAM implementation lies on effective change management on practices, processes, structures and mindsets (Marcos-Cuevas, Nätti, Palo, & Ryals, 2014).

The above should not come surprising, as by the end of 90's, Pardo (1999) has already concluded that both scholars in the US and Europe commonly agreed that KAM problem has much to do with organizational issues. This research believes that KAM implementation problem has much to do with the failure of proper process in managing organizational change.

## LITERATURE REVIEW

Among all scholars trying to understand successful change, Pettigrew (1985) introduced a new mode of analysis that he called as contextualism. With such analysis, to have theoretically sound and practically useful analysis of change, one need to understand the continuous interplay between content, context, and process of the change (Pettigrew, 1985). This is the what, why and how of change.

Pettigrew thinking is in line with Armenakis and Bedeian (1999) as they concluded that content, context and process are the three factors common to all change efforts that can shape outcome of the change. In reviewing selective organizational change literature between 1990 and early 1998, Armenakis and Bedeian (1999) introduces four research themes common to change efforts namely 'content' issues that focus on substance of change, 'context' issues focuses on internal-external conditions of change, 'process' issues that focuses on action taken for change, and 'criterion' issues focuses on assessing outcomes of change. The first three, content-context-process are regarded as the predominant organizational change efforts themes (Armenakis & Bedeian, 1999).

Content refers to areas that change is being examined and specific to the organization (Walker, Armenakis, & Bernerth, 2007). Content is the 'what' in the change initiative that is management and organizational factors relating to performance. Changing the content will, therefore improving organizational effectiveness (Self, Armenakis, & Schraeder, 2007). Context are circumstances that influence organizational effectiveness (Self et al., 2007). Context can simply be seen as the reason 'why' change should take place and these reasons can either be internal or external driven (Pettigrew, 1987). Internal context refers to conditions within company that was materialized when change took place. These conditions will have influence on individual employees beliefs, attitudes, intentions and behavior (Self et al., 2007). External refers to conditions where the company operates as change took place. These conditions are the ones that influence the performance of the organization which will be become the driving factor of the change (Self et al., 2007). This includes economic, political, social and competitive environment.

The change process is regarded as very crucial in securing the success of change. Many organizational leaders failed to take necessary steps in performing change (Bernerth, Armenakis, Feild, & Walker, 2007). This failure could cost them in resistance to change and low commitment to change. Change process refers to change agents' actions during the introduction and implementation of change in which they need to prepare employees beliefs, attitudes, intentions and behavior to adopt the change (Walker et al., 2007). These change agents actions are crucial in affecting employees reaction over change (Self et al., 2007). This process can be at the level of external environment, firm and individual level (Armenakis & Bedeian, 1999). Therefore, the process is how, specific methods used in guiding the change, the phases to secure successful change (Self et al., 2007). The process covers start and end points, change managers, a model of change, formulation/ implementation, role of technology, language, time (Whipp, Rosenfeld, & Pettigrew, 1989).

## METHODS

This research uses archival research strategy by examining extant research on KAM implementation published from 1970 simply due to the nature that KAM study started to foster in 1970. Four databases were used: Proquest, Sciencedirect, Emeraldinsight, and Jstor. The search took place on February 23<sup>rd</sup> 2017 and February 27<sup>th</sup> 2017, limiting to full-text journals articles, and English language.





Key words used to represent key account were a key account, global account, strategic account, large account and national account. The reason for such being is that scholars tend to use these terms interchangeably (Homburg, Workman, & Jensen, 2002). As for organizational change, the terms used were transition, transitioning, change, implement and implementation. This is due to the nature of companies either they implement, transition or changing their traditional sales organization to KAM organization.

To make sure that the above key words are properly capturing all possible literature, the search were done on full text level. Making any single mention of the above keywords in the full-text of the literature, the search engine will capture the article. These keywords then tailored to search string with logic as follow; find any mention in the full text on key account or global account or strategic account or large account or national account. Once found this, filter with any mention of transition or transitioning or change or implement or implementation. Table 1 shows the search result which amounts to 15,874 kind of literatures with possible overlaps among them.

Further filtering took place by focusing on the title, abstract and key words. With such approach, the search has narrowed to the total of 243 which every single literature was reviewed from its full text. In the end,

there are total 43 kind of literatures that can be used as guidance on KAM implementation. These are the total literature that will be further analyzed.

Table 1. Database with used strings and their results.

Database	String used	Result
	all(("key account" OR "global account" OR "strategic account" OR "large account" OR "national account")) AND (transition OR transitioning OR change OR implement OR implementation) AND stype.exact("Scholarly Journals" OR "Trade Journals") AND at.exact("Article") AND la.exact("English") AND pd(>19701231)	4,395
	((("key account" OR "global account" OR "strategic account" OR "large account" OR "national account")) and ((transition OR transitioning OR change OR implement OR implementation)))	9,454
	("key account" OR "global account" OR "strategic account" OR "large account" OR "national account") AND (transition OR transitioning OR change OR implement OR implementation)	685
	((("key account" OR "global account") OR ("large account")) OR ("strategic account")) OR ("national account") AND (((transition OR transitioning) OR (change) OR (implement)) OR (implementation))	1,340
Total	(with possibly overlaps between each databases results)	15,874

## FINDINGS AND ARGUMENT

Using the framework of content, context, and process, all 43 kind of literatures that relate to KAM implementation are further categorized. The result is shown in Table 2 exhibit that there is a research gap in regards to the 'process' part of change.

All literature relating to KAM implementation are focused on content and context, that is the 'what' or object of change and the external-internal factors influencing change. Arguably, none of them are studying on the 'how' to process change to ensure success implementation of KAM.

Among all research on KAM implementation that is very close to change process point of view is Davies and Ryals (2009) on stage model for transitioning to KAM. In their research, they discovered that in implementing KAM, there is a general progression that consists of 4 stages namely introducing KAM, embedding KAM, optimizing KAM and continuous KAM. On each stage, companies are implementing different elements of KAM which requires a certain period before progressing to the next stage.

Table 2. Research on important factors for successful KAM implementation.

KAM	Change elements	Previous Studies
KAM Implementation (organizational change from traditional sales organization to key account management)	Content	Pilon and Hadjielias (2017), B. S. P. D. Ivens, Niersbach, and Pardo (2015), Guesalaga (2014), Vanharanta, J.P. Gilchrist, D. Pressey, and Lenney (2014), Alhussan, Al-Husan, and Fletcher-Chen (2014), Gounaris and Tzempelikos (2014), Pardo, Ivens, and Wilson (2014), Storbacka (2012), Speakman and Ryals (2012), Piercy (2010), Salojärvi and Sainio (2010), Guenzi, Georges, and Pardo (2009), Richards and Jones (2009), Homburg, Droll, and Totzek (2008), Zupancic (2008), Gosselin and Bauwen (2006), Arnett, Macy, and Wilcox (2005), Abratt and Kelly (2002), Schultz and Evans (2002), Ojasalo (2001), Kempeners and van der Hart (1999), Weeks and Stevens (1997), Millman and Wilson (1995)
	Context	B. S. Ivens, Pardo, Niersbach, and Leischnig (2016), Lai and Gelb (2015), Tzempelikos (2015), Pressey, Gilchrist, and Lenney (2014), Wengler, Ehret, and Saab (2006), Sharma (2006), Reisel, Chia, and Maloles iii (2005), Sengupta, Krapfel, and Pusateri (1997)
	Content and Context	Tzempelikos and Gounaris (2015), Murphy and Li (2015), Jean, Sinkovics, Kim, and Lew (2015), Guenzi and Storbacka (2015), Wilson and Woodburn (2014), Marcos-Cuevas, Nätti, Palo, and Ryals (2014), Salojärvi, Saarenketo, and Puumalainen (2013), Davies and Ryals (2009), Ryals and Humphries (2007) Brady (2004), Workman Jr, Homburg, and Jensen (2003), Napolitano (1997)
	Process	No research available

Reviewing from content, context and process point of view, Davies and Ryals (2009) research remain lacking on explaining methods or how change agents are deriving to the change elements as what they prescribe. The research is more focused on explaining what contents and contexts are commonly present on each stage. The research did not encompass the way and steps that change agents took in introducing change which in turn

will affect employee reaction over the change. It is, therefore, their research cannot be categorized as 'change process' research.

Another notable research was made by Guenzi and Storbacka (2015). In their research, they address the issue of KAM implementation by adopting the 7S framework of change management also widely known as The McKinsey 7S Framework (Guenzi & Storbacka, 2015). Yet, like other KAM implementation-related research that has taken place, the research provides a portrayal of where we should be (the 'content' and to some extent the 'context') but not necessarily how to get there (the 'process').

It is therefore concluded, the process of KAM implementation, that is the methods or the how of change agents in bringing the new content and context of KAM, can be safely categorized as research gap. To address this research gap, it is proposed to use Kotter's 8-step of change process also known as change leadership (Kotter, 1995, 1996, 1997, 2015; Kotter & Cohen, 2002; Kotter & Rathgeber, 2005)

The discipline of planned approach of organizational change is rooted in the thinking of Kurt Lewin (1947) with 'changing as three steps' (CATS) or famously known as the simple three-step change model of unfreeze-change-refreeze (Cummings, Bridgman, & Brown, 2016). Despite Lewin's CATS strong influence in the development of change management theories, it has been widely criticized as lacking specific actions required to secure change. In this case, Kotter's 8-step of change is regarded as one of the answers to this critic (Calegari, Sibley, & Turner, 2015). Some critics even praised Kotter's 8-step of change as one of the most prescriptive organizational change (Nitta, Wrobel, Howard, & Jimmerson-Eddings, 2009). Lacking empirical evidence, Kotter's 8-step enjoyed instant success and today remain as a key reference for change management with 4000 times of citation in Google Scholar and the first publication, *Leading Change*, recorded best-selling book ever for its category (Appelbaum, Habashy, Malo, & Shafiq, 2012). A must read for those who plan and implement change (Brisson-Banks, 2010).

Kotter's argued that the process of change should follow the prescribed sequence of 8 steps. To Kotter's word "skipping even a single step or getting too far ahead without a solid base almost always creates problems" (Kotter, 1996). To Kotter's view, skipping steps will not accelerate the process of change. It will only create the illusion of speed, slow the process, or even derail it completely. (Smith, 2011)

This study proposes to use Kotter's sequential steps as a solution to guide KAM implementation process, a research gap that has been identified earlier. Using the methodology of Soft System Methodology, this study believes that an opportunity for adjusting Kotter's eight steps will be possible. This will then create an opportunity to introduce new sequential steps of change process applicable for implementing KAM.

## CONCLUSIONS

**Findings** – Research gap exists in the area of KAM implementation. Much study has been done on the content and context of implementing KAM. No research has taken place to study the process of implementing KAM. The process regarding the specific methods utilized to implement change. To close this gap, it is proposed to use Kotter's 8-step change process is projected to be well suited for proper implementation of KAM. Adjustment on step sequence may be applied to accelerate the change process.

**Expected Practical implications** – Modified Kotter's 8-step change process should become an integrated part of KAM implementation process. Kotter's heavy attention of winning the employee's buy-in is proven crucial in securing proper implementation of KAM.

**Originality/value** – No extant KAM implementation research has study the change process of implementing KAM. None has examined the applicability of Kotter's 8-step change process as a model for implementing KAM. And no published research on KAM has undergone a soft system methodology (SSM) action research (AR) as a mean to provide problem-solving solution.

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# EXAMINING THE ROLE OF MANAGEMENT SUPPORT, MANAGEMENT TRUST AND WORK IN GROUP IN EXPLAINING EMPLOYEE ENGAGEMENT

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## EXTENDED ABSTRACT

The purpose of this study is to determine the factors influencing the employee engagement among staff in College Management Unit. This study was conducted on 110 employees working in various College Management Units at UiTM Shah Alam. The survey included measures of Management Support, Management Trust, Work in Group and also Employee Engagement. Purposive sampling technique was used for this study. These self-administered questionnaires were distributed using the non-probability sampling technique which is purposive sampling. Cronbach's Alpha, Composite Reliability (CR), Outer Weight Loadings, Average Variance Extracted (AVE) (Convergent Validity), Fornell-Larcker Criterion (Discriminant Validity), Standard Beta, T-value, Effect Size ( $f^2$ ) and R Square were employed. The analysis was performed using SmartPLS path model. Results indicate that there is a significant relationship between the exogenous variables and employee engagement. As a result, this study addresses concerns about that lack of academic research on employee engagement within the university colleges and speculation that it might just be yet another management fad.

**Keywords:** : Employee Engagement, Management Support, Management Trust, Work in Group, SmartPLS

## INTRODUCTION

Every organization in Malaysia is competing to survive in the challenging and volatile economic environment (Ramalu & Rashid, 2017). In order to survive, they need pools of excellent, talented and productive human capital to work in organizations. Hence, organizations need to provide public servants with good support from top management, full trust from top management as well as allowing them to work in a group to realize the organization's goal. A number of initiatives were undertaken to improve the efficiency of public service delivery. National Integrity Plan and Integrity Institute of Malaysia were established with the objective to improve governance and work ethics and to prevent misuse of power and curb corruption (Ramalu & Rashid, 2017). To further strengthen the public service delivery, the Malaysian government has introduced the Government Transformation Plan (GTP) and Economic Transformation Programme (ETP) (Mahazril et al., 2012). The focal point in addressing public expectation is the public service employee's job performance and quality of the public service delivery that is fully emphasized by Malaysian government under the 1Malaysia principle: "*People First, Performance Now*". Despite all these efforts, the quality of public service delivery to the public service still failed to achieve the expected result (Siddiquee, 2006) according to Ramalu and Rashid's (2017) claim that there is room for further studies in the area of employee engagement in any government sectors or agencies covering up manufacturing, service, education, mining etc. The purpose of this research was to determine the level of employee engagement by examining the factors; management support, management trust and work in group.

## LITERATURE REVIEW

### EMPLOYEE ENGAGEMENT

One of the first challenges presented in the literature is the variation regarding the definition of employee engagement. MacLeod and Clarke (2009) found as many as fifty different definitions of the term employee engagement. Armstrong (2012); a leading academic in human resources, describes employee engagement as a willingness to go that extra mile. Similarly Cook (2008) defines employee engagement as "*all about the willingness and ability of the employee to give sustained discretionary effort to help their organisation succeed*". Kahn (1990) defines employee engagement as "*the harnessing of organisation members' selves to*

*their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances*". Engagement can lead to a host of positive organisational outcomes such as increased profitability, higher levels of productivity and task performance, customer satisfaction and reduced employee turnover (Rich, Lepine and Crawford, 2010).

### MANAGEMENT SUPPORT

According to a study conducted by Hewitt (2011), management support is a key driver of employee engagement. Employees who do not feel supported at work are also more likely to leave their jobs. Feeling supported and involved is the key to Robinson et al.'s (2004) model of engagement. Management support refers to an employees' beliefs that the organisation values their contributions and cares about their well-being (Rhoades & Eisenberger, 2002). Gupta et al. (2015) carried out a study to identify variables affecting employee engagement in financial organizations in India. According to their results, organizational culture including top management support, colleagues support, human resource practices affects employee engagement and all determinants are positively correlated with employee engagement.

*H1: There will be a significant relationship between management support and employee engagement among College Management Unit employees.*

### MANAGEMENT TRUST

A number of cultural dimensions that likely influence employee engagement have been identified, but management trust has attracted the most research attention. Trust from top management is very important as to ensure the business activity will run smoothly. Managers' trust and integrity have also been found to be one of the top drivers of employee engagement (Gibbons, 2006). Dharmendra and Naveen (2013) managers' trust is the clear contribution of employee engagement and to the organization's performance as they define management trust as the faith and confidence in employees to carry out the task successfully. Other than that, Al-Tit and Hunitie (2015) found positive and significant relationships between management trust and employee engagement.

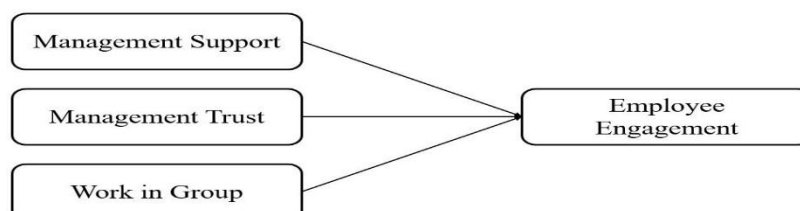
*H2: There will be a significant relationship between management trust and employee engagement among College Management Unit employees.*

### WORK IN GROUP

Hart, Caballero and Cooper (2010) examined both the antecedents and consequences of employee engagement in an academic context. They said, working in groups involve two to three or more members of the organization to generate ideas and implement strategic planning for the organization. They found that the dimensions of employee engagement (individual morale, workgroup, affective commitment, continuous commitment and job involvement) have positive and significant relationship towards employee engagement. Kumar and Swetha (2011) proposed four antecedents of employee engagement and all those antecedents has a significant and positive relationship towards employee engagement namely job characteristics, organizational and supervision support, work in group and rewards and recognition.

*H3: There will be a significant relationship between work in group and employee engagement among College Management Unit employees.*

### PROPOSED MODEL



*Fig 1. Proposed Model*

### METHODOLOGY

The data collected was analyzed using the Smart Partial Least Square (Smart-PLS) and Statistical Package for Social Sciences (SPSS). This study used a five-point Likert scale and the questionnaire was adopted and adapted to fit with the environment of College Management Unit at UiTM Shah Alam. The questionnaire was developed

by Saks (2006) and it was used to measure employee engagement that comprises of five items, questionnaire from Chavda (2004) was used to measure all exogenous Management Support (five items), Management Trust (five items) and Work in Group (five items). The sample size of this study was inspired from Krecjie and Morgan (1970) table. A 6 point Likert-scale ranging from 'strongly agree' to 'strongly disagree' was used to measure the variables in this study. The total number of population in the College Management Unit is 150 staff. Then, the total number sample size determined through Krecjie and Morgan (1970) table is 108. Other than that, researchers also determined the minimum number of sample size by using G\*Power 3.1.9.2 software and the number of sample size determined by this software is 99 respondents. Researcher decided to distribute 130 questionnaires to respondents by using a non-probability sampling which is purposive sampling method. This research comprised of a quantitative cross-sectional survey undertaken with a sample of 130 employees purposely selected from College Management Unit at UiTM Shah Alam. Then, from 130 questionnaires distributed, 110 valid responses were returned for statistical analysis. Thus, it met with the acceptable number of samples in Krecjie and Morgan (1970) table and G\*Power 3.1.9.2 software. The reason why researchers used purposive sampling was to overcome certain issues on sampling frame that arises with the original intention to sample across using the probability sampling technique. Accessing the employees was a limitation of research which warranted into resorting to the decision to use purposive sampling. Data of this study was analyzed using the following steps. Following the recommended two stage analytical procedures by Hair et al. (2014). First, Hair et al. (2014) suggested that after the research model was formed, researcher must test the outer model which is also known as measurement model. The objective of in evaluating the measurement model is to ascertain the measurement items' validity and reliability. Second, the examination of the structural model (hypothesized relationship) also recommended by Hair et al. (2014). Hair et al. (2014) also recommend to test the significance of the path coefficients and the loadings a bootstrapping method by using (500 samples).

## FINDINGS AND ARGUMENT

**Table 1. Demographic Analysis**

Items	Items	Frequency	Cumulative Percent
<b>Highest Education Level</b>	Ph.D	0	0
	Master	2	1.8
	Bachelor	31	28.2
	Diploma	10	9.1
	Certificate	48	43.6
<b>Work Position</b>	Secondary Level	19	17.3
	Top Level Management	9	8.2
	Middle Level Management	34	30.9
	Lower Level Management	67	60.9
<b>Income Level</b>	RM 0 – RM 2000	62	56.4
	RM 2001 – RM 4000	36	32.7
	RM 4001 - above	12	10.9
<b>Gender</b>	Male	71	64.5
	Female	39	35.5

According to the Table 1.0, there are 48 number of Certificate holders followed by Bachelor holders, Secondary Level holders, Diploma holders, Master holders and Ph.D holder which are 31, 19, 10, 2 and 0 number of respondents respectively. Other than that, Lower Level Management are the highest number of respondents involved in this study which are 67 number of respondents followed by Middle Level Management and Top Level Management. Most of respondents are having RM 0 – RM 2000 Income Level. Then, males make up most number of respondents participated in this this study which is 71 number of respondents.

**Table 2. Loadings, Reliability, Fornell-Larcker Criterion, Path Analysis**

Constructs	Items	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
<b>Employee Engagement</b>	EE1	0.835	0.847	0.89	0.623
	EE2	0.801			
	EE3	0.587			
	EE4	0.860			
	EE5	0.832			

	MS1	0.764				
	MS2	0.764				
<b>Management Support</b>	MS3	0.825	0.814	0.855		0.545
	MS4	0.752				
	MS5	0.557				
	MT1	0.874				
<b>Management Trust</b>	MT2	0.832				
	MT3	0.834	0.890	0.919		0.694
	MT4	0.785				
	MT5	0.838				
	WIG1	0.759				
<b>Work in Group</b>	WIG2	0.687				
	WIG3	0.849	0.814	0.869		0.572
	WIG4	0.744				
	WIG5	0.732				
<b>Constructs</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
<b>1. Employee Engagement</b>		<b>0.789</b>				
<b>2. Management Support</b>		0.646	<b>0.738</b>			
<b>3. Management Trust</b>		0.733	0.498	<b>0.833</b>		
<b>4. Work in Group</b>		0.690	0.438	0.761	<b>0.786</b>	
<b>Hypothesis</b>	<b>Constructs</b>	<b>Std. Beta</b>	<b>t-value</b>	<b>Decision</b>	<b>f<sup>2</sup></b>	<b>R<sup>2</sup></b>
<b>H1</b>	Management Support → Employee Engagement	0.353	5.666**	Supported	0.283	
<b>H2</b>	Management Trust → Employee Engagement	0.356	3.347**	Supported	0.150	0.672
<b>H3</b>	Work in Group → Employee Engagement	0.264	2.739**	Supported	0.088	

According to the Table 2, all constructs in this study had the values of standardized loadings larger than 0.50 indicating that they met acceptable standard of loadings (Hair, Hult, Ringle & Sarstedt, 2014). Other than that, the composite reliability of all constructs is above 0.80, indicating that the measurement scale used in this study had high internal consistency (Hair et al., 2014). Likewise, the Cronbach's alpha values also show that all constructs had high internal consistency (Hair et al., 2014). In addition, the values of average variance extracted (AVE) are larger than 0.50 indicating that all constructs met acceptable standard of AVE (Hair et al., 2014). Table 2 also shows the results of Fornell-Larcker Criterion analysis. All constructs had the values of larger than 0.5 and every bold value are above than each of the constructs and this indicates that they met the acceptable standard Fornell-Larcker Criterion value (Barclay, Higgins & Thompson, 1995; Fornell & Larcker, 1981; Henseler et al., 2009). Table 2 also shows that the inclusion of Management Support, Management Trust and Work in Group had contributed 67 percent in the variance of Employee Engagement. In terms of explanatory power of this model, it provides a substantial support for the overall model (Hair et al., 2014). Besides that, Management Support was significantly correlated with Employee Engagement ( $\beta=0.353$ ;  $t=5.666$ ), therefore H1 was supported. This is concluded as the output has met the acceptable standards of t-statistics analysis (Hair et al., 2014). In sum, this result demonstrates that Management Support is an important determinant of Employee Engagement. This finding was aligned with Gupta et al. (2015) which also found management support significantly correlated with employee engagement. Other than that, the value of  $f^2$  for Management Support was 0.283, signifying that the effect size of Management Support was moderate in the hypothesized model (Hair et al., 2014). Then, Management Trust was significantly correlated with Employee Engagement ( $\beta=0.356$ ;  $t=3.347$ ), therefore H2 was supported. This has met the acceptable standards of t-statistics analysis (Hair et al., 2014). In sum, this result demonstrates that Management Trust is an important determinant of Employee Engagement. This finding also was aligned with Al-Tit and Hunitie (2015). Both of them found positive and significant relationship between management trust and employee engagement. Other than that, the value of  $f^2$  for Management Trust was 0.150, signifying that the effect size of Management Trust was moderate in the hypothesized model (Hair et al., 2014). Finally, Work in Group was significantly correlated with Employee Engagement ( $\beta=0.264$ ;  $t=2.739$ ), therefore H3 was supported. This has met the acceptable standards of t-

statistics analysis (Hair et al., 2014). This finding also was aligned with Kumar and Swetha (2011). Both of them found that work in group significantly correlated with employee engagement. In sum, this result demonstrates that Work in Group is an important determinant of Employee Engagement. Other than that, the value of  $f^2$  for Work in Group was 0.088, signifying that the effect size of Work in Group was weak in the hypothesized model (Hair et al., 2014).

## CONCLUSIONS

A number of initiatives were undertaken to improve the efficiency of public service delivery. Among the first initiatives was the establishment of Malaysian Public Complaints Bureau (PCB) in 1971 to ensure an effective and equitable public administration and service delivery to the public (Malaysia Public Complaints Bureau, 2013). Thus, every organization should provide public workers with good support from top management, full trust from top management as well allow them to work in a team as to realize the organization's goal. With that, the employees themselves will be highly motivated in their jobs and this will lead to high performance in their work. Indirectly, this will help the organizations in competing and surviving in a challenging economic environment as well helps to eradicate the public complaints especially among students in public university. Based on the result and discussion of this study, researchers had found the factors that influence and contribute to Employee Engagement among College Management Unit at UiTM Shah Alam. There were significant relationships between Management Support, Management Trust, Work in Group and Employee Engagement among College Management Unit at UiTM Shah Alam and the level of Employee Engagement among staff at College Management Unit of UiTM Shah Alam is substantial.

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# EXPLORING REWARDS, SAFE WORKING ENVIRONMENT AND TEAMWORK IMPACT ON INNOVATION CAPABILITY IN MALAYSIAN OIL AND GAS INDUSTRY

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## EXTENDED ABSTRACT

The main purpose of this paper is to understand the impact of Rewards, Safe Working Environment and Teamwork on Innovation Capability among employees in Oil and Gas industry in Malaysia. These self-administered questionnaires were distributed using the non-probability sampling technique which is convenience sampling. Cronbach's Alpha, Composite Reliability (CR), Outer Weight Loadings, Average Variance Extracted (AVE) (Convergent Validity), Fornell-Larcker Criterion (Discriminant Validity), Standard Beta, T-value, Effect Size ( $f^2$ ) and R Square were employed. Analysis method was performed by using SmartPLS path model analysis. The result shows that all factors were significantly correlated to Innovation Capability. Further, this paper offers discussions and conclusions.

**Keywords:** : Innovation Capability, Rewards, Safe Working Environment, Teamwork, SmartPLS.

## INTRODUCTION

Like all business sectors, the manufacturing sector is affected to the extent of threatening the survival of firms by high level of competition in the market, either locally or globally (Yusr, 2016). According to the Economic Planning Unit EPU under the Prime Minister Department Malaysia, to achieve competitive advantage or improve the competitive abilities, the Malaysian manufacturing sector needs, among others, to enhance its innovation performance (Yusr, 2016; 10<sup>th</sup> Malaysia Plan, 2010). Although the Malaysian manufacturing sector plays an important role in Malaysia's economic growth and contributes approximately 25.1 % of Malaysian Gross Domestic Product (GDP), the performance of this sector has been witnessing a decline since 2010 (10<sup>th</sup> Malaysia Plan, 2010; Ministry of Finance, 2012). According to Tuah, Nadaraja and Jaafar (2009) focusing on improving innovation capability and innovation performance is the best way to enhance the capability, performance and competitive abilities of the Malaysian manufacturing sector. Oil and Gas industry is one of the manufacturing sectors in Malaysia. However, the result of the National Survey of Innovation, 2012–2015 Lau, Yam and Tang (2010) pointed out that innovation capability of the manufacturing sector is low and needs to be reinforced especially among employees in Oil and Gas industry in Malaysia. Moreover, in 2016, more specifically, the World Bank reported that the innovativeness of Malaysian manufacturing companies fled in the period between 2012 and 2015, which clearly indicates that more efforts and studies have to be carried out to improve the innovation performance and also the innovation capability of individual in the manufacturing sector in Malaysia. The purpose of this research was to determine how Innovation Capability would be enhanced by Rewards, Safe Working Environment and Teamwork.

## LITERATURE REVIEW

### INNOVATION CAPABILITY

Innovation capability consists of internal reinforcement procedures and processes. This process is a key mechanism for stimulation, measurement, and reinforcement of innovation (Borjesson & Elmquist, 2011). Many authors consider innovation capability equal with being innovative or even innovative performance of aspects that could be quantitatively assessed. The concept of capability is not a performance parameter but it is an index of preparedness of the individual, employees, firm and the development through innovation forces (Saunila, Ukko & Rantanen, 2014). This research believes innovation capability is a great ability to provide innovative services and products continuously through the organizational and individual capabilities, capacities and

competencies (Saunila & Ukko, 2012). Several researchers have asserted that innovation capability can positively enhance organizations' performance in areas such as finance, market share and innovation (Tuominen & Hyyonen, 2004; Yang, Marlow & Lu, 2009). Furthermore, innovation capability is regarded as an individual's critical capability to deploy skills, with a new idea to create value (Lall, 1992). Moreover, innovation capability is the skill and knowledge needed to effectively absorb, master and improve existing technologies, and to create new ones by workers. Meanwhile, (Yusr, 2016) described innovation capability as critical antecedents to achieve superior innovation performance, which provides the potential for effective innovation performance.

## REWARDS

Rewards can be defined as anything that extrinsically or intrinsically reinforced, maintain and improve the employees' behaviour in an types of extrinsic motivation, which are referred as organization performance, operation and innovation activity (Ong & Teh, 2012; Innovation Value Institute, 2012). Rewards refer to the strategy of recognizing and rewarding employees according to their contribution to innovation (Bukhamsin, 2015). Innovation experts found that rewards are necessary and important to encourage innovation activity (Prajogo & Ahmed, 2006). Employees should be rewarded and recognized for generating creative and innovative ideas (Martinez-Roman, Gamero & Tamayo, 2011). According to Edington and Schultz (2008), a promotion and rewards scheme for individual efforts can result in achieving successful innovation outcomes especially in individual innovation such as the ability to innovate. Most innovative firms set up reward systems that serve as powerful motivators of creative behaviour and thus foster successful innovation activities such as individual innovation capability (Prajogo & Ahmed, 2011).

*H1: There will be a significant relationship between Rewards and Innovation Capability among employees in Oil and Gas industry in Malaysia.*

## SAFE WORKING ENVIRONMENT

According to Law, Chan and Pun (2006) local laws require that industrial actions now have additional responsibilities for industrial safety such as they must toughen the direction of supervision and administration of production safety, and take more active role in preventing and reducing accidents. There more business concerns have been required to identify and assess conducive workplace and full of safety which in turn it increases productivity of employees and also employees can be more innovative (Patricia, Tremblay, Suzanne, Letitia, Elizabeth & Laura, 2013). Other than that, Jiang, Wang and Zhao (2012) found that safe working environment and conducive facilities at workplace contribute to individual innovativeness.

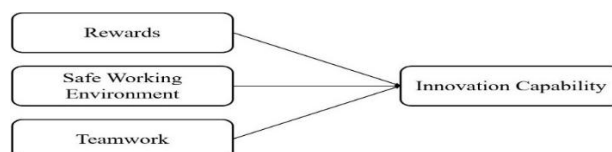
*H2: There will be a significant relationship between Safe Working Environment and Innovation Capability among employees in Oil and Gas industry in Malaysia.*

## TEAMWORK

Teamwork is the factor that comprise of work in group, encouragement to work as a group and organizational culture in teamwork that leads to innovation capability. Recent research supports the role of teamwork for individual innovation (Basadur & Gelade, 2006). Furthermore, the role of knowledge sharing and learning for innovation processes has frequently been highlighted by Richter, Dawson and West (2011) and teamwork contributes to this. Furthermore, teamwork may also benefit creativity because individuals tend to experience positive feelings through teamwork. Other than that, teamwork also can stimulate innovation capability, and improving team and organizational performance (Lin et al., 2012).

*H3: There will be a significant relationship between Teamwork and Innovation Capability among employees in Oil and Gas industry in Malaysia.*

## PROPOSED MODEL



*Fig 1. Proposed Model*

## METHODOLOGY



This study can be considered as a quantitative study because it involved numerical analysis as researchers used SmartPLS software to analyze the data. Surveys were distributed by using questionnaire as an instrument to measure all variables. Time horizon was cross-sectional because it involved the collection of data from a particular sample once only. Self-administered questionnaires were used to collect data from Oil and Gas Company employees. 6 point Likert scale ranging from 'strongly disagree' to 'strongly agree' was used to measure the variables in this study. The survey items were designed to assess respondents' Innovation Capability were adopted from (Chavda, 2008). Perceptions of Rewards are measured using five survey items adopted from (Kankanhalli, Tan & Wei, 2005). Respondent perceptions of Safe Working Environment are measured using five survey items inspired from (Patricia et al., 2013). Five items are used to measure the influence of Teamwork. The survey items were taken from Chavda (2008) and some modifications have been made in order to fit with the organization's specific circumstances. The total estimated population of Oil and Gas Company employees is 501 employees which covers Oil and Gas Company (A), Oil and Gas Company (B) and Oil and Gas Company (C). The sample size was inspired from Krejcie and Morgan (1970) table. So, based on Krejcie and Morgan (1970) table, the sample size of this study is 217 from the total population of 501 in Oil and Gas Company. Other than that, his study also implemented the uses of G\*Power 3.1.9.2 software and the number of minimum sample size determined by this software is 99 respondents. Researchers used non-probability sampling technique which is convenience sampling. Getting access to employees was a limitation of research which warranted resorting to the decision to convenience sampling. Data of this study were analysed using the following steps. Following the recommended two stage analytical procedures by Hair et al. (2014). First, Hair et al. (2014) suggested that after the research model was formed, researchers must test the outer model which is also known as measurement model. The objective of in evaluating the measurement model is to ascertain the measurement items' validity and reliability. Second, the examination of the structural model (hypothesized relationship) also recommended by Hair et al. (2014). Hair et al. (2014) also recommend to test the significance of the path coefficients and the loadings a bootstrapping method by using (500 samples).

## FINDINGS AND ARGUMENT

**Table 1. Demographic Analysis**

Demographic		Frequency	Percentages %
Gender	Male	118	54.4
	Female	99	45.6
Education level	Certificate	8	3.7
	Diploma	11	5.1
	Bachelor Degree	173	79.7
	Master	18	8.3
	Ph.D	7	3.2
Marital Status	Single	84	38.7
	Divorced/Separated/Widowed	5	2.3
	Married	128	59.0
Age	21- 30 years old	88	40.6
	31 – 40 years old	118	54.4
	41 – 50 years old	11	5.1
Length of services	Less than a year	45	20.7
	1 – 5 years	126	58.1
	6 – 10 years	43	19.8
	11 – 5 years	3	1.4

**Table 2. Loadings, Reliability, Fornell-Larcker Criterion, Path Analysis**

Constructs	Items	Loadings	Chronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Innovation Capability	IC1	0.964	0.952	0.967	0.834
	IC2	0.983			
	IC3	0.978			
	IC4	0.526			
	IC5	0.970			
	IC6	0.966			
Rewards	RW1	0.868	0.870	0.906	0.660
	RW2	0.827			
	RW3	0.642			

	RW4	0.871				
	RW5	0.831				
	SWE1	0.551				
	SWE2	0.982				
<b>Safe Working Environment</b>	SWE3	0.977	0.939	0.959	0.831	
	SWE4	0.986				
	SWE5	0.979				
	TW1	0.624				
	TW2	0.979				
<b>Teamwork</b>	TW3	0.986	0.950	0.965	0.851	
	TW4	0.987				
	TW5	0.982				
<hr/>						
<b>Constructs</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
<b>1. Innovation Capability</b>		<b>0.813</b>				
<b>2. Rewards</b>		0.803	<b>0.882</b>			
<b>3. Safe Working Environment</b>		0.791	0.860	<b>0.871</b>		
<b>4. Teamwork</b>		0.791	0.724	0.798	<b>0.823</b>	
<hr/>						
<b>Hypothesis</b>	<b>Constructs</b>	<b>Std. Beta</b>	<b>t-value</b>	<b>Decision</b>	<b>f<sup>2</sup></b>	<b>R<sup>2</sup></b>
<b>H1</b>	<b>Rewards → Innovation Capability</b>	0.422	3.138**	Supported	0.080	
<b>H2</b>	<b>Safe Working Environment → Innovation Capability</b>	0.352	4.194**	Supported	0.074	0.681
<b>H3</b>	<b>Teamwork → Innovation Capability</b>	0.085	2.593**	Supported	0.020	

According to Table 2, all constructs had the values of standardized loadings larger than 0.50 indicating that they met acceptable standard of factor loadings analysis (Hair et al., 2014). Based on the Table 2 the composite reliability for all constructs are above 0.80, indicating that the measurement scale used in this study had high internal consistency (Hair et al., 2014). The value of average variance extracted (AVE) larger than 0.50 indicating that they met acceptable standard of convergent validity (Hair et al., 2014). Table 2. also shows the results of Fornell-Larcker Criterion analysis. All constructs had the values of larger than 0.5 and every bold value are above than each of the constructs and this indicates that they met the acceptable standard Fornell-Larcker Criterion value (Fornell & Larcker, 1981; Hair et al., 2014). Table 2 also shows that the inclusion of Rewards, Safe Working Environment and Teamwork had contributed 68 percent in the variance of Innovation Capability. In terms of explanatory power of this model, it provides a substantial support for the overall model (Hair et al., 2014). Later, Rewards was significantly correlated with Innovation Capability ( $\beta=0.422$ ;  $t=3.138$ ), therefore H1 was supported. This has met the acceptable standards of t-statistics analysis (Hair et al., 2014). In sum, this result demonstrates that Rewards is an important determinant of Innovation Capability. This finding was aligned with Prajogo and Ahmed (2011) which also found Rewards significantly correlated with Innovation Capability. Other than that, the value of effect size ( $f^2$ ) for Rewards was 0.080, signifying that the effect size of Rewards was small in the hypothesized model (Hair et al., 2014). Then, Safe Working Environment was significantly correlated with Innovation Capability ( $\beta=0.352$ ;  $t=4.194$ ), therefore H2 was supported. This has met the acceptable standards of t-statistics analysis (Hair et al., 2014). In sum, this result demonstrates that Safe Working Environment is an important determinant of Innovation Capability. This finding was aligned with Jiang, Wang and Zhao (2012) which also found Safe Working Environment significantly correlated with Innovation Capability. Other than that, the value of effect size ( $f^2$ ) for Safe Working Environment was 0.074, signifying that the effect size of this variable was small in the hypothesized model (Hair et al., 2014). Finally, Teamwork was significantly correlated with Innovation Capability ( $\beta=0.085$ ;  $t=2.593$ ), therefore H3 was supported. This has met the acceptable standards of t-statistics analysis (Hair et al., 2014). This finding was aligned with Lin et al. (2012) which also found Teamwork significantly correlated with Innovation Capability. In sum, this result demonstrates that Teamwork is an important determinant of Innovation Capability. Other than that, the value of ( $f^2$ ) for Teamwork was 0.020, signifying that the effect size of Teamwork was small in the hypothesized model (Hair et al., 2014).

## CONCLUSIONS

Despite the oil and gas industry turmoil, this sector presents a strong contribution to the economy of Malaysia nonetheless. Innovation capability is the essence that would help drive the employees towards greater levels of performance and eventually present as competitive advantages in the markets. If employees fall back on being innovative, they will be less productive in their jobs, and this will have negative results on customers and the bottom line of the company. Based on the result and discussion of this study, researchers had found the factors that influence and contribute to Innovation Capability among Oil and Gas Company employees. There were significant relationships between Rewards, Safe Working Environment and Teamwork and Innovation Capability among Oil and Gas Company employees. It goes without saying that Oil and Gas Company employee has significant relationship when they possess good perks from organization and the results from this study supported this contention. In the future Oil and Gas Company can work towards enriching teamwork as well providing good rewards and safe working environment in the best interest of the company.

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# INVESTIGATING THE MODERATING EFFECT OF TRANSFORMATIONAL LEADERSHIP, JOB DESIGN AND EMPLOYEE ENGAGEMENT ON TECHNOSTRESS AND JOB SATISFACTION AMONG NIGERIAN BANKERS

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## EXTENDED ABSTRACT

A systematic review of literatures revealed that Nigerian banking sector over the years has shifted from the traditional manual banking system to the modern system of banking that involves the use of information communication technology (ICT). However, numerous employees are uncomfortable with the usage of technology as it includes change and vulnerability. Thus, they experience technostress which may affect their job satisfaction. The major aim of this study is to investigate the moderating effect of transformational leadership, job design and employee engagement between technostress and job satisfaction in Nigerian banking sector. The person-environment fit theory is used as underpinning theory for technostress. Other supporting theories include; social exchange theory and Job characteristic model. Findings revealed that technostress can have negative effect on employee job satisfaction and Transformational leadership, job design and employee engagement can moderate the effect of technostress on job satisfaction.

Keywords: Nigeria, Technostress, job satisfaction, Transformational leadership, Job design, Employee engagement.

## INTRODUCTION

Nigerian banking industry, the backbone of the country's economy, has always played a key role in the prevention of economic failure. The banking sector contributed an estimated 3.33 % to the Nigerian GDP, higher than Education (2.77%), Human Health and Social Services (0.68%) and Transportation and storage (1.50%) (National Bureau of Statistics 2017). The yearn for survival, global significance, and sustainability of the market share has resulted in the exploitation of different types of ICT and software throughout the banking sector (Agboola & Olanmi, 2016). However, these rapid changes are having serious effect on employees because it has resulted in technostress which has affected employee's job satisfaction (Odoh, Odigbo, & Onwumere, 2013; Ayagari et al 2011). Technostress is the kind of stress caused by inability to cope with technology in a healthy manner (Brod,1984). Though the public relation theorist ICTs have decreased the workload for employees and essentially enhanced their operational execution, the medical school of thought argued that it has additionally increased work related stress disorder amongst all cadres of employee's (Tarafdar, Pullins, & Ragu-Nathan, 2014). A number of studies had also found specifically negative relationship between technostress and job satisfaction, productivity, performance, and commitment. (Brooks, & Califf, 2017; Suh, & Lee,2017; Alam, 2016). So far, previous studies have introduced various moderator in the study of technostress, however majority of researches have been majorly focused on technology and technically related technostress moderators like technology self-efficacy, technology competence, technical support facilitation, literacy facilitation and so on (Fuglseth and Sørrebø, 2014; Tarafdar et al 2015). Likewise, previous researches have mainly focused on situational variables like technology features ( Tarafdar et al 2015; Ayyagari et al., 2011) few psychological theory personality and self-efficacy (Hung, Chen, & Lin, 2015; Srivastava, Chandra, & Shirish, 2015 ). Far too little attention has been given to other organizational factors like transformational leadership, job design and employee engagement.

ICTs will continue to be an integral part of modern banking system in Nigeria, and the phenomenon of technostress in Nigerian banking sector is understudied. It is therefore essential that this phenomenon, its consequences and possible moderators be understood (Odoh, Odigbo, & Onwumere, 2013). Based on the above discussion, the current study has integrate three theories; transformational leadership, Job design and Employee engagement as moderators between Technostress and job satisfaction for the purpose of enhancing a deeper and

more refined understanding of a causal relationship between Technostress and job satisfaction. Additionally, the three moderators are adopted to enable researcher create a training model and to generating practical information about interventions as well as testing theory in Nigeria context. (MacKinnon, 2011).

## **LITERATURE REVIEW**

### **TECHNOSTRESS CREATORS**

Firstly is "**Techno-overload**" which portrays circumstances where utilization of IS compels experts to work more and work quicker; attempting to accomplish more in less time, and encountering pressure and nervousness. Second is "**Techno-invasion**" which depicts circumstances where experts can possibly be reached anyplace and at whatever time connected because of constant connectivity (Tarafdar et al 2015). Thirdly is "**Techno-complexity**" which portrays circumstances where the sophistication related with ICT compels experts to invest energy and exertion in learning and seeing how to utilize new applications which result in stress. The fourth is "**Techno-insecurity**" which rises in circumstances where employees feel undermined about losing their jobs to other individuals who have a superior comprehension of new Technology. Last of all, is "**Techno-uncertainty**" which alludes to settings where constant changes and upgrades of IS does not allow experts to acquire a base of experience for a specific system or application. They discover this unsettling in light of the fact that their skills and knowledge becomes obsolete. (Tarafdar, Tu, Ragu-Nathan & Ragu-Nathan, 2011).

### **TECHNOSTRESS IN NIGERIAN BANKING CONTEXT**

Banking work is characterized by connecting with other outlets of bank and posting of entries, by using broadband communication technology and computers (Agboola & Olasanmi, 2016). The first characteristic of technology that induces bank workers' technostress is IT complexity. IT complexity is the degree to which the use of ITs for work-related tasks is difficult and challenging (Ragu-Nathan et al., 2008). Due to the competitive nature of the banking sector in Nigeria, majority of updates and changes to application programs occur regularly, and new technological functions and terms become increasingly complicated (Igoun, 2014; Ragu-Nathan et al., 2008). Secondly, techno-invasion is another creator of technostress amongst banking employees which can be caused by IT presentism. IT presentism is the extent to which technology enables users to be reachable (Ayyagari et al., 2011). Electronic connectivity has increased via various types of collaborative application programs, while mobile communication tools force bank workers to process constant information flows from inside and outside their organizations (Yu, 2011; Fonner and Roloff, 2012; Yan, Guo, Lee & Vogel, 2013). Thirdly high level of dependency on technology Workers feel that the higher their dependence on IT use, the more their privacy is infringed upon which referred to as techno-invasion also called the "digital shackle" (Ayyagari et al., 2011). Fifthly, is techno- uncertainty. If the ITs used in a business change frequently banking workers are required to invest time and effort in acquainting themselves with the new IT systems in addition to conducting their regular work on the older systems. Also, they encounter technical problems during the process of learning new IT (Ayyagari et al., 2011). Finally, technology implementation in banking often generates new structures, as processes are reengineered, old task are abolished, and new ones are created (Smollan, 2015). Organizational effects of technology -triggered changes are evident in two ways. Firstly, there is a direct effect, as is visible in ICT-induced changes in the "technical system"-that is, changes in tasks and processes (Weilbach & Matthee, 2016). Second, there is an indirect effect that is evident in changes in the "social system"-that is, in roles, reward systems, and authority structures (Weilbach & Matthee, 2016). Both of these effects can be significant sources of technostress for individuals in the organization and can have adverse effects on individual job satisfaction (Smollan, 2015).

### **METHODOLOGY**

This study employs systematic literature review of secondary data on technostress, job satisfaction, transformational leadership, job design and employee engagement. Considering that the aim of the study is to attain an indepth understanding of already published researches on technostress and job satisfaction, transformational leadership, and job design content analysis was utilized. Content analysis is valuable in organizational research because it allows researchers to recover and scrutinize the shades of organizational behaviors, stakeholder perceptions, and societal trends (Duriau, Reger & Pfarrer, 2007).

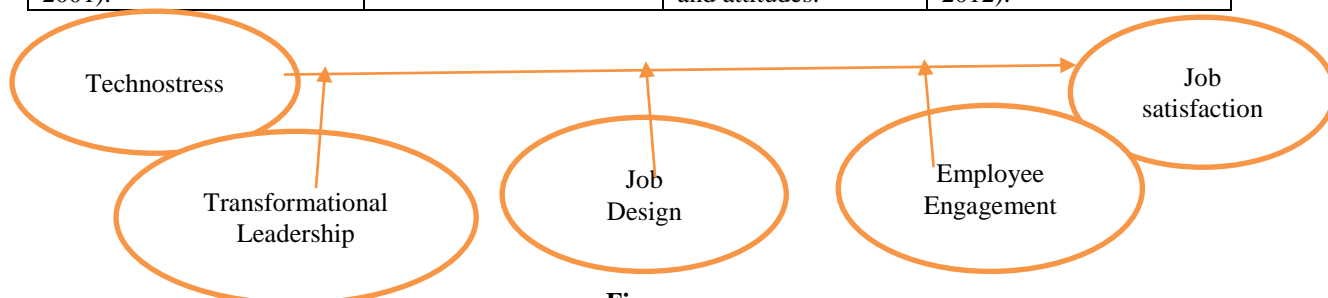
### **FINDINGS AND AURGUMENT**

The systematic review of scholarly literatures on technostress, finding shows that past studies on technostress have been majorly focused on technology and technically related technostress moderators, like technology self-efficacy, technology competence, technical support facilitation, and so on (Yan et al 2013; Fuglseth and Sørrebø, 2014; Tarafdar et al 2015). likewise, previous researches have mainly focused on situational virables like technology features (Fuglseth and Sørrebø 2014; Tarafdar et al 2015; Ayyagari et al., 2011). To bridge the gap inherent in the past studies, this present study has introduced transformational leadership, job design and

employee engagement as a moderating variable between technostress and job satisfaction. The inclusion of moderating variables is aimed at increasing the amount of information on technostress studies by generating practical information about interventions as well as testing theory in Nigeria context. (MacKinnon, 2011).

**Table 1.1 Summary of study variables Supporting Theories and findings**

Variables	Findings	Supporting Theory	Authors
<b>Technostress:</b> Inability to cope with new technology in a healthy manner (Brod, 1984).	Misfit between individual technology attributes could lead to Technostress and decreased job satisfaction.	<b>Person-environment fit theory:</b> Lack of equilibrium between technology and users can lead to stress.	Nguyen, & Borteyrou, 2016; Chuang, Shen, & Judge, 2015; Kaur, & Dubey, 2014; Ayyagari et al., 2011; Ragu-Nathan, Tarafdar, Ragu-Nathan & Tu, 2008).
<b>Job satisfaction:</b> is a sense of pride and inner fulfillment achieved when doing a particular job (Wicker, 2011).	Technostress could lead to job dissatisfaction, job characteristic can moderate the effect of technostress on job satisfaction.	<b>Job characteristic Model:</b> autonomy, skills variety, feedback, task identity and task significance impact job satisfaction.	Ragu-Nathan, Tarafdar, Ragu-Nathan, and Tu 2008; Califf, 2017; Suh, & Lee, 2017; Johari, & Yahya, 2016; Hackman, Oldham and Lawler 2000).
<b>Transformational leadership:</b> reciprocated relationship between the leaders and subordinates while achieving the shared objectives of the organization (Zopiatis & Constanti, 2010).	Leaders are, of course, a potent source of social support and stress buffers in the workplace. Thus, can moderate the effect of technostress on job satisfaction.	<b>Social exchange Theory:</b> positive and fair exchanges relations between two parties result in favorable behaviors and attitudes.	(Kelloway, Turner, Barling, & Loughlin, 2012; Kelloway, & Zhao, Chen, Wang, & Chen, 2016).
<b>Job Design:</b> Job Design is the process of deciding on the contents of a job in terms of its duties and responsibilities (Armstrong, 2003).	Job design can create job satisfaction and reduce job related stress & technostress.	<b>Job characteristic model:</b> Job design can moderate the effect of technostress on job satisfaction.	(Johari, & Yahya, 2016; Siengthai, & Pila-Ngarm, 2016; Jiang, and Khondaker, 2012; Pee & Lee, 2015; Brooks, Califf, 2017).
<b>Employee engagement:</b> type of positive employee behavior that is associated with hard work, delight and enjoyment of duties (Schaufeli and Bakker, 2001).	Ability to deal with a stressful job demand and its positively relationship with good health, and job satisfaction.	<b>Social exchange Theory:</b> positive and fair exchanges relations between two parties result in favorable behaviors and attitudes.	(Britt, Alder & 2001; Saks, 2006; Alarcon & Edwards, 2011; Öcel, 2016; Khuong & Dung, 2015; Sonnentag, Mojza, Demerouti, & Bakker, 2012).



**Figure 1.1 Proposed Conceptual Framework**

## CONCLUSION

Transformational leadership, job design and employee engagement can moderate the effect of technostress on job satisfaction. This study would represent first step of integrating transformational leadership, job design and employee engagement literature in explaining the phenomenon of technostress and job satisfaction. Additionally, within the Nigerian context the issue of technostress amongst banking employees in Nigeria has not been given adequate attention.

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## VALUE ORIENTATION TOWARDS INTEGRITY BEHIND DECISION TO COMMIT ACADEMIC INFRINGEMENT

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### EXTENDED ABSTRACT

Organizational value are essential in organization that animates and characterizes every form of organizational activities including the behavior of its members and the decision-making underlying it. However, deviant behavior often occurs which is not in line with the values held by the organization. The problem is not whether the values are held or not by the individuals within the organization, but rather why they commit to infringement even they know it is prohibited. This fact brings to reflection that it is about how the values are interpreted in value orientation. By employing phenomenological method and Kohlberg's constructivistic theory of moral development stages, this study explored the value orientation towards the value of integrity of a students' decision to cheat or not to cheat. The result indicated that most of the respondents had mindset of egoistic value orientation which is more concerned about the benefits and payback of acting the value of integrity to themselves in making the decision. This becomes a challenge in managing organizational behavior especially in academic institution.

**Keywords:** academic infringement, integrity, organizational value, organizational behavior, value orientation

### INTRODUCTION

The raising awareness toward the importance of integrity has been made it popular research topic for recent years (Kolthoff, Macaulay & Anechiarico, 2013). As the fundamental of organizational culture, the values held by an organization are expected to inspire each individual in the way of thinking, making decisions, and behavior, and finally affects motivation and performance of each individual and the organization itself (Paarlberg & Perry, 2007; McGregor & Doshi, 2015). Many researches also discovered how organizational values influence organizational structure (Kabanoff, et al, 1995; Hinings, et al, 1996), organizational culture (Robins & Coulter, 2005; Gorenak, M. & Košir, S., 2012), organizational identity (Ashforth & Mael, 1989, Aust, 2004), organizational strategy (Bansal, 2003), and especially shape organizational goals as well as how to achieve those goals. Lešnik (in Gorenak & Košir, 2012) argued that organizations make decisions, think what they think is right, have limitations to do, have moral boundaries, trust, rules, etc.

Although literatures explain the importance of organizational values to the organization, there is potential that the values are not well embedded as expected within the individuals (Wisesa, 2010). The same phenomenon also occurs in the academic world in which academic integrity is one of the most important values that every educational institution respects, but in fact cheating as a form of academic infringement still occurs. It is a bitter fact that even students actually know that academic infringement is prohibited, but they still do it. It becomes



bigger problem that this unexpected behavior, which is occurred during the study period in university, has correlation with deviant behavior in the workplace (Sims, 1993; Nonis & Swift, 2001; Lawson, 2004).

## LITERATURE REVIEW

### The Mental Process behind the Action

Action is not simply physical activity but exists because of mental activities behind it (Piaget, 1950/2001, Korsgaard, 2009), both of cognitive and affective aspects. Any action, exists for reason or purpose, and will never exist without a decision to act. Decision-making cannot be separated from the psychological tendencies which leads individual to face a certain decision (Messick & Bazerman, 2001). Without that decision, there would be no structured activity to achieve a goal (Talloo, 2007). Rest (1986) described that ethical decision-making process is generated through four stages: ethical sensitivity, ethical reasoning, ethical motivation, and ethical implementation. The decision is primarily determined by individual's intelligence in reasoning process. Deciding is not a random selection process, but it is based on accurate reasoning with regard to relevant principles in the reasoning stage. How a person makes a decision reflects what he knows about the world. How he perceives the world affect how he acts including his motivations in acting (Oyserman, Elmore, Smith, 2012).

### Value Orientation

Every conscious action is the result of cognitive and affective process (Piaget, 1950/2001). However, making decision itself is not enough to move a person to act. It requires propulsion in order to make the decision to be an action that is motivation (Rest, 1986). It encourages a person to perform certain actions or behaviors (Spector, 2006). The motivation itself exists because of values. Every action is done because a person sees value on the action that leads to the fulfilment of a particular need. That need is a motive that drives action (Piaget, 1968). Thus, all actions are moved because there is a need of an object in a person (Piaget, 1952). An object becomes a value for a person because the object has the potential to meet his needs. Since the needs of a person may differ from the others, one same object can have different value for different persons. It explains why two persons can have different views and attitudes toward one same object of value. It also explains why two different persons can have different motivations even the action they conduct is same (Wisesa, 2016). How the object seen as value in a person's value system is defined by value orientation.

### Value Orientation in Decision Making Process

Value orientation brings individual to awareness of what is good from an object; a condition that determines whether an object is good to be pursued (as value). It determines how a person sees a value as a result of cognitive and affective response to the object that has very strong relevance with the construction of intelligence, and it is well reflected in the theory of Moral Development by Lawrence Kohlberg (1981). How a person acts when he is facing moral dilemma is the result of complex interactions between variables such as individual characteristics (including values) and the stage of moral development (Robbins, 2005). There are levels and stages in cognitive development that affects human's ability in building ethical justification for his action. The result is typology of moral development, which consists of two pre-conventional stages, two conventional stages, and two post-conventional stages as can be seen in Table 1. Altogether there are six stages of development that show particular moral thinking, different views of socio-moral world (Crain, 1985).

The theory explains how moral intelligence is constructively developed and how it determines person's ability to perform ethical reasoning. The value orientation itself underlies this reasoning, which the reasoning reflects how the person sees and places a value (that becomes consideration) in front of his needs. Value orientation explains how a value can serve a person to meet his needs. As the decision is directed to the fulfilment of needs, it means that the act of the decision is directed to a certain "good" because it serves to fulfil the needs, whether they are of punishment avoidance, self-interest, close friends, social order, rights, or universal moral values.

**Table 10 Stages of Moral Development**

Level of Moral Development	Stage of Reasoning
Preconventional	<i>Stage 1:</i> Right is obedience to power and avoidance of punishment
	<i>Stage 2:</i> Right is taking responsibility and leaving others to be responsible for themselves
Conventional	<i>Stage 3:</i> Right is being considerate: "uphold the values of other adolescents and adults' rules of society"
	<i>Stage 4:</i> Right is being good, with the values and norms of family and society at large

Postconventional	<i>Stage 5: Right is finding inner “universal rights” balance between self-rights and societal rules – a social contract</i>
	<i>Stage 6: Right is based on a higher order of applying principles to all human-kind; being non-judgmental and respecting all human life</i>

*Reference: Kohlberg, 1986: 57-58 (with adaptation)*

## RESEARCH METHODOLOGY

This study employed phenomenological method aimed at discovering the understanding and meanings of decision behind cheating and not-cheating behavior as a phenomenon of academic infringement. The respondents are students of a business management school in Indonesia. The sample were chosen from undergraduate classes of 2014 and 2016 and graduate class of 2016 to see their comparisons. The study analyzed the reason made by the respondents in simulated dilemmatic situations. Data collection was conducted through two steps. The first step was by open-ended questionnaire containing a dilemmatic story following Kohlberg's method and with guidelines provided by Arbuthnot and Faust (1980). The data obtained were transcendental-phenomenologically reduced and then texturally and structurally analyzed using Kohlberg's typology to discover the meanings from the phenomenon. The second step was by in-depth interviews with the students to understand their perception of the value of integrity within educational institution.

## FINDINGS AND ARGUMENT

442 valid responses from three different groups were analyzed. The analysis was focused on the mode of the way of thinking shown in the given response which illustrates how the student orientates the value of integrity especially related to cheating. Table 2 shows that most respondents in all groups use the mindset of second stage of Kohlberg's moral development stages. It suggests that most respondents see integrity and academic honesty in egoistic point of view, how that value can bring benefits or harm to themselves and lead to the achievement of their self-interest. The needs for self-interest becomes standard for decision to cheat or not to cheat.

**Table 2. Mapping of Value Orientation**

Value Orientation	Undergraduate class of 2014	Undergraduate class of 2016	Graduate class of 2016
Punishment & Obedience	24.69%	21.43%	8.24%
Instrumental Relativist	44.44%	46.94%	68.24%
Interpersonal Concordance	8.02%	13.27%	8.24%
Law & Order	6.79%	8.67%	1.18%
Rights & Social Order	6.17%	8.67%	4.71%
Universal Ethical Principle	8.64%	1.02%	9.41%

The placement of the value of integrity as a means to avoid punishment consistently occupies the second ranks in the undergraduate group, but not in the graduate group, indicating the need to avoid punishment may be less significant for graduate students than undergraduate students. Respondents who have value orientation towards close friend/group, consider integrity and honesty as value as long as both are relevant to the social bond with their close friend/group, either fellow students or family, tend to follow what their peers are doing.

Almost all of the rest of the respondents, who are oriented to universal rules, rights, and moral values, choose not to cheat. Their mindsets are dominated by the awareness of their role as students, the rules, appreciation of other's works etc. When they decide to cheat, it is based on the principle of mutualism and consideration of respective rights. Orientation towards universal moral values is translated as commitment to principle in which they have no other reason beside the principle per se to explain why they decide to cheat or not to cheat.

Textural analysis shows modes of reasoning that reflect the dominant value orientation influencing their decision in perceiving the value of integrity and honesty related to academic life as can be seen in table 3.

**Table 3. Value Orientation towards Academic Integrity**

Value Orientation	Modes of Reasoning
Punishment & Obedience	Avoiding sanctions/punishment
	Distracting attention on other things, e.g. blaming the situation

	Not seeing or acknowledging that the actions taken affect others
	Nothing wrong with the action
Instrumental Relativist	Considering the benefits of action, including pride
	Comparing the efforts and the risks occurred from the decision
	The decision taken depends on the circumstances
	The own-self is the most important measure of whether a decision is taken, regardless whether it impacts other people or not
	Making use of other people for own-self benefit
Interpersonal Concordance	Considering close-person's (e.g. parents) exhortation or advice
	Seeing what other people are doing
	Thinking about what close-person feels to take an action
	Considering pressure of close person/group
Law & Order	Understanding his status and role (as a student) as part of the society
	Emphasizing the attention and adherence to the rules and norms of social institution (education)
	Considering what public may say of his actions
	Emphasizing the obligations and responsibilities as student
	Considering whether the action violate the religious rules (sin)
Rights & Social Order	Paying attention to the rights existence, either to others or to themselves
	Considering rewards for efforts made by other people
	Considering whether the action harms to other people
	Emphasizing property rights
Universal Ethical Principle	Emphasizing commitment to value or principle as terminal value
	Expressing empathy that puts itself in the position of other people (golden rule)
	Considering justice, and treating the others fairly and equally
	Emphasizing integrity: conformity and coherence between commitment to certain values and principles as well as actions

## CONCLUSION

Every people acts based on values that he perceives and underlies the reason to act. The decision of students to cheat or not is based on a variety of reasons, not merely about academic grade. Honest acts are not always for the honesty itself as value, but how students perceive it depend on their value orientation towards the value. Most respondents oriented the value of integrity and honesty to the fulfilment of own-self-interest. Most of the rest orientates their view on sanction/punishment. The rest perceive the value of integrity and honesty from the perspective of rules and their position as students, consideration of rights, and as a terminal-valued principle.

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## AN ASSESSMENT OF EXEMPLARY LEADERSHIP AT PT INDUSTRI TELEKOMUNIKASI INDONESIA (INTI)

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### EXTENDED ABSTRACT

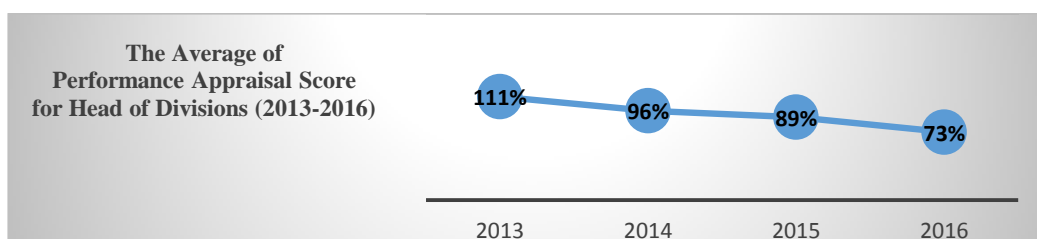
The main business issues are the declining of leaders' performance during 2013-2016 and the result of employees' satisfaction survey in terms of supervision-human relation and authority at PT INTI. Therefore, there are two objectives of conducting this research. First, measures and analyzes the current leadership level in PT INTI. Second, provides solutions or action plans to develop the leadership for PT Industri Telekomunikasi Indonesia (INTI). The leadership will be researched with Exemplary Leadership by Kouzes and Posner, which being chosen as it is most relevant to modern company, knowledge worker, and human capital paradigm. This research obtained that current leadership score for PT INTI is on 4th rank and expected score of leadership is on 7th rank as the highest rank in this research. The highest factor of leadership is Enabler Others to Act and the lowest factor is Inspire a Shared Vision. The top importance factor is Encourage the Heart and the least importance factor is Inspire a share vision. According to those research finding, the proposed solution for PT INTI are: leadership training, couching and monitoring, assessment, wall of fame, grand meeting, material sharing and best employees.

**Keywords:** *leadership, exemplary leadership, generation characteristic, leadership development.*

## INTRODUCTION

Since the formal establishment at 30 December 1974, PT INTI has experienced many challenges in business. PT INTI ever became the leading market for 60% of telecommunication equipment in Indonesia and even initiated collaborations with some Multi-National Companies ( PT. Industri Telekomunikasi Indonesia, 2015). But unfortunately, monetary crisis during 1997-1998 and era of smartphone caused a big impact for PT INTI. It was the beginning of the declining both financial and company performance. At the end of 2016, there were some important business issues in PT INTI which listed below:

1. Business issues that refer to the leadership at PT INTI.
  - a) The results of performance appraisal for head of divisions are getting lower during 2013-2016.



**Figure 1** Performance appraisal score for head of division

- b) There are twenty dimensions of employee satisfaction survey at PT INTI and the result of survey during 2015-2016 shows that:

- Supervision - human relations is the third lowest dimensions (above the dimension of compensation and recognition). The definition of supervision - human relations dimension in employee satisfaction survey is "The way my boss handles his men".
  - Authority is the fourth lowest dimensions by 2015 and fifth lowest by 2016. The definition of authority dimensions is "The chance to tell other people what to do".
2. During 2014-2016, the result of company performance called as KPKU (Kriteria Penilaian Kinerja Unggul) is maintain at the same level which is the second lowest in the maturity level (total = 8 levels).
  3. Suffered financial loss during 2013-2015. Target realization for profit is 0.75% and target realization for sales is 17.59% by 2015.
  4. Based on interview with one of senior employee, he remember that Irfan Setiaputra, former CEO of PT INTI during 2009-2012 said that "Not developing people is the big mistake while PT INTI stood in victorious." Therefore, to get back to the victorious, it requires the evaluation of people development.
  5. Early 2017, the newly president director brings a new strategic including the transformation of vision, mission and company structure. As the result, the changing of direction has been well made for the next years, but the next question is "*Who will make this strategic well realized?*" It certainly needs the whole resources of PT INTI. But again, "*Who will drive those whole existing resources?*"

The first business issues shows clearly that leaders' performances (head of division) were continuously declining during 2013-2016. Moreover, the problem related to the leadership has been slightly detected by employee satisfaction survey. Besides, company's performance during 2014-2016 was in second lowest level on KPKU and company suffered financial loss during 2013-2015. Three years of financial declining were very likely decreasing employees' motivation including the leaders' itself. Therefore, the necessity of people who able to come up with this situation are very principal. Besides that, Irfan Setiaputra as one of ex-directors issued the problem in people development. Besides that, the transformation of PT INTI requires the whole of resources to create effective and efficient realization. Moreover, it requires the drivers and the creator of the transformation. It should be people who stands in the front line in purpose to face this situation, make a forward movement and influence others behind to win the war.

Refer to those issues, it is the main reasons in conducting a research regarding leadership as the reliable resources who have to influence movement beyond any others. Therefore, objectives of this research are:

1. Measure and analyze the current leadership level in PT INTI.
2. Provide solutions or action plans to develop the leadership for PT INTI.

In order to focus on important issues and sharp to get the solutions, these are the limitations of this research:

1. The object of research is PT Industri Telekomunikasi Indonesia (INTI).
2. The assessed leaders are started from supervisor until top management.
3. The respondent is full time employees of PT INTI both staff and leaders.
4. Research focus on leadership measurement with Exemplary Leadership model by Kouzes and Posner.
5. Generation characteristic survey is intend for supportive data for author to generate solution.

## LITERATURE REVIEW

Exemplary Leadership by Kouzes and Posner will be used to measure and analyze the leadership. It was chosen as it is the most relevant to modern company, knowledge worker, and human capital paradigm. As supportive data, author will also conduct assessment of Generational Characteristics in order to gain more information data of employees' needs. The result of those measurements will become the foundation of solutions.

Leadership is one of the most interested discussions in the world. Of all times, many people conduct the research of leadership, implement it for personal life, preach it on ceremony, train it on organization, develop it for company needs, and many more. Kouzes and Posner develop Exemplary Leadership as a set of answers for current business requirements which invoke leaders in organization to done extraordinary things through people mobilization. Their research repeatedly discovered that leadership is not a private gift for certain people. The ability to lead comes from an ordinary man who bring the best out of themselves and others around. Therefore, Kouzes and Posner looked for the learned factors to be a leader since 1983 (Kouzes & Posner, 2007), it means that the model is already used more than 30 years but it still as relevant as the first researched was conducted. Exemplary Leadership is one of leadership models that already test in time and also in various areas of business. This model has 5 factors of leadership including: Model the Way, Inspired a Share Vision, Challenge the Process, Enable Other to Act, and Encourage Heart.

Refer to Model the Way, define value, communicate value, live in value, reinforce value, and seek feedback are the first criteria to be a leader (Kouzes & Posner, 2007). Similar to Inspire a Shared Vision, other research obtained that vision sharing through various ways is one of leaders' responsibilities in company (Grusenmeyer, 2009). More than responsibility, a catalytic leaders require a people who can imagine positive future –vision, purpose, mission, legacy, dream, or calling-

whatever it said, the point is same. Refer to Encourage the Heart, leaders need to creative and succeed in giving recognition in order to preserve people in company's vision (Kouzes & Posner, 2007). Moreover, leadership is not intent to produce consistency, but intent to produce movement (Kotter, 1990). Similar to Challenge the Process, Bolman declare in his book that a leader need to be brave enough take a role as a risk taker instead of constantly playing in rationality (Lee G. Bolman, 2003). Refer to Enable Other to Act, a set of respect, involvement, learning, development and authority sharing are the practices required (Kouzes & Posner, 2007).

## METHODS

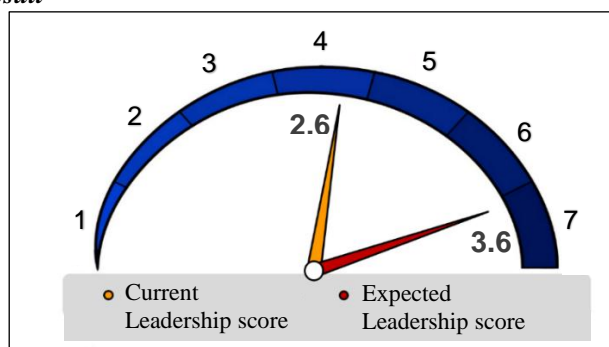
This research combine two methodologies, both qualitative and quantitative method. The qualitative method is used for validate the result of quantitative research and gaining the root causes through in-depth interview. Participant for interviews are 4 leaders and 1 senior employees at PT INTI. And for the quantitative method, author used paper based survey with collection period since 3 April 2017 until 20 April 2017. Respondents for this survey are full-time employees in PT INTI. There are two weaknesses for making employees as assessor related to the result of this assessment which are: First, based on expert judgment, most of SOEs employees have leniency error; second, based on discussion with some manager from PT INTI, there are exist the leniency error in their engagement survey.

Sampling method that author used is probability sampling methods which uses mathematical base to decide the element of sampling and allowing the calculation of sampling error. Based on Slovin's formula, sample size required for PT INTI is 84 with the error interval is 10%. Total questions listed in survey for this research is 47 questions which is divided into four parts including:

1. General Information Survey
2. Generational Characteristics Survey developed by T. Sesangthong for his Capstone Project (Sesangthong, 2009)
3. Leadership Assessment based on Kouzes and Posner which is developed by two sources: Stellar Leadership (Stellar Leadership, 2017) and Leadership Challenge a Wiley Brand (Kouzes & Posner, LPI 360 Feedback Report - English, 2017)
4. Open-Comment.

## FINDING AND ARGUMENT

### *Leadership Assessment Result*



**Figure 2 Current vs. Expected vs. Target Score**

This research use Exemplary Leadership by Kouzes and Posner for assessing the current and expected leadership at PT INTI. Score of current leadership in PT INTI is 2.67 or fell in 4th level. The highest factor is Enable Others to Act and the lowest is Inspire a Shared Vision. The lowest practices is excited about future, communicates positive outlook, and recognizes contributions. The score of expected condition of leadership is 3.68 or fell in the 7th level. Standard deviation of expected leadership is lower than current's. It means that the expected condition about leadership in the future is likely more uniform. The top important factor is Encourage the Heart and least important factor is Inspire a Shared of Vision. Top important practices for based on employees perception is confidence in working, milestones celebration, and ensures the use of standard. Gap within current score and expected score is 1.0 or 3 level of leadership. It means that leaders in PT INTI have not met the expectation yet. The furthest gap for factors is Inspired a Shared Vision and the closest gap is Enables Other to Act.

**Table 1 The highest, lowest, top important and least important factor**

4 Highlighted Factors			
Highest	Enable Others to Act	Encourages the Heart	Top Important
Lowest	Inspire a Shared Vision	Inspired a Shared Vision	Least Important

Based on demography analysis, there are some important findings. Employees who is under 38 year old expecting higher leadership compared to the older employees. Employees from High School - Diploma expect higher condition of leadership compare to higher education background. It probably happen due to length of service of employees with lower education background are mostly more than 15 years at PT INTI. Employees which have position as leader expects higher condition of leadership compared with staffs'. And gap condition between current and expected leadership are experienced larger by female employees rather than male.

Based on the interview there are some causes which lead to current leadership do not reach the expectation. First, during 2014-2015, there was no leadership training at PT INTI due to the financial capacity that could not provide leadership training consultant and also the unpreparedness of internal team to create the internal leadership training. Fortunately in 2016, it was re-held and organized by Human Capital division for supervisor as the lowest level of leadership. In order to minimize cost, the leadership training used internal curriculum and internal trainers.

There is some leadership practices that becomes the spotlight of gap based on interview. It is refer to the commitment of leaders in monitoring work progress and the usage of standard operating procedure (SOP). First, there are some issues that some employees can report similar contents in regularly meeting but the leader did not aware. Second, some issues that refer to less commitment of leaders to execute and monitor the content of evaluation. Third, some issues of work process which did not follow the SOP or even the lateness in creating the SOP. The result of research also shows that Ensure the Use of Standard is one of top important practices based on employees' perception. Those several issues effect on inaccuracy of planning, addition of unexpected cost, and deceleration of work progress. Besides that, these condition have high probability to bring the dominos effect in leadership style at PT INTI. These things become the foundation of leadership training, monitoring, and coaching as the business solutions. Fresh ideas are inviting trainers from others SOE, weekly monitoring and the usage of leadership dashboard.

In the past, Indonesian knows that PT INTI is one of SOEs that has strong financial performances. Refer to Encourage the Heart as the top important factor, that condition makes PT INTI accustomed to use tangible rewards to recognize and appreciate employees. The declining of current financial performance affected to the capacity in giving the tangible rewards. Moreover, PT INTI has lack of intangible reward, both from the Human Resources management itself and also the ability of leaders to initiate intangible rewards in workplace. These became the foundation of Best Employees, Wall of Fame, and Celebrate Milestone as the business solutions. The fresh idea is the usage of intangible rewards for recognizing and appreciating employees.

According to Inspire a Shared Vision as the lowest and least important factor, there are some cases which made leaders confused with the direction. First, the shifting business from manufacture industry to engineering solution business by 2012. Second, the classification of as defense and high-technology SOE, whereas PT INTI has long history is in telecommunication industry. Besides that, the situation of financial crisis at PT INTI indirectly forces employees to think about how they can make profit today rather than think about the future. Otherwise, it makes leaders at PT INTI focus on the practices of how people can bring contribution today. That is why Enable Other to Act is the highest factor for leadership at PT INTI. These become the foundation of Material Sharing and Grand Meeting as the business solutions. Fresh ideas are the implementation of Inspired a Shared Vision and the announcement company's achievement.

### ***Generation Survey Result***

Based on Generational Survey, 48% employees of PT INTI have characteristic of Baby Boomer, 43% Traditionalist and 10% Generation X. There are exist different preference of leadership style based on 3 different group of generation characteristics. Traditionalist prefer simple and clear direction. Baby boomer prefer collegial and consensual. Generation X prefer competent and straightforward. Besides, there are an oddity refer to the situation that no one has characteristic of Millennial whereas PT INTI has more than 200 employees in the age of Millennial. Based on interview, there are exist problems within generations that were suspected as one of reasons many young employees resigned. And the rest of young employees are likely growing to be similar with the major generation.

## **CONCLUSION**

This research use Exemplary Leadership by Kouzes and Posner for assessing the current and expected leadership at PT INTI. Current leadership score in PT INTI is 2.67 or fell in 4th level. Expected leadership score is 3.68 or fell in the 7th level which has 1.0 score gap and 3 level of gap from the current leadership score. Top important factor is Encourage the Heart. Lowest and least important factor is Inspired a Shared of Vision.

There are several root-causes that being obtained by conducting interviews. Lack of leadership training during 2014-2015, leadership training only for supervisor level in 2016 and some issues of lack monitoring, disobedience to the rules and the



lateness in creating SOP. Besides that, there are also an issues of clashing within difference generation. These became the foundation of leadership training, monitoring, and coaching as the business solutions. There are also several issues according to Encourage the Heart. Financial condition that cannot provides tangible rewards as much as in the past, accustomed to use tangible rewards and lack of intangible rewards. These became the foundation of Best Employees, Wall of Fame, and Celebrate Milestone as the business solutions. There are also several issues according to Inspired a Shared Vision. Shifting business from manufacturing to engineering solution; government classified PT INTI as defense and high technology SOE; and current situation indirectly forced employees to think about today rather than future. These became the foundation of Material Sharing and Grand Meeting as the business solutions.

Finally, the purpose of eight business solutions are returned back to the business issues. It is intended to increase leaders' performance, company performance, financial performance and employees' satisfaction. Besides that, it is also intended for the development of employees and the prevention of another declining. Refer to business strategic, the integration of these eight business solution is intended to build strong, accurate and solid leadership in creating forward movement of the new strategic of PT INTI's transformation

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## THE MEDIATION EFFECT OF INNOVATION IN SUSTAINABILITY TO THE ORGANIZATIONAL OUTCOMES IN INDONESIA MNCs: A PERSPECTIVE OF PEOPLE-ORGANIZATIONAL FIT

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### EXTENDED ABSTRACT

This study explores the mediation effect of corporate innovation in Sustainability to the organizational outcomes.

Using People-Organisational Fit perspective, the study explores the implication of corporate innovation on sustainability practice to two perspective of fit: Individual and organizational fit and fit perceive due to interpersonal relationship among individuals in the organisation.

Collecting data using qualitative approach from 36 employees at 6 multinational companies operating in Indonesia, this study found that company's innovation in their sustainability agenda could create employees' sense of fulfillment. The interpersonal interaction among individuals who perceive the similar satisfaction to their organization's sustainability program able to develop sense of a meaning work place and sense of community in workplace that effect employee engagement to the organization.

**Keywords:** : Sustainability Innovation, people-organisational fit, MNCs

### INTRODUCTION

Nowadays, every companies worldwide is requested to create innovations toward global mission to become sustainable worlds. Corporations which operate cross countries, such Multinational Corporations (MNCs) face big challenges how to promote their headquarter sustainable program to their subsidiaries that may a contras culture and institutional pressures (Lenssen et al., 2013). This condition effects to how they manage their employee actively engage in sustainability innovation (Biedenbach, Biedenbach, Manzhynski, & Manzhynski, 2016).

Corporate Innovation in sustainability could crated in many approaches. Many study, highlight the company innovation toward sustainability create to their corporate social responsibility(Carroll & Shabana, 2010), another's company call it as a share value program (Porter & Kramar, 2011). Principally, the sustainable initiatives could be identify as a company's strategy and behavior how to create better social and environment in their day to day operation

Studies in organizational behavior consistently demonstrate that employees' work motivation increases when they perceive that their values and beliefs are congruent with that of the organizational culture (Cha, Chang, & Kim, 2014; Chinomona, Dhurup, & Chinomona, 2013; Cooman et al., 2009; Da Silva, Hutcheson, & Wahl, 2010). Furthermore, meta-analysis of this subject has shown that it could create employees perceived fit satisfaction, and intention to stay (Kristof-Brown, Zimmerman, & Johnson, 2005; Lengnick-Hall & Beck, 2005; Ostroff, Shin, & Kinicki, 2005; Verquer, Beehr, & Wagner, 2003).

Employee commitment, satisfaction, and intention to stay are critical factors in the employee-organisation relationship; however, little attention has been paid to understanding the extent to which those aspects are a result of a positive work environment mediated by a sense of compatibility between employees and practices in an organisation. In literature of organisational study, an organisational practice is defined as organisational routines which stress to the "taken for granted" for all member in organisation to involve in (Kostova & Roth, 2002). In other world, the degree of individual employees engagement on the practice is determined by the extent the characters of the practices with their value, knowledge and interest.

I assume, as one of company's expression of their social and environmental awareness, corporate innovation on sustainable initiatives may deliver and be understood as a specific symbol to employees that they link to their values and interpreted through behavior.

Accordingly, this study examines the effect of an organization's innovation on sustainability practices to value congruence between employees and their organization and how it influents employees' work outcomes. Lack study trying to explore factors affect employee engagement on corporate social and environmental programs (Benn, Teo, & Martin, 2015)

This paper is structured as followed. The next sections will discusses the conceptual framework of the study. Followed by methodology outlining, research findings and the last section will presents the discussion and conclusion. It will also highlights some managerial implications and provide suggestions for future research.

## THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

### Individual of Fit predicted factors and its implication

This study describe Individual perceptions of fit to their organisation as a reflection of employees' perception of congruent between their values and their organisation practices (Chinomona et al., 2013; Drengner, Jahn, & Gaus, 2012; Lengnick-Hall & Beck, 2005; Schwochau, Delaney, Jarley, & Fiorito, 1997). In context of corporate innovation in sustainability, It is occurred when employees the perceive that company's sustainable practices reflect their concern or values(Benn et al., 2015).

Every organisational practice has symbolic meanings which will be interpreted by individuals in the organization different ways connected to their believe and knowledge before it is translated in to behavior (Kostova, 1999; Tolbert & Zucker, 1999). On the other words, there is an adaptation process between the introduced values with individual believes before its bear to a real behavior or actions (Benn et al., 2015; Frambach & Schillewaert, 2002; Kennedy & Fiss, 2009).

Studies show that the high degree of acceptance between recipient individual believe with the symbolic meaning of introduced practice will determine the individual learning acceleration and adaptation to the practices (Kostova, 1999). In this context, as a practice in an organization, corporate sustainability agenda will also face a process of value adaptation, the most congruent between embedded values of corporate sustainable program with employees' values and believes, the most positive reaction of employees to the practice. I points assumption is that when sustainable programs gain employee positive reactions, it will also affect to their satisfaction to organization and then may affect to their performance.

Accordingly, this study assumes that when company's social and environmental program are interpreted by employees as reflection of their knowledge and values, their positive perception to the company will increase and it influent to their work outcomes. The connectivity of values may create a psychological attachment between employees and the companies.

### Interpersonal Relationship fit in workplace

The acceleration of acceptance of the program is determined to the extent majority recipients views the introduced programs important. It also determines their degree of engagement in running the practices. Corporate engagement in sustainability initiatives will face an adaptation phrase that create social changes in work via interpersonal relationship fit in workplaces. The success of the adaptation process of a new organizational practice is not solely determined by individual employees but it may involve collective actions of organizational members. (Klein and D'Aunno (1986)) revealed when a group of people found a congruence of values collectively, they will feel a sense of community and identify themselves as a group of people with similar concerns. Lasrado, Arif, and Rizvi (2015) said, support form co-worker is one of key point of employee engagement on environmental initiatives.

One of the forms of this sense of community is the development of friendship networks in workplaces which contribute positive contribution to organizations such as reducing workplace stress, developing effective communication, and increasing intensity of work effort because they feel committed to the group and organisational goals (Klein & D'Aunno, 1986).

Accordingly, the research of this study model could be describe in figure 1

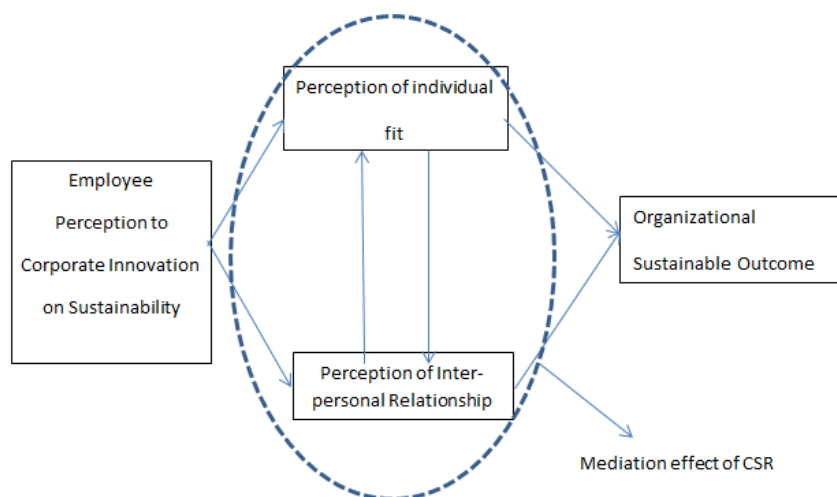


Figure 1. Research model

## METHODOLOGY

To ensure this research was analysed using appropriate data and information, the data and information was collected in two stage. First, I select six MNCs in food manufacture in Indonesia which represent from three different region: America, Asia and Europe. Second, after getting permission from the companies, six employees of each company were interviewed. The employee is selected randomly from various departments.

This study is a qualitative study, by doing interview with 36 employees in total as representative of the MNCs. Independently, all interview data were analyzed using a thematic approach. At this stage, all statements, concepts, actions and other information founded during investigation were searched for particular themes (Braun & Clarke, 2006; Miles & Huberman, 1994; Teddlie & Tashakkori, 2009). Some important statements of interviewees were quoted to support the authors' arguments. There is not specific clarification of the respondents based on their employment. This study analyzed all statement and found some pattern to support

## FINDINGS AND ARGUMENT

This study also confirms that the perception of fit between employees and their organizations is mediated by the employees' perception of fit to corporate innovation in sustainability. The majority of respondents revealed corporate innovation in sustainability could develop their self-awareness and pride at being part of the company. It means innovation in sustainability in an organization have positively influenced their intrinsic job satisfaction. Here below describe how the perception of congruent of corporate innovation in sustainability could contribute positively to organizational performance

**Individual level;** Company's sustainable innovation might contribute to employees' satisfaction when these individuals consider the initiatives are good or important according to their personal frames of references. As described by one of comment below

*"I feel that trainings and seminars provided by my company to support its new policy in environmental initiatives, safe in workplace for example are very useful to support my job. Indeed it also enhance my insights. This is make me happy working here since we are guided well with clear instruction supported with a reasonable reason why we need the policy"* (employee of a US MNC)

Rupp, Ganapathi, Aguilera, and Williams (2006) argued that employee satisfaction is not always because of the benefit they could receive, but could be because employees consider the organization's actions ethically and morally correct and fitting with their personal concerns.

In other words, corporate sustainable initiatives could generate a sense of success in a well-meaning company. Therefore working is not just seek monetary reward, a stable money, income or a challenge, but could give greater meaning to an individual employee's life and the lives of others.

**Group level;** Innovative in corporate sustainability programmers could be a valuable connection among individuals in an organization. Our interviews found that creative sustainable initiatives aimed at disadvantaged members of the community evoked a sense of the similar in value in employees. This collective feeling could tie and enhance individual relationships in the workplace and create a sense of community.

*"I often involved myself in social initiatives conducted by my company. Last year, we had a social event where we built semi-permanent houses for disadvantaged people in a suburb near Bogor. We had 10 groups. Each group contained 10 people from different departments and some participants from outside the company. It was enjoyable and I just realized making a house and being a builder was very difficult. However, our work is rewarded when we see how the people express their gratitude. Helping poor people is part of our religious teaching and it is also part of our tradition of gotong royong. But I just realized that it made me happier to be sensitive toward other people's problems. In addition, we created new friendships. We continuously maintain our spirit of togetherness. I feel closer with them than before"* (Employee of a US MNC).

This study demonstrates that a sense of community in the workplace does not just improve employee self-identity, but also contributes to a positive work environment Bodla, Afza, Ali, and Naeem (2015) revealed that a sense of community in an organization gives a workplace environment a sense of support, freedom of expression, genuine caring and teamwork orientation and increases organizational citizenship behavior among employees.

**Organizational level;** at the level of organization, a perception of fit might create a sense of alignment for an individual with the organization's purpose and mission. The interaction of employees with the company's social purposes might lead to the individual believing that management has appropriate values that benefit others rather than simply working to seek profits.

*"Perhaps the company's reputation was my biggest consideration for staying in my current company. This company has a good reputation as a socially responsible company outside. Who would not be happy working in a company with a good reputation? Many people dream of working here"* (Employee of a US MNC).

Alignment with organizational goals and psychological closeness among employees are identified by Ashforth and Mael (1989) as one of antecedent factors of social identification. These two aspects would likely increase the tendency of employees to categorize themselves with the organization or develop an emotional relationship. Furthermore, the perception

of fit between also provides a sense of support from the organization. When employees perceive that company social and environmental practices accommodate their concerns and social interests, they feel they are receiving support from the organization.

## CONCLUSIONS

Drawing from the above discussions, this study believe corporate innovation in sustainability is a practice that might generate multiple positive outcomes for organizational performance. So, the corporate sustainability agenda can enrich positive organizational culture and morale. So it could become a form of a company's competitive advantage (Branco & Rodrigues, 2006).

As conclusion, this study finding contribute to theoretical and practical issues. In term of theoretical aspect, it provides new insight how innovation in sustainability could effect to employee behavior in work place and how it work to support the organization toward the global challenge of sustainability. Practically, the business organization should not consider the sustainability challenge as a pressure to their organization, but also as intangible asset how to move forward every element organization to achieve the sustainable development goals. An organization should look at its self as agent of change to bring entire world become more sustainable.

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# INDUSTRY EVOLUTION IN JAPAN FROM A BUSINESS ENTITY PERSPECTIVE: A LITERATURE REVIEW

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## EXTENDED ABSTRACT

The evolution of technologies driven by the needs of consumer to achieve a better lifestyle has led the industrial societies to introduce innovation and invention with low cost and short production cycle thus effecting for the factory's design, setup and operation. As a result, 'Industrie 4.0' was introduced in 2011 for German's economic to be based on high-tech strategies and have since been implemented in developed countries. However, despite of many benefits that can be retrieved and successful examples of implementing Industrie 4.0 in Germany, industrial societies in Japan, a developed country, shows a high percentage of unreadiness towards implementing and accepting the Industrie 4.0 concept compared to its peer countries, Germany and USA. Furthermore, these industrial societies have a low expectation on the impact of Industrie 4.0 towards their business model compared to the USA. Hence, this paper aims to identify the factors that impact the acceptance rate of Industrie 4.0 in Japan and how will they maintain their competitive advantage from a business entity perspective.

**Keywords:** Industrie 4.0, economic development, industrial revolution, path dependency

## INTRODUCTION

Since the 1970s until 1980s, lean adoption was the enabler with Toyota Production System (TPS) widely adopted by the western regions. Outsourcing allowed greater profitability in the 1990s by deploying low-skill manufacturer to low cost countries (LCC) but the trend began to shrink by 2000s with the increase in labour and freight cost (Wee, Kelly, Cattel, & Breunig, 2015). Moreover, these traditional productivities lever which were once at the top of the hierarchy are now widely exhausted thus generating pressure on industrial societies to increase and explore new opportunities to boost their productivities and the current trend is 'Industrie 4.0'. In simple word, 'Industrie 4.0' represents a paradigm shift from 'centralized' to 'decentralized' production – made possible by technological advances which constitute a reversal of conventional production process logic.

As developing countries develop further, the diversification of needs and uncertainty of technological advances become more pronounced and the power of connectedness to other companies would become crucial alongside individual company competitiveness (Vasja Roblek, Maja Meško, 2016). It was also stated by (Dominici, Roblek, Abbate, & Tani, 2016) that through the development and integration of the individual person in the use of 'Industrie 4.0's components have driven the changes in consumer's behaviour related to Industrie 4.0. This has placed pressure to the organizations to understand on how connected consumers can serve as a critical foundation for an organization to identify customer's opinion and sociodemographic and psychological factors that influence their decision making in regard to using connected products (Vasja Roblek, Maja Meško, 2016).

However, based on McKinsey Industry 4.0 Global Expert Survey 2015 (Wee et al., 2015), among the developed countries themselves they show uneven percentage level of unreadiness towards adapting Industrie 4.0, particularly Japan. The result also shows that companies from Japan have low expectation on the impact of Industry 4.0 on their business model compared to companies in its peer countries such as US and Germany.

Fewer discussion on how will a firm maintain its competitiveness upon escaping lock-ins, in terms of barriers for entering 'Industrie 4.0' has led to the following research objectives;

1. To investigate the current obstacle faced by Japanese firms in their effort to adapt 'Industrie 4.0' concept
2. To identify the method of escaping the lock-ins in adapting 'Industrie 4.0'
3. To identify the approach that will be taken by the Japanese firms in order to maintain their competitiveness upon adapting 'Industrie 4.0'

## LITERATURE REVIEW

### EVOLUTIONARY THEORY

The modern revival of interest by economists in an evolutionary theory of technical change derives largely from a series of articles by Richard R. Nelson and Sidney G. Winter in the mid- 1970 (Nelson, Richard R. and Winter, 1973), (Richard R. Nelson and Sidney G. Winter, 1974), (Nelson, Richard R. and Winter, 1975), (Nelson, Richard R. and Winter, 1977), (Nelson, Richard R., Winter, Sidney G. and Schuette, 1976). The Nelson-Winter evolutionary model jettisons much of what they consider to be the excess baggage of the neoclassical microeconomic model -'the global objective function, the well-defined choice set, and the maximising choice rationalisation of firms actions' (Nelson, R., Winter, 1982).

The two fundamental mechanisms in the Nelson-Winter models are the search for better techniques and the selection of successful innovations by the market. The activities leading to technical change are (a) local search for technical innovations, (b) imitation of the practices of other firms, and (c) satisficing economic behaviour (Vernon W . Ruttan, 1997).

The strength of the evolutionary model is that it builds on the behavioural theory of the firm in an attempt to provide a more realistic description of the internal working of the black box. It allows the researcher to construct artificial worlds in which to explore the implications of complex but plausible assumptions about firm behaviour or interactions between the firm and its environment (Vernon W . Ruttan, 1997).

In the early models fixed behavioural patterns or routines - for production activities, personnel action, and determination of product mix, plant expansion, research and development - dominate normal decision making. In later models, Nelson and Winter develop a 'search and selection' process that incorporates, at least in a limited way, elements of rational choice. In one such model they explore the effects of relative price changes on changes in the distribution of the firm's search effort (Vernon W . Ruttan, 1997)

The Nelson and Winter evolutionary approach has not, however, become a productive source of empirical research. The results of the various simulations are defended as plausible in terms of the stylised facts of industrial organisation and of firm, sector, and macroeconomic growth. It is possible that the reason for the lack of empirical testing is that the simulation methodology lends itself to the easy proliferation of plausible results. At present, the evolutionary approach must be regarded as a 'point of view' rather than as a theory (Arrow, 1995).

### PATH DEPENDENCY CONCEPT

The concept of path dependency used in social science has a number of different meanings, but a common thread is a critical perspective on traditional efficiency arguments (Marie-Laure Djelic, 2007). The weak form of path dependency is simply the general idea "what has happened at an earlier point in time will affect the possible outcomes of a sequence of events occurring at a later point in time (Sewell, 1996). This soft version of path dependency is present either explicitly or implicitly in history and in some social scientific work with a historical focus. It does little more than acknowledge that contemporary behaviour is constrained by the aggregation of past actions and decisions and that 'innovation' is in a sense bounded (Weir, 1992).

The path dependency tradition in economics and political science, on the other hand, has much stronger theoretical claim. Stated by (Mahoney, 2008), "path dependence characterizes specifically those historical sequences in which contingent events set into motion institutional patterns or event chain that have deterministic properties." This concept of path dependency implies that equilibrium is stable and highly deterministic, but also temporary. At some point, the path will come to an end and a new set of contingent events will provoke a radical and partly unexpected reorientation (Marie-Laure Djelic, 2007). (Schreyögg, G., Sydow, J., & Koch, 2003) further specify that path dependency only exists if increasing returns generate a momentum that gradually limits the range of possible behaviors of the actors involved until a lock-in ultimately occurs. However, the concept of technological lock in, at least in the hands of its more rigorous practitioners, applies only to network technologies characterized by increasing returns to scale. In industries with constant or decreasing returns to scale historical lock in does not apply (Vernon W . Ruttan, 1997). Alternatively, decreasing returns may lead to path transformation or facilitate the creation of a new path (Marie-Laure Djelic, 2007).

The strength of the path dependence model lies in the insistence of its practitioners on the importance of the specific sequence of micro-level historical events (Vernon W . Ruttan, 1997). In this view current choices of techniques become the link through which prevailing economic conditions may influence the future dimensions of technology and knowledge (Vernon W . Ruttan, 1997).

### INDUSTRY REVOLUTION: INDUSTRIE 4.0

The phenomenon of Industrie 4.0 was first proposed in 2011 in Germany as a proposal of a new concept of German economic policy based on high-tech strategies (Mosconi, 2014). The German federal government supported the idea by announcing that Industrie 4.0 will be an integral part of its "High-Tech Strategy 2020 for Germany" initiative, aiming at technological innovation leadership. The term 'Industrie 4.0' is used for the next industrial revolution; fourth technological revolution - which is about to take place right now. This industrial revolution has been preceded by three other industrial revolutions in the history of mankind. The first industrial revolution was the introduction of mechanical production facilities starting in the second half of the 18th century and being intensified throughout the entire 19th century. From the 1870s on, electrification and the division of labor (i.e. Taylorism) led to the second industrial revolution. The third industrial



revolution, also called “the digital revolution”, set in around the 1970s, when advanced electronics and information technology developed further the automation of production processes (Hermann, M.; Pentek, T.; Otto, 2015).

Industrie 4.0 is based on four key components; cyber-physical systems (CPS, connections between the real and virtual world), the Internet of Technology (IoT), the Internet of Services (IoS), and the smart factory (Roblek, Meško, & Krapež, 2016). It allows a continuous interaction and exchange of information not only between humans (C2C) and human and machine (C2M) but also between the machines themselves (M2M) (Cooper & James, 2009) which includes analytics, additive manufacturing, robotics, high performance computing, artificial intelligence, cognitive technologies, advanced material and augmented reality to drive the physical act of manufacturing (Vasja Roblek, Maja Meško, 2016).

The digitalization that includes the internet and mobile technologies has also helped bring about the changes of established business models (Roblek, Pejić Bach, Meško, & Bertoneclj, 2013), (Zoroja, 2015). Manufacturers of IT products or services took the opportunity of the global interconnectivity of economic and social activities to stimulate its demand through technology platforms such as the internet, mobility and sensor system (Bauer. H, Patel. M, 2014). Each object can potentially be connected and networked hence leading to the requirement of a different way of thinking and business model involving the internet and connectivity (Pejić Bach, 2014).

Existing literature suggested that the rise and expansion of Industrie 4.0 are based on the assumption of increasing global urbanization (Roblek et al., 2013). Demographic changes are also becoming a challenge for urban renewal and development, which will have to enable the infrastructure of residents for ensuring their quality of life and sustainable orientation (Etezadzadeh, 2016), (Nahtigal & Bertoneclj, 2013).

In response to German’s announcing Industrie 4.0 as an integral part of its ‘High-Tech Strategy 2020 for Germany’ initiative, ‘Industrie 4.0 Working Group’ was then formed and developed first recommendations for implementation, published by (Kagermann, H., Wahlser, W., 2013). In this publication, visions of Industrie 4.0 was described as follows; “In the future, businesses will establish global networks that incorporate their machinery, warehousing systems and production facilities in the shape of Cyber-Physical Systems (CPS). In the manufacturing environment, these CPS comprise smart machines, storage systems and production facilities capable of autonomously exchanging information, triggering actions and controlling each other independently. This facilitates fundamental improvements to the industrial processes involved in manufacturing, engineering, material usage and supply chain and life cycle management. The Smart Factories that are already beginning to appear employ a completely new approach to production. Smart products are uniquely identifiable, may be located at all times and know their own history, current status and alternative routes to achieving their target state. The embedded manufacturing systems are vertically networked with business processes within factories and enterprises and horizontally connected to disperse value networks that can be managed in real time – from the moment an order is placed right through to outbound logistics. In addition, they both enable and require end-to-end engineering across the entire value chain.” (p. 5). Based on that vision, the “Plattform Industrie 4.0” developed further recommendations on how to implement the vision (Kagermann, H., Wahlser, W., 2013).

## **FINDINGS AND ARGUMENT**

Existing literature review suggested that there can be no question that technical change, identified as Industrie 4.0 in this argument, is path dependent in the sense that it evolves from earlier technological development (Vernon W . Ruttan, 1997). However, it is obvious that the differences in productivity levels and rates of growth cannot be overcome by simple transfer of capital and technology (Vernon W . Ruttan, 1997). Furthermore, Industrie 4.0 is revolving at an exponential pace and disturbing almost every industries all countries as shown in Figure 1. Hence, the asymmetries between firms and between countries in resource endowments and in scientific and technological capabilities are not easily overcome even among developed countries.

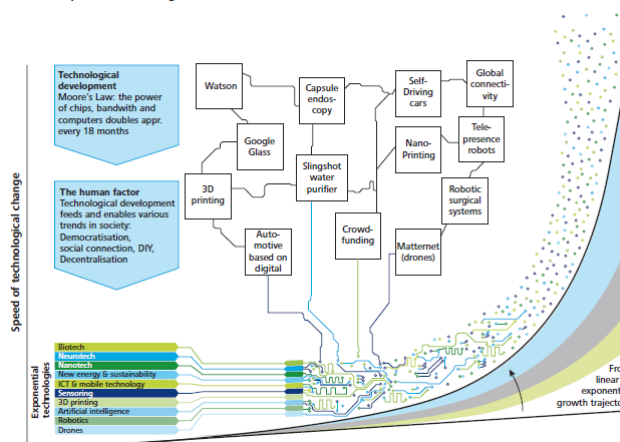
Chart 3. Exponential technologies<sup>3</sup>

Figure 1: Exponential Technologies

Source: Industry 4.0 Challenges and solutions for the digital transformation and use of exponential technologies, Deloitte Report

This brings back to the strength of Japanese manufacturing industries which was generated through the processes of competition between companies and refinement of their technology and system, as reported by Ministry of Economic, Trade and Industry in 2015. Their strength resulted from “individual optimization”. However, Industrie 4.0 represents and requires a shift to “overall optimization” and from “noncooperation” to “collaboration” which will demand drastic change of the Japanese mentality.

Furthermore, Japanese technologies have been described to suffer a Galapagos syndrome with technologies developed strictly for the Japanese market, in lieu with existing global standards. Such standards which is only suitable for domestic market, is shutting out foreign competition to enter the Japanese market and have also limited the possibility for the technologies to be exported to foreign countries as these technologies are not compatible or appealing in foreign market. Hence, by implementing Industrie 4.0, Japan industry societies will be able to sustain their domestic competitiveness whilst reigniting their international competitiveness.

## CONCLUSIONS

For Japan in particular, where the impact of the falling birth rate and aging population are becoming more evident, these efforts to create intelligent “systems”, and their coordination and collaboration that encompass various fields aside from the manufacturing industry, are extremely important for shaping economic growth and a healthy, long-lived society, which will lead to further social transformation toward realizing an abundant society in which each individual can live a vigorous life. Such endeavours will also spur the spreading of the fruits of science and technology, such as ‘Industrie 4.0’, into fields and domains that have not been adequately reached until now, and is expected to enhance business strength and improve the quality of service.

Hence, it is important for the Japanese industrial society to drive themselves to escape from the lock-in mind-set towards the digitalization of manufacturing that will fundamentally change their way of living, thinking, working and relating to one another through collaboration between industry, academia and government. However, improper action taken to overcome this mind-set may result to an isolation for the industry societies itself.

Furthermore, the term ‘Industrie 4.0’ is not well-known outside the German-speaking area (Lasi et al, 2014), it is worth to look at comparable ideas and adaptation from a global perspective particularly Japan who have introduced the ‘Society 5.0’ concept that would be worth for further research as a continuation to the implementation of ‘Industrie 4.0’ in developed countries which may also influence Japanese investment policy or practice in their dominant presence in foreign countries, particularly in ASEAN countries (i.e. Malaysia, Indonesia, Vietnam etc.)

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## DESIGNING DIGITAL LEARNING EXPERIENCE FOR SCHOOL OF BUSINESS AND MANAGEMENT (SBM) ITB

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### ABSTRACT

People use digital technology and media because get easiness and efficiency in many activities, including learning activities of students in higher education institution. In future learning predictions, digital learning will growth significantly because students expect their study more flexible and efficient through digital experience and depend on digital technology and media. Many higher education institutions will adopt digital learning in their learning activities. Especially in Indonesia, rapidly growth of digital technology and media aligned with usage of digital technology and media devices, which people more often use internet in their daily activities. School of Business and Management (SBM) ITB as one of the best business school in Indonesia must have awareness of digital learning growth and demand from community, and implement it through the best digital learning design appropriate with stakeholders expectation. In designing digital learning for SBM ITB, first step is determine digital learning framework which consists of two parts: internal and external environment of SBM ITB. Research methodology in this research is quantitative through online survey and qualitative through focus group discussion with students and depth interview with staff and management of SBM ITB. Analysis of this research use SWOT analysis, TOWS matrix, and Porter's five forces analysis. Based on online survey and interview result and also analysis result of internal and external environment, the best design of digital learning for SBM ITB is blended learning collaborate with internal and external organizations. Blended learning implement through 80% face-to-face learning and 20% online learning. Face-to-face learning still effective in learning activities at SBM ITB and online learning conducted through several learning activities which enables implement by SBM ITB without lack human interaction between students and lecturers.

*Keywords : blended learning, digital technology and media, digital learning, external environment, internal environment*

# INFORMATION SHARING BEHAVIOR IN SOCIAL NETWORKING SITES AND FIRM'S EXPECTED OUTCOME: A SYSTEM DYNAMIC APPROACH

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## EXTENDED ABSTRACT

Social media, in recent years, has become an unseparable part in human being's daily life; as people becoming more attached to their smartphone to help them pull off their activities. As the use of social media is getting heavier, it is not uncommon to see firms use social media to communicate with their customers, be it a part of their customer relationship management or channels for firms to administer their marketing stimuli. Seeing this phenomena, research on social media flourishes ubiquitously, but still very few firms are able to manage their social media to achieve their expected outcome. The aim of this research is to analyze a complex system of online information sharing behaviors of SNSs users to be further incorporated into how these informations can be used to achieve firm's expected outcome. To accomplish this goal, the research addresses two primary objectives; which are to identify the key variables determining SNSs users information sharing behavior and operationalize these variables with existing empirical research studies and grounded theories, and to calibrate a system dynamic model, using real data, in order to check the adequacy of the model as a representation of the dynamics how they occur in reality.

**Keywords:** : system dynamics, expected outcome, social media, information sharing behavior, social networking sites (SNS)

## INTRODUCTION

A strong brand created value to organization and further benefit in the marketplace. A strong brand that formulate powerful associations in the mind of customers over time can help customers recover information archived in their minds to make decisions, providing reasons to acquire the product (Aaker, 1992 on Toldos-Romero et al. pp. 464). However, to formulate those powerful associations, marketers need more than just a tool, thus making marketing communication strategy is important.

Marketing communications are the means by which firms attempt to inform, persuade and remind consumers— directly or indirectly — about the products and brands they sell. Marketing communications represent the 'voice' of the company and its brands and are a means by which it can establish a dialogue and build relationships with and among consumers (Keller, 2005)

It was not an easy task to create marketing communication strategy; marketers need to consider the effectiveness of it and evaluate whether the given investment of such strategy is actually contributes benefits to the organization. The recent inclusion of social media as a key focal point for an organisation's core communication strategy is an area of considerable

industry and academic interest (Holm, 2006; Khang et al., 2012; Mangold and Faulds, 2009; Weinberg and Pehlivan, 2011; restated in Kilgour et al., 2015). Social media has huge potential value as a diffusion network. If corporations can stimulate consumers to diffuse their message, then this message is not only likely to be perceived as a more credible source of information (a social rather than a commercial source), but the relationship status of the sender passes to the message (Kilgour et al., 2015).

As to today's, the inclusion of social media would be advantageous to marketers at it was said to be more cost effective rather than the other tools. Social media also said to be more leaping in reaching more customers, making them an interesting approach to be used in corporate's marketing communication strategy.

As the benefits of social media are becoming obvious, creating business values for firm and organizations by creating more timely and direct operation and collaboration for people to get connected and share their information/knowledge with each other, the knowledge on how to effectively sharing information on social media sites is critical for social media providers to generate business benefits (Lin, 2015).

Studying information sharing behavior in social networking sites (SNS) can be used to assess the use of SNS effectiveness. Through understanding information sharing behavior of SNSs users, firms would be able to effectively engage itself with their targeted users or potential customers, able to know how to use social media to disseminate information to their targeted customers in a more efficient way, and able to determine what kind of content that would have higher probability to be shared by their targeted customers thus enabling such content to be spread more widely.

However, even though understanding how users exchange or share information in social media would be beneficial for measuring the effective use of social media, there are still very few research that examine social media users' information sharing behavior (Lin, 2015), moreover using system dynamic approach; which, Pirttilä et al. (2016) stated in their findings, only 3 out of 20 literature they examined used system dynamic approach in social media context.

This study will be conducted using a system dynamic approach. Pirttilä et al. (2016) literature study on evaluating social media use using system thinking approach findings resulted in three reasons on why simulation approaches were used in their studied articles and should be used in the study of social media:

1. The simulation approaches were found to take into account the dynamic nature of social interactions in the evaluation of social media impacts in various different ways that traditional approaches, such as survey-based statistical methods or case studies used in the impact evaluations do not enable;
2. Traditional methods are considered ill-suited to capture changes over time and during measurement; and
3. By making of use of the increased computational power of computers simulation models can be built and infused with the empirical data collected from web and social media that make it fairly easy and most effective to observe dynamic behaviour, whereas with using traditional methods the cost and difficulty of making large-scale observations of dynamic behaviour would be enormous.

As stated previously, understanding SNS users information sharing behavior will benefited firms in many ways; as firms would better understand how to use social media effectively as their marketing tools. Also, understanding of this knowledge could then be developed to cope with the organisational objective or expected outcome, as the decision makers would be able to understand them through analysing the model that identifies which and what factors are most effective in the system's nature. By understanding the model and the variables within, managerial decision could be formulated through the insight resulting from the simulation using system dynamic approach.

## LITERATURE REVIEW

### Social Media: Social Networking Sites

A social media platform serves as the vehicle through which all marketing communication efforts are connected into one easily accessible, integrated customer venue (Castronovo & Huang, 2012). Many researchers and authors defined social media and social media marketing in their own terms. Therefore, the authors will present the summary of those different definition to get the insight of what social media really is and how they incorporated into the terms of social media marketing. The summary is retrieved from Chanthinok et al. (2015) and is presented in Table 1.

**Table 1. Summary of social media and social media marketing definitions**

Author(s)	Term	Definitions
Zolkepli & Kamarulzaman (2015: 190)	Social media	A group of internet-based applications that are built on the ideological and technological foundations of Web 2.0.
Carr et al. (2014: 1)	Social media	An array of platforms that allow people to interact, create, share, and/or exchange information and ideas in virtual communities and networks.
Daj (2013: 16)	Social media	The term commonly given to websites, online tools, and other interactive communication technologies which allow users to interact with each other in some way, either by sharing information, opinions, knowledge, or interests
Strokes (2009: 350)	Social media	The media that is published, created, and shared by individuals on the internet, such as blogs,

Dahnil et al (2014: 124)	Social media marketing	images, video and others. Using the social media technology in order to conduct a firm's marketing activities
Barker et al. (2013: 3)	Social media marketing	Using of social networks, online communities, blogs, wikis or any other online collaborative media for marketing, sales, public relations and customers service
Evans (2010: 231)	Social media marketing	A philosophy and a business strategy, supported by a technology platform, business rules, workflow, processes and social characteristics, designed to engage the customer in a collaborative conversation in order to provide mutually beneficial value in a trusted and transparent business environment. It's the company's response to the customer's ownership of the conversation.
Weinberg (2009: 3)	Social media marketing	The process that empowers individuals to promote their websites, products, r services through online social channels and tap into a much larger community that may not have been available via traditional channels.

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*Reference: Chanthinok et al. (2015)*

Mangold & Faulds (2009) in Chanthinok et al. (2015) stated that social media is a part of a promotion mix because it is a component of conventional integrated marketing communication (IMC) tools of which there are two relevant promotional roles in the marketplace. Firstly, social media provides businesses both a dialog and a meeting place with their customers. Secondly, it provides customers an opportunity to discuss with one another by which that marketer cannot control the message.

Boyd and Ellison have defined SNS in their paper as "Web Based Services that allow individuals to 1) construct a public or semi-public profile within a bounded system, 2) to articulate a list of other users with whom they share a connection, and 3) view and traverse their list of connections and those made by others within the systems" (Ellison, 2007 restated in Ghafoor & Niazi (2016).

Social networking sites are still considered as being trendy and they have completely changed the face of the virtual world because they have become a universal communication platform and a standard part of marketing communication (Bednář, 2011). Social networking sites are places where users meet and connect to communities with common interests and provide a network of 'friends', and serve primarily as a great crowdsourcing tool (Svatosová, 2012)

Social networking sites currently create the potential for direct and effective two-way communication, allowing marketers to be in constant touch with their customers and get as many views and information from a customer perspective as possible, in order to best define the optimal marketing strategy on social networks and adapt to its customers. However, SNSs have twofold perspective to it, and as a researcher, we have to see them as a whole.

### **Information Sharing Behavior**

Social media, focuses on user-generated content, enable users to share more information with more interactive users; this user-generated content creation and dissemination, in many ways, is analogous to knowledge sharing behavior (Lin, 2015; Law and Ngai, 2008 restated in Kim and Lee, 2015). Knowledge sharing, presumes social interactions between knowledge contributors and receivers, has been defined as voluntary behavior wherein an individual shares his or her acquired knowledge with others (Helmstadter, 2003 in Kim and Lee, 2015).

Existing knowledge sharing literature has been focusing the information sharing in the context of organizational settings, with the recent inclusion of virtual community; given the latter in which information sharing operates somewhat differently, often characterized by anonymity among users. However, unlike professional organizations, SNS users do not work towards common goals, also different from members of virtual communities; because most SNSs require their user's real world identity (Facebook, 2014 in Kim and Lee, 2015). Networks of SNS users vary across users and tend to reflect existing real-life relationships (Boyd and Ellison, 2008 in Kim and Lee, 2015).

Lin (2015) provided a comprehensive perspective on social media users' information-sharing behavior, examining the influence of social media environment and social capital factors on users' information-sharing decision making. She also confirmed that social capital theory could explain online user's information sharing behavior in blog usage and virtual communities. Her findings are beneficial in regards to firms as they would be able to manage individuals' perception by understanding social media user's information sharing behavior.

Kim et al. (2015) drew upon social cognitive theory, a framework for understanding voluntary human behavior, to examined personal and environmental antecedents as predictors of sharing behaviors on SNSs. Their findings indicated that both factors are significant predictors of information sharing behavior on SNSs, and found that users' expectation of positive social outcomes have a significant synergistic effect on sharing activities on SNSs (Kim et al., 2015).

### **Information Sharing Behavior and Firm's Expected Outcome**

Outcome expectations refer to one's expected consequence of his/her own behavior (Lin, 2015). In the context of firms' performance, expected outcome is critical to define what strategy should be used to achieve such particular outcome. Firms'

expected outcome may differ between firms, but generally firms share similar goals, which is to be better in performance compared to their competitors.

The inclusion of social media in firms' businesses, as stated before, has contributed benefits to firms in delivering value to its potential customers. However, firms also shared similar problems regarding the knowledge of social media effective use for their business purposes. Understanding user information behavior may be one solution to address the problem, as by doing so, firms would be able to get insights on how the social media as a system operates regarding its information sharing context; thus, leading firms to derived insights to support their decision making process.

## METHODOLOGY

This research would adopt applied system thinking, system dynamic approach; with two model output that can be used to analyze the research issue, CLD (causal loop diagram) and SFD (stock and flow diagram). System thinking is a discipline for seeing the 'structure's that underlie complex situations, which help simplifies life by helping us to see the deeper patterns lying beneath the events and the details (Senge, 1990 restated in Jackson, 2003). System thinking can be relevant to the design of the effectiveness of social media usage system for the following reasons:

- Dynamic complexity, which align with system thinking aims to identify the dynamic complexity existing in organisations by looking at multiple cause-and-effect relationships over time (Senge, 1999 restated in Kunc, 2008)
- The design of causal relationships should consider the feedback processes existing between the information given by the performance indicators and the likely intervention in the organisation to correct deviations. Causal loop diagrams can illustrate the feedback processes existing between performance indicators and related organisational processes (Kunc, 2008)

The approach of system thinking would be best implemented to more strategic problems by using system dynamics, that would employ the science of feedback, harnessed the power of the modern digital computer, and unlock the secrets of complex and multiple-loop non-linear systems, like social systems (Jackson, 2003).

System dynamics as Forrester (1991, p.5) explains "combines the theory, methods and philosophy needed to analyse the behaviour of systems in not only management, but also in environmental change, politics, economic behaviour, medicine, engineering, and other fields". System dynamics provides a common foundation that when applied, can delivery insights into changes occurring within systems over time by drawing upon concepts from the field of feedback control (Pye & Warren, 2011).

The study of system dynamics is concerned with constructing quantitative and qualitative models of complex problem domains and then investigating the response behaviours of the system models over time. According to Luna-Reyes and Anderson (2003) system dynamics depends heavily on quantitative data to generate feedback models, although the analysis of qualitative data has a role to play at all levels of the modelling challenge. Often the experimentation undertaken with these models demonstrates how unappreciated causal relationships, dynamic complexity and structural delays become within the subject system, which leads to counter-intuitive results of less informed approaches to improving system functionality. Additionally, system dynamic models enable the incorporation of 'soft' factors such as motivation and perception that are advantageous to improved system understanding and management (Caulfield & Maj, 2002 restated in Pye & Warren, 2011). The system dynamic modelling focused on two approach that could be used; causal modelling and stock & flow modelling.

1. **Causal Modelling Approach** — The causal loop approach is particularly useful for representing the dynamic and changeable nature of system and process relationships that are typically difficult to describe verbally, because normal language presents interrelations in linear cause and effect chains, while in the actual system there are circular chains of cause and effect. Furthermore, the modelling of dynamic systems incorporating greater system complexity and interaction together with additional system component relationship is possible with causal loop diagrams (Pye & Warren, 2011)
2. **Stock and Flow Modelling Approach** — Another form of dynamic system modelling that is growing in popularity within business particularly is the stock and flow diagram whose notation consists of three different types of elements, namely, stocks, flows and information. The three elements together in a diagram graphically represent any dynamic process that may be apparent in any business and therefore can be utilised to represent the characteristics of such processes and illustrate the relationship among variables that have the potential to change over time (Kirkwood 2005a).

With that in mind, the authorss proposed four stages research design, with the explanation is as follows:

- Stage 1 will covers the problem identification, generating research questions & research objectives;
- Stage 2 will covers the literature study to define the constructs;
- Stage 3 will be divided into two. After the variables are identified through stage two, it will be generated into causal loop diagram an to be tested in the social media platform using data mining technique. The result of the theory testing would then be used to generate stock and flow diagram, simulation, and scenario development.
- Stage 4 will covers the analysis stages from the results of simulation. At this stage, the results of the research should be able to answer research questions proposed for this research.

## EXPECTED RESULTS



This research result, in the forms of Causal Loop Diagram (CLD), Stock and Flow Diagram (SFD), and simulation results, is expected to prove that assessment of firms performance could be conducted through the effective use of social networking sites. Further, the simulation result is expected to contribute to academicians and practitioners understanding of how different input or marketing stimuli, administered through social media, can make differing results on firms performance. This would be beneficial for marketers to argue that using social media as marketing tools would increase firms' performance. As for managerial implications, the expected results from this study is to be able to review investment should be made regarding social media through assessing how much investment is needed to achieve firms' objective or expected outcome.

To summarize, this study findings would be a beneficial insight to help firms understand better of the SNSs users information sharing behaviors to be further incorporated in their marketing communication strategy to achieve firms' expected outcome. Further, this study result is expected to open the area for further research on social media using system thinking approach.

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## MALAYSIAN CONSUMERS' PERCEPTION TOWARDS MADE-IN CHINA AUTOMOBILE BRAND

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### EXTENDED ABSTRACT

The review of the literature indicates that many consumers tend to associate made-in China products for having low-quality. Nonetheless, there is a limited study on how consumers' perceived the made-in China automobile brand, which represents high involvement product in the consumer buying decision process. The purpose of this study is to assess how Malaysian consumers perceived the made in China automobile brand namely, Chery and what factors influence their perception towards the brand. The factors examined were perceived quality, perceived price and country of origin effect. 300 questionnaires were distributed to Malaysian urban consumers who were working adults using a 'drop-off and collect' method. 292 completed questionnaires were obtained. The findings of the analyses showed that generally, the respondents had positive perception towards Chery. The results of multiple regression analysis indicated that the most dominant predictor to the respondents' perception towards Chery was perceived price. The study also provided a support on the role of country of origin effect on the respondents' perception towards the brand. The managerial implication was discussed in line with the findings and the suggestion for future studies was addressed.

**Keywords:** perception, made-in China brand, high involvement product, Malaysian consumers

### INTRODUCTION

China, an emerging market, represents the world's second largest economy and is increasingly playing an important and influential role in the global economy (World Bank, 2016). In the automotive sector, the introduction of made-in China auto to both local and global marketplace showed the country participation in high technology automotive industries (Alshboul and Wang, 2016). However, the reputation for the "Made in China" is regarded as still needs a long way to earn the customers confidence (Sarwar et al., 2013, p. 153). Generally, consumers' perception towards buying China products, tend to be negative, as most consumers associated Chinese products as having low quality. Most consumers choose to buy Chinese products as they are cheap (Sarwar et al., 2013; Alshboul and Wang, 2016; Schniederjans et. al. 2011; Jap, 2013).

There are advantages to offering products at low price. For instance, in the case of consumer electronic products, the made-in China brands were preferred by consumers as they were cheap. However, as addressed by Wasserman (2010) a wrong decision on product pricing strategy may give bad impact to the brand and may put the firm's business growth on risk. Low price can cause the consumer to simply perceive the product to be cheap with low quality (Wasserman, 2010).

It is not easy to change consumers' perception. For instance, a review of Cato's work (2004) in Alshboul and Wang's (2016) study, demonstrated how the South Korean's automobile brands struggling over years to communicate the value of buying their brand to consumers. Despite the continuous efforts taken in improving the product quality and technology associated with the product, consumers in developed country still regarded the South Korean auto as having low quality and preferences were put more on the brands which come from more advanced economies countries such as USA, Germany, and Japan.

Chery Auto is one of the China automakers. The firm was established in 1997 and the product brand is Chery. As at 2016, Chery models have been exported to over 80 countries (Cherryinternational.com, 2017). Among Chery Auto's top achievements included for the five consecutive years (2006 to 2010), the firm was awarded as "The Most Admired Company in China" by the Fortune Magazine (Cherryinternational.com, 2017). Chery Auto entered the Malaysian market in 2006. Despite being nearly a decade in the Malaysian market, which is regarded as one of emerging markets in the South East Asia, the brand ranked 34<sup>th</sup>, with 0.1% of total market share (MAA 2015; 2016). Among the dominant car brands in the Malaysian automobile industry were the national brands i.e. Proton and Perodua and Japanese brands namely, Honda, Toyota and Nissan (MAA, 2015; 2016).

The previous study on Malaysian consumers indicated that price and product quality were regarded as the most important concern placed by the respondents in buying Chinese products (Sarwar et al., 2013). The same study (Sarwar et al., 2013) recorded that the respondents' perceptions towards buying Chinese products were not significantly influenced by country of origin effect. However, the Chinese products examined in the said study were general. A question on to what extent the findings hold true for made-in China brand of high involvement products remained. Other past studies on 'made-in China' products in Malaysian market also referred to products in general (Maznah et al., 2008; Huang et al., 2016). Assessing the specific product category is important as the existing study (Maznah et al, 2008) showed that the more expensive a product is, the more significance or importance will the consumer attach to its country of origin.

This study aims to examine how consumers in Malaysia perceived Chinese brand in high involvement product segment. In detail, this study was carried out to assess the factors which influence the consumers' perception towards Chinese automobile brand known as Chery. The factors examined are perceived quality, perceived price and country of origin effects. This study focused on Chery's passenger vehicle segments available in the Malaysian market which are: car, sports utility vehicle (SUV) and multi-purpose vehicle (MPV). The respondents for this study were working adults residing in Shah Alam. Instead of general, this study focused on a specific high involvement product i.e. automobile with a specific brand and in specific marketplace setting. It is expected that the study may provide some conceptual and managerial insights into assessing the role of country of origin effects, perceived quality and perceived price on determining the perception of consumers towards an automobile brand in which the brand belongs to a country that is commonly associated with producing cheap and low-quality products.

## LITERATURE REVIEW

Perception is the process whereby stimuli are received and interpreted by the individual and translated into a response (Evans et al., 2006, p. 38). Perception is an important factor in stimulating buying decision, and the matching of perception and expectation will give higher perceived value for the products (Kazmi, 2012). According to Alshboul and Wang (2016), an automobile's price, quality, and benefits are likely to be the first three factors that consumers acknowledge during their decision-making process. In fact, these three aspects, as the core competitiveness of products, are also important for manufacturers.

Consumers always looking for the price as a factor in evaluating the goods and may lead the perception of having it (Anderson et al., 1994). Zeithaml (1988) stated that objective of monetary price was not equal to target price in mind of consumers. Consumers viewpoint based on price define that price is something that consumers perceived and it is more meaningful than monetary price. An appropriate price can enhance the volume of sales, while a wrong pricing strategy can generate problems that have the potential to damage the business (Wasserman, 2010).

According to Aaker (1991), perceived quality can be used as a tool when the company intends in utilizing a pricing strategy with a premium price and further extend the brand in several markets. Garvin's work (1984) highlight the importance of identifying and meeting the product perceived quality both from the consumers and manufacturing's views (Alshboul and Wang, 2016). The product quality framework comprises the basic function of the products, the product's reliability, and the external features. The ability to match the marketing and manufacturing views on product quality may assist the company in producing a product that meets the customers' expectation.

Past studies have shown that many consumers preferred to purchase products which originated or produced by the advanced economy and developed country as the products are associated with high quality (Alshboul and Wang, 2016; Maznah et al., 2008). Less preference or a negative bias towards developing countries' products is often exhibited by consumers in both developed and developing countries (Lantz and Loeb, 1996; Klein et al., 2006; Wang and Chen, 2004). Consumers in developing countries seem to associate themselves with status and pride in buying foreign products, particularly those originating from economically and technologically advanced countries (Klein et al., 2006; Wang and Chen, 2004). Country

of origin effect is frequently used as a cue in evaluating a product that may affect the consumers' perception (Hanzee and Khosrozadeh, 2011; Jap, 2013).

Chinese products were not excluded from this situation. Past study on country of origin effect involving Malaysian consumers (Maznah et al., 2008) indicated that made-in China products were at 8<sup>th</sup> rank of ten countries, after Taiwan. The top three countries in which the products were rated as having the highest quality were Japan, Germany and United States. Noticeably these countries represented developed and advanced technological countries. There is connection between national image and product-country image (Han and Wang, 2015).

Based on the above, the following were hypothesized and the research framework of this study was presented in Figure 1:

H1: Perceived price will significantly effect consumers' perception towards made-in China automobile brand.

H2: Perceived quality will significantly effect consumers' perception towards made-in China automobile brand.

H3: Country of origin effect will significantly effect consumers' perception towards made-in China automobile brand.

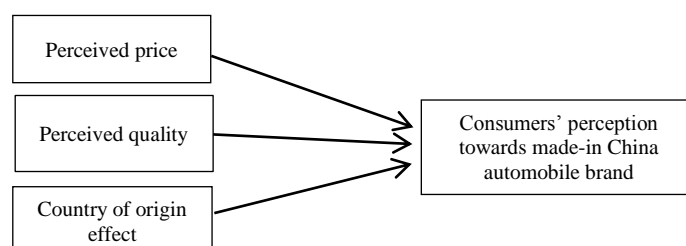


Figure 1. Research framework

## METHODS

This study is conducted as a descriptive study. It used a survey method. The target population of the study was working adults residing in Shah Alam. Shah Alam is one of the major cities located in the central region of Malaysia. Utilizing a convenience sampling technique, the questionnaires were distributed to the respondents through "drop-off and collect method". This data collection method is seen as useful for local market surveys (Malhotra, 2010). In total, 300 questionnaires were distributed to the selected public and private offices as well as the business outlets within Shah Alam. A brief introduction of the survey was given to the respondents. After three to four days of the distribution, the researchers collected the questionnaire from the respondents. At the end of the data collection phase, the researchers managed to gather 292 completed questionnaires.

The questionnaire consisted of sections on respondents' socio-demographics and level of agreement or disagreement towards statements on the factors examined namely, consumers' perception towards Chery as made-in China automobile brand (5 items), perceived quality (7 items), perceived price (7 items) and country of origin effect (7 items). The items were adapted from the related past studies and they were measured using five-point Likert scale (1 as strongly disagree – 5 as strongly agree). In this study, the recorded Cronbach alpha value of the items ranged from .911 to .938.

## FINDINGS AND ARGUMENT

The total 292 usable responses were analyzed using SPSS (version 21.0). A descriptive analysis was run to gather the profile data of the respondents. The summary of the findings was given in Table 1. 41% of the respondents were male and 49% were female. A vast majority (80.1%) of the respondents were from the age group of 20 – 39 years and most of the respondents were Malay (86.6%). The two main income groups of the respondents were RM 1,000 – RM 2,999 (47.3%) and RM 3,000 – RM 4,999 (39.7%). The findings showed that majority of the respondents were aware of the existence of Chery's brand in the market (87.7%). Further probe indicated that 64.4% of the respondents know that Chery is a made-in China brand and the remaining respondents (35.6%) said they did not know that Chery is a Chinese automobile brand. Figure 2 showed the automobile brand owned by the respondents. The responses reflected the available automobile brands in Malaysian market and these also matched the background data of the respondents, particularly in their age group and their monthly income level. On the question regarding what value the respondents' place on Chery, the majority (64.4%) viewed Chery as a brand for a family car and 12.3% perceived the brand as elegance. There were small percentages of the respondents who associated Chery to innovation (6.8%), luxury (5.8%) and safety (3.5%).

Table 1. Respondents' profile

		n= 292	%
Gender	Male	143	49.0
	Female	149	41.0
Age	20-39	234	80.1
	40-59	56	19.2
	60 and above	2	0.70
Marital Status	Single	161	55.1
	Married	128	43.9

Race	Others	3.0	1.0
	Malay	253	86.6
	Chinese	13	4.5
	Indian	23	7.9
	Others	3	1.0
Occupation	Government Sector	101	34.5
	Private Sector	159	54.5
	Self-Employed	32	11.0
Education Level	SPM	60	20.5
	Diploma	81	27.8
	Bachelor degree	132	45.2
Monthly Income	Master and doctorate degree	20	6.5
	RM 1,000 – RM2,999	138	47.3
	RM 3,000 - RM 4,999	116	39.7
	RM 5,000 - RM 6,999	16	5.5
	RM 7,000 and above	22	7.5
Have you heard about Chery brand before?	Yes	256	87.7
	No	36	12.3
Do you know that Chery is made-in China auto brand?	Yes	188	64.4
	No	104	35.6

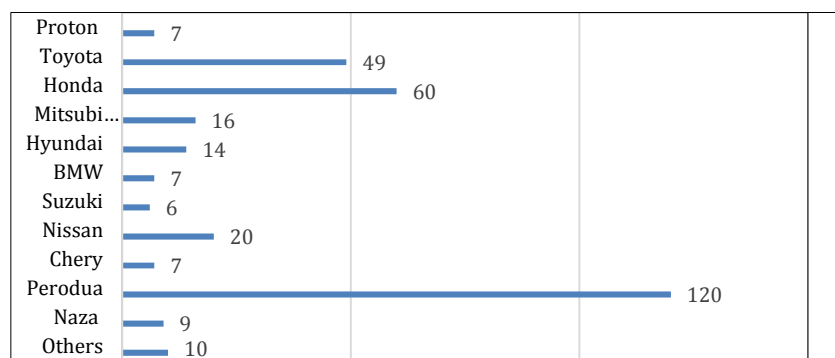


Figure 2. Type of automobile brand owned by the respondents

The descriptive analysis findings showed that the mean score of all the items measured were above 3.00. This indicates that generally most of the respondents do agree with each of the statements (Maznah et al., 2008). Next, multiple regressions analysis was carried out to assess the influence of perceived quality, perceived price and country of origin effect on consumers' perception towards Chery, hence to test the identified hypotheses. Based on the findings as shown in Table 2, the recorded adjusted R-square was .764. It suggested that 76.4% of the variance in consumers' perceptions towards Chery was explained by the three variables namely, perceived quality, perceived price and country-of-origin effects. The consumers' perception towards the brand was largely predicted by perceived price ( $\beta = .509$ ,  $p < 0.001$ ). This was followed by country-of-origin effect ( $\beta = .317$ ,  $p < 0.001$ ) and perceived quality ( $\beta = .115$ ,  $p < 0.05$ ). The results showed that the identified variables significantly influenced the respondents' perceptions towards Chery. Based on these findings, H1, H2 and H3 of the study were supported.

Table 2. Regression analysis output

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.875 <sup>a</sup>	.766	.764	2.32979

a. Predictors: (Constant), country of origin effect (COOE), perceived price (PP), perceived quality (PQ)

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	Mean	t	Sig.
		B	Std. Error	Beta			
1	(Constant)	3.953	.560			7.063	.000
	PQ	.078	.038	.115	3.80	2.061	.040
	PP	.348	.033	.509	3.82	10.398	.000
	COOE	.205	.032	.317	3.80	6.352	.000

a. Dependent Variable: Perception

## CONCLUSIONS

Consumers' perception is essential. If consumers hold negative perceptions towards products from a certain country of origin (COO), they may also dislike those products (Huang et al., 2016, p. 631). This study investigated how Malaysian consumers' perceived a Chinese automotive brand and the factors influencing their perception. Based on the study findings, overall, the respondents indicated a positive perception towards Chery, the Chinese automobile brand examined. Perceived price appeared to be the most dominant factor that effects the respondents' perception. The respondents addressed their agreement that the price level of the car will lead their different perception of having it. Also, unlike low-cost products, the price was considered as evaluating factor of buying a car, since it involves high investment. These findings suggested the importance of the company to match the perception and expectation the consumers put on the brands. Research has shown that price is used as a quality cue to a greater degree when brands are unfamiliar than when brands are familiar (Zeithaml, 1988). In this study, although more than half of the respondents said they know that Chery is a Chinese automobile brand, in comparison to other foreign brands available in the Malaysian automobile market particularly the Japanese and the European brands, the made-in China brands are considered as relatively new. According to Bitner (1990), consumers tend to evaluate qualities based on their past experiences either satisfied or not using the services and performances of the product. As quality is often difficult for inexperienced consumers to judge, consumers have to revert to surrogate measures of quality by looking at the price.

The previous study showed that Malaysian consumers are concern about price and product quality in buying Chinese products (Sarwar et al., 2013). The present study indicated that such emphasized was also true for high involvement product. On top of that, this study found that country of origin effect was more influential than perceived quality in predicting the respondents' perception towards Chinese automobile brand. This study clearly showed that when buying expensive items such as a car, the respondents used to find out what country the product was made in. The respondents also indicated that they were very selective and choosy when engaging transactions in buying products from China. The product's country of origin was used to determine the quality of the product. Managerially, as highlighted in Han and Wang study (2015, p. 74), for countries intending to expand their overseas market, a healthy national image may boost people's positive perception of products made in that country and create a welcoming market atmosphere and friendly or favourable mood of international consumers as well.

This study is not without limitation. As the convenience sampling was employed, the results of the study should not be generalized to another context of studies. The conclusion drawn in this study was referred to the respondents' perceptions on one of the Chinese automobile brands i.e. Chery. The findings may not be generalized to any other brands of Chinese automobile such as Geely, SAIC and FAW. The selection of Chery was made considering this was the major brand of Chinese automobile available in the Malaysian market in which this study took place.

A research on "made-in China" brands is seen as prominent as the say goes "Chinese product is everywhere". In multi-cultural country settings which include Malaysia, future studies may examine any differences in the perceptions towards different Chinese products across ethnics. This may provide useful input to the firms in strategizing their market segmentation and marketing communication effort. Huang et al.'s work (2016) for instance, demonstrated that although Malaysian Chinese generally identify themselves to China, they do not necessarily purchase products "Made in China" and the Malays do not seem to hold negative perceptions about products "Made in China".

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## THE CONTOUR PERSPECTIVE OF AGRIBUSINESS ECOSYSTEM

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### EXTENDED ABSTRACT

The digital business ecosystem has been adopted by various industries, particularly adopted by well-established industries that have equal and high capabilities of technology. Meanwhile, several industries which consist of small-medium enterprises, they found difficulties in the utilization of these technologies. It is because the development of digital platform mostly not focusing on dynamics of technological capabilities among actors. Accordingly, this study foster contour approach which offers flexibility and dynamic development of digital platform which intended to reach a various level within actors in a digital ecosystem in the agribusiness sector. This study will use literature study and in-depth interview to elaborate principal aspects of the digital business ecosystem and digital platform and the application in the agribusiness sector. The process of building the model by adopted contour perspective is a highlight of this study. However, the novelty of this study brought a new perspective in the development of digital business ecosystem research.

**Keywords:** *digital business ecosystem, agribusiness ecosystem, digital platform, contour approach*

### INTRODUCTION

As economic, population, and technology growth, it cannot be denied that the way of people fulfill their needs are also change. Through the advancement of technology, industries can improve their productivity and develop new kinds of services by integrating solutions among industries (Harrison et.al., 2010). Much industries have transformed to be digital businesses and their customer also transformed to be digital shoppers. In this digital era, business partnerships which allow multiple stakeholders such as customers, suppliers, providers, etc to involve in product/service development and customize activities commonly called as a digital business ecosystem (Barros and Dumas, 2006; Riedl et al., 2009; Kutsikos et al., 2014). The main idea of the digital business ecosystem is to bring up new and flexible ways of co-operation and networking through a dynamic aggregation and self-organizing evolution of services and organizations by means of open-source methods of software and service creation (Nachira, 2002).

The digital platform is emerging way of co-operation form that can mediate the flow of information, therefore enable the interconnection of products and services, as well as data flows between different actors on multiple sides of a platform (Ruutu, Casey, and Kotovirta, 2017). Well-known digital platform such as Google's Android platform, Apple's iPhone platform, Uber and Airbnb are developed by high-tech enterprises which the actors within the ecosystem mostly have equal and high capabilities of technology so that it is relatively easy to gain a critical mass of end users, developers and service providers also success in achieving self-sustaining growth and scalability. In the opposite, for several industries which consist of small-medium enterprises, they found



difficulties in the utilization of these technologies. Agribusiness is one of the industries in Indonesia that facing up these difficulties, on the other hand, agribusiness has a strategic role in Indonesia's economic development. Agribusiness is a sector that well-known involve many actors in its business process, i.e government, related industries, farmers, middleman, modern market, retailers, and end customers. Several actors have good capabilities in the adoption of technology but some are contrary. Lack of capability in the adoption of technology, low level of education background and weak of institutional policy and capabilities (Daniel, 2002) become barriers to entering digital business era. Accordingly, this study foster contour theory which is a common approach in music theory and geology theory. This theory offers flexibility and dynamic development of digital platform which intended to reach a various level within actors in agribusiness digital ecosystem. Thus, this study contributes through providing development of digital platform model for agribusiness sector in Indonesia.

## LITERATURE REVIEW

### Digital Business Ecosystem

Digital business ecosystem (DBE), referring to a new understanding of a business ecosystem as a socio-economic development catalyzed by ICT that can be represented along three tiers: Digital (ecosystem), Business (ecosystem), and Ecosystem (Nachira et al., 2007), as presented in Fig. 1.

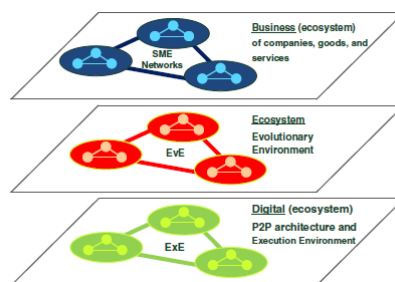


Fig. 1. Tiers of understanding of a digital business ecosystem

Business ecosystem defines as a system view that not only includes the value chain of a business, but also those with rather indirect roles. A system of mutually supportive organizations, communities of customers, suppliers, lead producers, and other stakeholders, financing, trade associations, standard bodies, labour unions, governmental and quasi-governmental institutions and other interested parties that come together in a partially intentional, highly self-organizing, and even somewhat accidental manner (Moore, 1998; Anggraeni et al., 2007; Yu, Li & Zhao, 2011). Ecosystem by Moore (1996), define as a biological metaphor that points out the interdependence of all actors in the business environment, who 'co-evolve their capabilities and roles'. Digital business ecosystem is driving value along three aspects, as follow: (Ahmed, Gurumurthy, and Khetan, 2016)

1. Creating new sources of revenue  
The digital transformation has introduced a number of new revenue streams such as digital payment and digital platform that aimed to generate topline growth by leveraging digital technologies.
2. Rationalizing cost structure  
Digitization is enabling intelligent automation, which can enhance both effectiveness and efficiency and help lowered cost. While cost being lowered, an internal business process such as sales, operation, and supply chain can be improved.
3. Enhancing the speed of technology adoption  
As technology capabilities are reinforcing and creating a virtuous circle of value while lowering the risk of adoption, the rate of adoption is increasing. Firms are more engage with customers, increasing the utility of their products and services, also giving customers more reasons to use them.

### Agribusiness Ecosystem

The agriculture industry in Indonesia is differentiated into three sectors as food crop sector, horticulture sector, and plantation sector. Food crop sector and horticulture sector which produces agricultural products such as vegetables, fruit, rice and main food supplies that offer high-value are almost managed by the small-hold farmer.



(Handayati; Simatupang; Perdana, 2015). Due to the lack of capital and capabilities to distribute their own production, intermediaries involvement in the agri-supply chain is well-known become a challenge in this system.

Agri-supply chain defines as economic systems which distribute benefits and which share risks among participants equally (Iyer and Bergen, 1997; Lambert and Cooper, 2000). Ballantyne and Varey (2008) has proposed value co-creation to fulfill the demand of information among supply chain actors. Value co – creation is a dialogical process of firms and customers that merge into one integrated process of coordinated actions, where both parties are active, learn together from each other and may directly influence each other. Co-creating value develops when each actors participating in one network as service system that interoperates with other service systems for acquiring resources and combining them with its own for enhancing its business viability and continuity, they become relying on the capabilities and resources of the network participants (Barros and Dumas, 2006; Kohlborn et al., 2009; Kutsikos, Konstantopoulos, et al., 2014).

Perdana et al., (2015) has proposed value co-creation form in horticulture sector through the triple-helix model. In this model, multi-stakeholder which consist of government, university, farmers group, supporting institution, financial service, and market development. Each of stakeholder is interconnected to flow the information, product, and service.

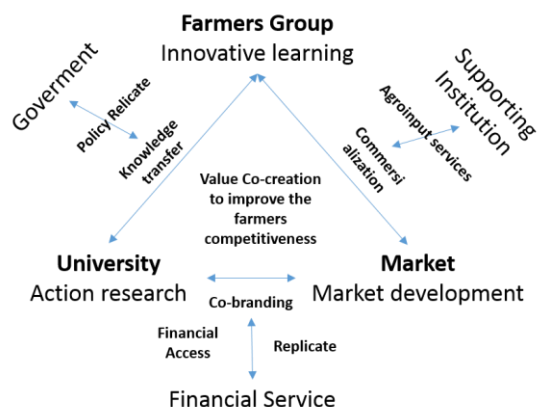


Fig. 2. The process of value co-creation in agribusiness (Perdana et.al., 2015)

### Digital Platform

Platform can be divided into two form, internal or company-specific platforms and external or industry-wide platforms. The common function of these two forms is that platforms provide a foundation of common components or technologies, while the particular thing that makes it different is the openness to outside firms (Gawer and Cusumano, 2014). Platform leader must determine the optimal openness of the platform in terms of interoperability, a disclosure of IP, and collaboration with complementary that will drive innovation and network effect (Eisenmann, Parker, Van Alstyne, 2008; West, 2003). There are three important definitions that should be considered about industry platform, first an industry platform provides a common foundation that a firm can reuse this function as part of a technology "system" whose components come from different companies often called "complementary", second, the industry platform has relatively little value to users without these complementary products or services, the last, industry-wide platform is "network effects". These are demand-side economies of influence user willingness to pay, user adoption and thus a platform's value (Cusumano, 2010; Eisenman, Parker and Van Alstyne, 2011). Gawer and Cusumano (2002), identified basic design principles in building platform. A platform leadership paradigm that acknowledges the importance of non-contractual complementary, it predicates the establishment of common platform as enablers of collective innovation, thus recognizing the generative role of an open platform as a decentralizing device, and this paradigm is very explicit about the importance of differentiated ecology of firms that not all firms can be platform leaders.

Digital platform is one of new revenue streams in digital business ecosystem through it function as media to flow the information and make interconnection of product and service happened, however, it really related to users adoption of the platform (Gawer and Cusumano, 2014; Ahmed, Gurumurthy, and Khetan, 2016; Ruutu, Casey, and Kotovirta, 2017). When adopters are increasing, the value of the platform will be increased to the

owner and to the users, because of growing access to the network of users and often a set of complementary innovations (Cusumano and Gawer, 2014; Ruutu, Casey, and Kotovirta, 2017).

### Contour Approach

The form of collaboration in this technology era has reshaped the way firms take consideration in build alliance. There is four elements consideration of capabilities in building collaboration environment to re-orient itself to new equilibrium states : knowledge-driven innovation, value co-creation, demand-driven customization and service portfolio management (Li, et., al, 2008). Stuart (2000) stated that size and technological capabilities level are important factors. Technological alliances with large and innovative partners improved performance and baseline innovation, while collaboration with small and technologically unsophisticated partners had an unimportant effect on performance. In the digital business ecosystem, participants are expected to be able to interoperate among participants to obtaining resources and combining them with its own for enhancing its business viability and continuity (Maglio, et al., 2009). Accordingly, each participant will expect to build alliance with participants that enable to provide complementary and/or higher level of technological capabilities in that ecosystem to enhance their performance, participants with smaller level of technological capabilities will leave behind while their ability is being obtained with another participant if they do not have capabilities to adopt higher technology by its self or the ecosystem is not support them to enhance their self-learning in adopting more higher technology.

Not much research have attempted to elaborate the collaboration challenges above, most of the existing literature view digital business ecosystem as a symmetrical platform where each participant can equally provide and obtain the resources and/or capabilities, then simply resulted in value co-creation. Whereas, in much industries creating value co-creation is not that easy, the lack of capital and technological capabilities or unequal capabilities among participants become barriers. Accordingly, authors proposed contour approach which views ecosystem as an asymmetrical platform. Contour is commonly applied in music theory, geographical theory and engineering theory. In music theory, contour refers to a sequential relationship between elements of some ordered set (Dowling, 1978). It is generally defined that the melody cannot be the same in one ordered set, particularly the listener will perceive it as a good melody when ordered set has patterns of ups and downs. Normally in many ways something to be less than something else as there are for something to be greater than something else (Polansky and Bassein, 1987), because of that, a level of capabilities can be dynamic and its functions are not static. It is also discovered in earth science, that earth's surface is in dynamic equilibrium. The morphology is not static. The various element of the earth, high mountain range, large valleys, deep ocean, and canyons regularly change and move in a certain period to balancing the earth and each element support each other to keep the surface balance (Noble, 2009). In engineering discipline, contour commonly applied in designing marine structure to be able to withstand the loads induced by the environment. In this environmental contour, every variable combination enclosed and must be considered in the design process (Haselsteiner, et al., 2017).

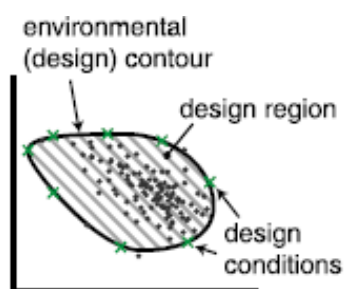


Fig. 3. Design region (Haselsteiner, et al., 2017)

Thus, through this approach, authors assume each participant should be considered in a different level of capabilities and the way it can complement each other in different roles to reach parity of ecosystem performance. Because we consider the ecosystem as an asymmetric and dynamic platform, the participant with fewer capabilities somehow can be move to a different level through the roles of another participant in the ecosystem.

## METHODS

The starting point of the analysis is elaborate literature about the development of digital business ecosystem and digital platform to gain principal aspects of the digital business ecosystem and digital platform. Literature review also will be conducted to explore stakeholders, roles and business process in agribusiness sector in Indonesia. After that in-depth interview with agribusiness practitioners will be conducted. This interview will provide vital and direct background information that contributes to better understanding in examined problem. The application of contour theory in various disciplines also will be elaborated through literature study. It aims to gain innovative idea in developing proposed model, particularly application in the agribusiness sector.

## FINDINGS AND ARGUMENT

The result of this study is a model contoured digital business ecosystem particularly for application in agribusiness sector. Stakeholders, roles, and business process in agribusiness sector will be presented, analysis of principal aspects in the development of digital agribusiness ecosystem including business information system, technology infrastructure, and data assets also will be presented. In the development of the proposed model, contour perspective will be a critical part.

## CONCLUSIONS

This study proposed digital agribusiness ecosystem through an application of contour approach. Development of model contoured digital agribusiness ecosystem helps to create and operate better business process and value co-creation among actors in agribusiness through flexibility and dynamics platform which can reach a various level within actors in agribusiness.

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## THE ROLE OF GOVERNMENT IN OFF GRID RURAL ELECTRIFICATION BASED ON RENEWABLE ENERGY IN INDONESIA – A QUALITATIVE APPROACH

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### EXTENDED ABSTRACT

Until the end of 2015, Indonesia's electrification ratio only reached 88.3% leaving the part of nation communities not enjoyed electricity. Most of them located in remote village, border-states area and isolated islands. The electricity system in Indonesia which only involves little private sector cause the rural electrification rely on the shoulders of the government. The government choose to implement rural electrification programs based on renewable energy (RE). This role is carried out by the Directorate General of New and Renewable Energy and Energy Conservation. The purpose of this program is mainly to increase the electrification ratio while promoting RE as a solution for remote villages. This study aims to understand the policy implementation according to the policy cycle. The advantages of qualitative methods used to collect and analyze data. Indonesia multilevel system of government and involving multi-stakeholders has been a challenge for the implementation of this policy. Unfortunately the government was only set short-term goals, to increase the electrification ratio. Rural communities as a user and a major stakeholder not fully engaged and have only treated as an object of beneficiaries. That is become major barrier for the sustainability of the program. The recommendation from the findings are to redesign the program to be consistent with sustainability indicator developed with logic model approach.

**Keywords:** renewable energy, rural electrification, public policy, sustainability.

### Introduction

#### Electrification Ratio in Indonesia

Indonesia faces a major challenge to fulfill the power needs of the population. Electricity is the key factor for driving modern economy. The geographical of Indonesian in the form of archipelago become unique which naturally led to the unequal distribution of natural resources of energy and unintegrated electrical system, causing a lot of pockets such as remote village or isolated islands not yet enjoy the benefit of electricity. This is indicated by electrification ratio, which is the number of electrified households divided by the overall number of households in Indonesia, calculated by the unit of head of household (*kepala keluarga, kk*). The number of households electrified by PLN in 2015 was 56,605,260 *kk*, and the number of households electrified by non-PLN was 1,377,788 *kk*, while the total number of households in Indonesia was 65,669,194 *kk*. So the electrification ratio of Indonesia in 2015 was 88.30% (DJ Gatrik, 2016: 26).

**Table 11. Electrification ratio in Indonesia (DJ Gatrik, 2016: 25)**

Year	Number of Residential	Residential Costumers	Electrification Ratio (%)
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2011	62.092.031	45.294.035	72,95
2012	62.992.725	48.229.930	76,56
2013	64.204.615	51.688.927	80,51
2014	64.835.092	54.690.431	84,35
2015	65.669.197	57.983.048	88,3

The lowest electrification ratio are in the remote islands, remote villages and state-border area. Lowest electrification ratio is in the province of Papua Barat at 45.93%, followed by 58.64% in Nusa Tenggara Timur, Sulawesi Tenggara 68.84%, 69.54% in Kalimantan Tengah, and Nusa Tenggara Barat at 72.77% (DJ Gatrik, 2016: 26).

The biggest challenge for electricity development in those area is due to its off grid and located far away from sources of conventional electricity. These area have a sparsely population and low per capita consumption that made return of investment and economic of scale so low that hardly expected for electricity investment to develop. The easiest solution mostly by diesel fueled power plant. Other efforts made by government by using renewable energy (RE) according to the potential of the area, generally by solar power plant (photovoltaic, PV) and microhydro.

#### **Directorate General of New, Renewable Energy and Energy Conservation Programs on Rural Electrification Based on RE**

Directorate General of New, Renewable Energy and Energy Conservation (DG NREEC) is organization within MEMR. Establish base on Presidential Decree No 24 of 2010 dated April 14, 2010. This organization has the task to formulate and implement policies and technical standardization in the field of new, renewable energy and energy conservation. DG NREEC become the main actor of the off-grid rural electrification program in Indonesia (DJ EBTKE, 2016a; 2015).

In accordance with Law No 25 of 2004 on National Development Planning System in Indonesia, stated that national development plan consist of long-term development plan (RPJP), mid-term national development plan (RPJMN) and the annual development plan. Through Presidential Decree No 2 of 2015, has been set Mid Term development Plan for year 2015 – 2019 have theme “Strengthening the overall development by emphasizing development on competitive advantage of economies based on natural resources available, human resources that qualified and have ability of science and technology”. This Plan is translation of the vision and mission of incumbent government that includes the policies and directions of the strategy for each sector. One of the policy in RE sector is “**to improve energy accessibility: the supply of electricity to remote islands and villages, including fishery village, if possible by using of solar energy and others renewable energies**” (Bappenas, 2014: 6-16).

#### **Problem Statement**

The government of Indonesia has conducted many projects for RE rural electrification in remote area. Electricity based on RE considered as solution for remote villages or isolated islands (Lillo, 2015; Anyi, 2010; Blum, 2013). First, because the availability of renewable power source that originally continually exist in the location, so the village or the community can supply electricity for their own needs. Second, because its off-grid situation that makes financially difficult for PT PLN or private company to extend and connect to the existing network. Others solution with diesel fueled generators become very expensive because of transportation cost.

The financing scheme for Indonesian rural electrification project currently based on state budget APBN done by central government, without involve private sector investment. Those projects were implemented yearly, using indicator “number of electrified household (kk) that continues accumulated yearly to increase the electrification ratio. So, it is very important to see how well the program implemented by central government in this off-grid rural electrification program. It is very important to know the sustainability and the beneficial of the program for remote rural communities.

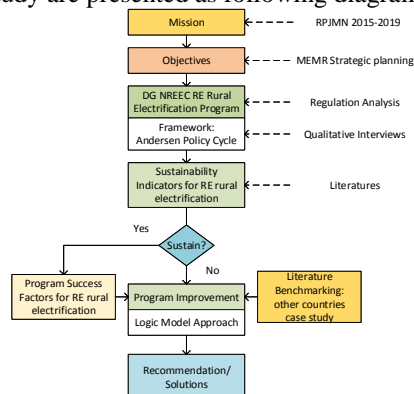
**“How exactly is the government implements the policy on off-grid rural electrification based on RE according to the policy cycle”, the challenges happen in its implementation and the solution for the program improvement”,** become the problem statement of this research.

#### **Research Methodology and Literatures Review**

##### **Conceptual Framework**

The success of RE rural electrification program depends on its sustainability (Garcia, 2010; Chaurey, 2010; Urme, 2009). Numerous RE based rural electrification have been implemented around the world but the long

term success remain big challenge. This Indonesian government program must also assessed on its sustainability. The conceptual framework of this study are presented as following diagram.



**Figure 1. Conceptual framework.**

DG NREEC using pure APBN budget, directly manage the RE rural electrification program (DJ EBTKE, 2016). This is government solution approach to address electrification on remote areas. So to make better understanding, this study use a public policy approach, rather than financial analysis which commonly used by Bussines or NGO. It is very important to have understanding of overall process based on policy cycle. How the government create its management model to ensure its success? Has the government adequately empower all stakeholders involved? Certainly it is big task to make this program sustainable. This rural electrification based on RE only started in 2011 until now, so it is ready enough data to ensure the success of the program and make solutions for its shortcomings.

### Methodology

This study uses a qualitative case study resesarch strategy. Qualitative research is a method to explore and understand the meaning, originally intended to explore many social or humaniora problems. This qualitative research process involve many important efforts, such as interviewing key persons, analysing procedures, collecting specific data, analysing the data inductively from specific themes to general themes, and interpret the meaning of data. The qualitative research has a flexible framework. Researchers apply inductive style perspective, focus on the individual meanings, and try to translate the complexity of the problems (Creswell, 2015).

Qualitative research methods selected because the program off grid rural electrification based on RE is unique in every region, newly conducted by government of Indonesia, and involves many stakeholders who have its different prespectives toward the same issue. So, it is need a good initial understanding of the whole process of policy, which requires a qualitative approach. Also unique in the concept of RE electricity itself that is very different from conventional electricity, still relatively new and require a process for its implementation (Painuly, 2001; Lidula, 2007). The primary data obtained from interview with officers of DG NREEC, Patriot Energy volunteers, and experts.

## Findings and Argument

### Resume of the Overall Findings

**Table 12. Resume of Overall Findings of the Program.**

Aspects	No	Findings
<b>Environment</b>		
Stakeholder	1	poor stakeholder analysis
	2	level of involvement of RG and community is low
Regulation/ Legal	3	no uniformity of legal aspect of institution
	4	the needs of legal aspect of land ownership
	5	relationship between institution and RG
	6	risk on transfer assets
	7	the obedience for operation licence
	8	the needs of technical compentense of Operator/ Technician
<b>Agenda</b>		

Objectives	9	Only short term and very macro objective
	10	Objective formulated not for the users benefit only for administration of Government
Solutions	11	Single solution not sinergized with other programs
<b>Formulation</b>		
Platform	12	the regulation only cover the RE infrastructure development
	13	approach used improvement, material, technocratic, and uniformity
Indicator	14	Indicator only for implementer administration
	15	Not measured the outcome achieved
<b>Implementation</b>		
RG	16	Poor survey to the community by RG
	17	No continuity and certainty in funding the OM, depends on RG Budget
	18	Poor community engagement/ empowerment
	19	The ability of prepare FS DED by RG is quite diverse
DG NREEC	20	Poor concept of the program
	21	The program highly depends on RG ability, which proven poor
	22	The program only focus on RE infrastructure development
Local communities	23	Empowerment of Local community forgotten in the concept
	24	Poor capabilities to develop institutions
	25	Poor capabilities in financing O M power plant
	26	Need users perspective of technology
	27	rural area is far from uniform
	28	Need for program assistance for community
	29	The limited capacity only enough for basic households need (300 W)
Maintenance and operations	30	Use usual government procurement procedur on infrastucture and spare parts, risky in term of budget and time
	31	risk on availability of spare parts
	32	the needs of maintenance infrastructure
Tariff/ Contribution Fee	33	There are good willingness to pay
	34	The contribution not based on long-term financial analysis
	35	The contribution hardly able to finance the OM
Monitoring & Evaluation	36	Lack of monitoring and evaluation program
	37	No clear assesment to maintain sustainability

The confirmation from the experts emphasizes several findings. Finding no 7, 'lack obedience to operation license', means there are still no common understanding between DG NREEC and RG about the need and formulation of permit. And finding no 16, 'poor survey to the community by RG', expert stressed that we can not homogenize this conclusions for all regions, means that RG survey capability is still not uniform. Further emphasized that this case mostly for Centralized SPV technology, while the microhydro power plant generally surveyed more carefull and depth. Finding no 29, 'the limited capacity only enough for basic households need (300W)', given the stress that the capacity given will not beneficial for a business solution, because the break-even-point will become too long.

### **The Sustainability of the Program**

From the findings, it found to be difficult to define the success of the program, because there is no continuity and clear framework on program stages. The sustainability should become criteria for energy program. This program should be measured in sustainability framework, can not be measured only on the output which stated in government reports. It need extensive data from the location of the construction of RE projects which unfortunately not recorded by government due to lack monitoring and evaluation. From the qualitative data, especially from Patriot Energy volunteers, only can be drawn the general conclusions on the aspects of the sustainability. Not all aspects of the data be obtained, because actually the government no yet determine the

criteria that must be measured. Those findings assessed based on the indicators proposed by Ilskog (Ilskog, 2008b). From the assessment it found that the program will face challenges for its long term sustainability. From the sustainability key variables, only 'improved availability of social electricity' and 'equal distribution' have good value. The moderate ones is 'technical-client relation' and 'local impact'. The others have low value. For the better sustainability, all of key variables must have good value, so the program needs improvement on key variables that have low and moderate value. So can be concluded that the biggest challenges of the program, as confirmed by expert is the sustainability of the program.

## Conclusions

The research that had been done showed there were a gap between what the ambition wanted to achieve and what actually occurred on the field. The program of off-grid rural electrification formulated and implemented by DG NREEC are just developed and implemented by DG NREEC since 2011. The biggest objective of this program is to increase electrification ratio and improve energy accessibility for scattered villages which difficult electrified by PLN. The stakeholders beside DG NREEC are Regional Governments (RG), and the rural communities. But DG NREEC role in this program is only to finance the infrastructure development as stated in the legal policy platform. The legal owner of the RE assets will be RG. The further financial after the asset belongs to RG, will be fund by RG budget and communities contribution, create uncertainty in financial sustainability.

Because the program was formulated by the central government, the approach used is top-down, technocratic and ignore the aspect of local diversity. Also the indicator used to measure the success of program, only for the interest of the DG NREEC administration. RGs and the rural communities are not encourage to formulate the objectives that are give more beneficial for the communities. It also known that the compliance of implementation of legal aspect still not complete, especially for the development of Centralized Solar PV, which consist of license permit, legal status of the institution itself, and legal status of the land used for the power plant.

Community empowerment is very weak in this program, resulting many community institutions do not have appropriate capability on maintain the RE power plant. Although the program still far from create income generating activities the communities feels great benefits from this program due to the absence of electricity before.

Another weakness of the program is the absence of comprehensive monitoring and evaluation program, the local technician have lack competence for maintainance, there is still no maintenance infrastructure established to ensure the after sales services and supply of spare parts on time. And still no management model to ensure the coordination between involved stakeholders

The solutions that could be done to overcome those challenges, from the DG NREEC point of view, is to redesign the program to be more consistent with the program success key factors so that the program could meet the sustainability indicators that have been given by best practices. There are four strategies that must be done to redesign the program. First, create good RE rural electrification program that involve and engage all stakeholders which have impact to the communities. Second, create management model that become channel to coordinate between community and RG in aspect of RE power plant management, especially operation and maintenance. Third, create infrastructure for maintenance, especially to ensure the technical assistance and availability of spare parts. Fourth, create comprehensive monitoring and evaluation, so the program could improve better.

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## **DETERMINANTS OF INDONESIA'S CRUDE COCONUT OIL EXPORT DEMAND**

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### **EXTENDED ABSTRACT**

The research was intended to know the export development of Indonesia's Crude Coconut Oil (CCO) and to analyze the determinants of its demand. Descriptive and quantitative method by panel data regression model were explored to process secondary data of a range year 2000 to 2015 as time series data and China, Netherland, Malaysia, Singapore as cross section data. The result demonstrated that Indonesia's CCO export volume fluctuated as well as its export price, while its market share varied in four analyzed countries. The determinants of Indonesia's CCO export demand were Indonesia's CCO export price, importing country's population and real GDP per capita, real exchange rate of IDR to currency of importing countries and Philippine's CCO export price.

Keywords: *Export, Demand, Crude Coconut Oil*

### **INTRODUCTION**

Export and Import play a critical role in economic development. International trade has become the engine of growth for many advanced countries. Export is believed will help the firms pursuing efficient resources allocation, higher capacity utilization, economic of scale, technology advancement and providing more job opportunities. In addition, the export also directly contributes to country's foreign reserves which is important to support economic activities as well as raising the nation's wealth (Soekartawi, 1991).

Indonesia's CCO export volume during period of 2000 to 2015 fluctuated in range of 244,68 to 666,17 thousand tons. However, its average growth is still positive 0.81 percent, yet it was still far below the global average growth accounting for 10.39 percent. The fluctuation of Indonesia's CCO was driven by facts such as the raise of vegetable oil, financial crisis and the diversification of CCO final products in importers. The raise of world vegetable oil caused the Indonesia's CCO export volume went down by 23 % in 2006. Indonesia's CCO export performance deteriorated in the year when the world encounters financial crisis such as in 2008, 2011 and 2013. In contrast, the innovation of final product of CCO had led the demand of Indonesia's CCO to escalate.

The international trade of Indonesia's CCO will face several challenges. The number of CCO exporter increased. The countries which formerly export in form of copra replaces it with CCO as its added value is higher. The international market demands of high quality CCO is another threat for domestic producers. Moreover, importer will not only buy based on price and quality but also other factors such as international

transaction facility. Therefore, it is necessary to conduct study the analysis of determinant of crude coconut oil export as an input for future policy and decision making.

## LITERATURE REVIEW

The factors affecting export can be derived from variables influencing demand in general. Sadono Sukirno (2006) stated that there were six factors that impact on demand volatility; the price of product itself, the other relating products (substitutes and complement), household income and average income of society, the number of population and the forecast of future state. Prathama Rahardja and Mandala Manurung (2006) argued that of those factors, the major influencing elements consist of the price of product, income and number of population.

The price in international market constitutes the balance of world supply and demand. Theoretically, country A will export certain commodity to country B if the price its domestic price prior to international trade is relatively lower than the price in country B. The relatively lower price structure in country A is caused by the excess supply meaning that the production surpasses its consumption. On the other hand, in country B, there are shortage of supply due to excess demand that drives the price to soar. This condition encourages the country B to buy a commodity from other countries whose price is lower. If there is a communication between country A and B, the trade will come about with similar level of price (Dominick Salvatore, 1997).

The export demand also will be influenced by real exchange rate of countries involved. The relationship between real exchange rate and export demand is negative. Depreciation of rupiah would decrease the ratio of relative price that cause the Indonesia's products to be relatively cheaper in international market. It will lead the buyer to either increase the volume of import or shift the partner to Indonesia's products. The increased demand will drives the price of the commodity to raise that encourage the producers to keep producing to take the margin. In contrast, appreciation of exchange rate will present different result (N. Gregory Mankiw, 2002).

The other key variables influencing the export demand is the average of society income which can be measured using real Gross Domestic Product (GDP). GDP constitutes the final value of all goods and services produced by a country in certain period of time. It also represents compensation over the usage of production inputs or it can be said that GDP is the country's income. According to Paul Cook and Colin Kirkpatrick (1990), the real income of an economy correlates positively to import. The increment of average household income will cause the number of demanded commodity raises in every level of price.

Population is also an important factor that affects the export demand. Sadono Sukirno (2006) stated that the growth of population will not directly increase demand, yet its growth is commonly followed by development in job opportunity. The job opportunity will cause more people to have income so that their purchasing power raises that in turn will lead to more demand.

## RESEARCH METHOD

The research method used in the research is case study method. According to Suharsimi Arikunto (2010), case study is the intensive, comprehensive and detailed research of an institution or certain events. The types of data used is secondary data gathered form official publication from national and international institution which are Indonesia Statistics Bureau (Badan Pusat Statistik/BPS), *International Monetary Fund* (IMF), *United Nations Commodity Trade* (UNComtrade) and *Food and Agricultural Organization* (FAO).

The study employs two kind of analysis. Descriptive analysis is used to know the performance of Indonesia's CCO export demand, while quantitative analysis is used to examine the factors contributing to it. The function of Indonesia's CCO export demand is estimated using panel data regression. Panel data is a pool of data consists of cross section and time series data. Time frame used is 10 years from 2000 to 2015, while countries of China, Netherland, Malaysia and Singapore are treated as cross section data. Estimation technique chosen is Fixed Effect Model (FEM) since the number of time series data exceeds the cross sections as suggested by B.H Baltagi (1995) cited by Arief Daryanto and Yundy Hafizrianda (2010). The independent variable will be tested partially and simultaneously in three level of significance 1 %, 5 % and 10 percent. The data is processed using software Eviews 5.1. The estimated function of CCO export demand is as follow:

$$\ln Q_{it} = \beta_0 + \beta_1 \ln PX_{it} + \beta_2 \ln NTR_{it} + \beta_3 \ln GDP_{jt} + \beta_4 \ln Pop_{it} + \beta_5 \ln PY_{it} + \beta_6 \ln PZ_{it} + e_i$$

Keterangan :

- $Q_{it}$  = Indonesia's CCO Export Volume (Kg)  
 $PX_{it}$  = Indonesia's CCO export price (US\$/Kg)  
 $NTR_{it}$  = Real Indonesia Exchange Rate (Rp/mata uang pengimpor)  
 $GDP_{jt}$  = Importer's Per Capita Real GDP (US\$)  
 $Pop_{it}$  = Importer's Population (juta orang)  
 $PY_{it}$  = Indonesia's CPO Export Price (US\$/Kg)  
 $PZ_{it}$  = Philippine's CCO Export Price (US\$/Kg)

## FINDING AND DISCUSSION

The outcome of panel data regression analyzing using software Eview 5.1 regarding the factors influencing the Indonesia's CCO export is presented in following Table 2. It is evident that, determinant coefficient ( $R^2$ -adjusted) is 0,997, meaning that 99,7 % of variation in CCO export variation can be explained by the model used. The analysis also demonstrated that the value of F-test has probability as much as 0,0000 which is less than significance level of 1 percent. It showed that the independent variables which consist of Indonesia's CCO export price, IDR real exchange rate, importer's real per capita GDP, importer's population, Indonesia's CPO export price, and Philippine's CCO export price simultaneously affect the export volume of CCO with confidence level 99 percent

**Tabel 2. Panel Data Regression Output FEM Method using Eview 5.1**

Variabel	Koefisien	Std. Error	t-statistik	Prob.
C	26,48577	9,481590	2,793390	0,0081
Px	-0,572374	0,326337	-1,753938	0,0875*
NTR	-1,168132	0,473873	-2,466584	0,0183**
GDP	1,128909	0,464577	2,429970	0,0199**
Pop	-2,934190	0,931772	-3,149044	0,0032***
Py	-0,605661	0,040902	-1,593302	0,1194 <sup>ns</sup>
Pz	0,516256	0,380130	12,62163	0,0000***
<b>Fixed Effect (Cross)</b>				
Cina	10,71667			
Singapura	-8,970973			
Malaysia	-0,642138			
Belanda	-1,103564			

Catatan:

\*\*\* = Significant at 99 %

\*\* = Significant at 95 %

\* = Significant at 90 %

ns = Non Significant

From the output above, the function of determinant of Indonesia's CCO export demand is as follow:

$$\ln Q_{it} = (\text{Cross}_i + 26,48577) - 0,572374 \ln PX_{it} - 1,168132 \ln NTR_{it} + 1,128909 \ln GDP_{jt} - 2,934190 \ln Pop_{it} - 0,605661 \ln PY_{it} + 0,516256 \ln PZ_{it}$$

The fixed effect cross section on Table 2 indicated the influence of regional difference to Indonesia's CCO export demand. China has the highest differentiator. It implied that the export volume of Indonesia CCO to the country has the highest change average that was 37,20 percent. Thus, it can be said that of the other four countries, China is the most potential export destination for Indonesia's CCO.

Indonesia's CCO export price (Px) significantly influence the export volume on significance level of 10 % and regression coefficient -0,57. It implied that the increment one percent in price will decrease export volume as much as 0,57 percent, ceteris paribus. The number also indicates that price elasticity of CCO is inelastic. CCO is classified as intermediate product for further production process. The reduction in Indonesia's CCO export price will not be directly stimulated the company to increase its production capacity thus its response to CCO demand is low.

The Indonesia's CCO export price in four importing countries are all below than that of Philippines (Table 3). However, the price competitiveness of Indonesia's CCO is generated by comparative advantage such as cheap labor and the abundance of resources that drive the production cost to be low. Presumably the kind of comparative advantage will not sustain in the future due to the raise of labor wage and based electricity tariff (

Tarif Dasar Listrik/TDL), reduction of subsidi BBM. These events will enhance the production cost of CCO and as a result the export price will be higher in international market.

**Tabel 3. CCO Price Average Comparison between Indonesia and Philippines**

Countries	Indonesia (US\$/Kg)	Philippines (US\$/Kg)
China	0,6869	0,7145
Netherland	0,7134	0,7155
Singapore	0,6909	1,2195
Malaysia	0,7058	0,7290

According to Tulus Tambunan (2001), the export competitiveness will no longer be determined by its comparative advantage, but its competitive advantage which is the superiority based on know-how technology and specific expertise. It is a challenge for CCO producers in Indonesia particularly Small and Medium Enterprises who still manufacture the product using traditional way so that its efficiency and productivity are still low. In addition to that, many CCO producers in Indonesia still use curing copra that produce brown, pungent, high level of free fat. That kind of CCO is not preferred by some importers.

The real exchange rate variable significantly influence Indonesia's CCO export demand on significance level of 5 percent. The regression coefficient given of this variable is -1,16. The number implies that one percent appreciation of IDR to its importer's currency will reduce the export volume of Indonesia's CCO as much as 1,16 percent, *ceteris paribus*. The appreciation of rupiah will make Indonesia's CCO to be relatively higher in international market.

Appreciation (depreciation) of exchange rate is affected by many factors, one of them is inflation rate. The higher inflation tend to weaken its currency. It is based on the fact that when the inflation rate grows higher than other countries, people will seek on other alternatives of product offering from the cheaper countries. As demand from other currency increases, the domestic exchange rate is weakening.

Per capita real GDP describes the purchasing power of population in certain county. The influence of importer's per capita real GDP is significant on 5 percent significance level. The coefficient given is 1,12. The number signposts that if the importer's per capital real GDP raise by 1 %, the demand for Indonesia's CCO will raise by 1,12 per cent, *ceteris paribus*. Importer's per capita real GDP has the highest influence of all modeled factors.

The higher percentage of demand change than that of change in per capita real GDP reflects that the income elasticity of CCO is elastics. It can be understood that CCO and its derivatives belong to normal goods. Crude coconut oil in importing countries is used as raw material in food such as coconut oil and nonfood industry such as cosmetics, soap and shampoo. The growing demand of those final product leads the industry to boost its output that requires more CCO product.

Per capita real GDP of importing countries during period of 2001 to 2007 tends to grow, except in 2008, 2009 and 2013 in the time of European, US and global financial crises took place. The crises had brought about economic contraction and reduction of job opportunity. The typical condition impacted negatively on the performance of Indonesia's CCO export. US financial crises in 2008 and 2013 decreased demand from all importing countries. The highest reduction occurs in Singapore (84,96%). Similarly, European financial crises in 2009 impacted on reduction of import demand from Malaysia and Netherland.

Importer's population (Pop) significantly influence the Indonesia's CCO export demand. The regression coefficient of the variable is -2,39. The number represents that if importer's population grows by 1 %, the export demand of Indonesia's CCO will fall by 2,93 %, *ceteris paribus*. The result contradicts with proposed hypothesis. It may happen as the population of importer is not a consumptive countries, on the other word when there is a growth in their population, they will strive to fulfill needs by empowering their ability reduce import.

Research of Nguyen Trung Kien and Yoshizo Hashimoto (2005) gave the similar result. That positive and negative impact of population growth of importer depends on size and level of income. The negative influence is showed by large and high income countries such as China. The huge population of China and rapid income per capita growth create its domestic CCO market. It motivates the local produce to raise its capacity.

Data from FAO (2015) showed that in 2000 CCO production in China reaches 3,43 tons then rapidly increase by 10,17 % to 352,42 tons in 2013.

Philippine's CCO export price is used to probe the influence of competitor's price to export demand of Indonesia's CCO. The analysis demonstrates that its influence is significant confidence level 99 percent. The sign and number of its coefficient which is 0,516 confirms the hypothesis. The interpretation of the number is that if Philippine's CCO export price increases by 1 %, export demand for Indonesia's CCO will raise by 0,51 %, *ceteris paribus*.

In contrast to all variable, Indonesia's CPO export price statistically does not influence export demand of Indonesia's CCO in all significance level. It implies that the reduction in CPO price will not make CCO producer switch its production material with CPO. It may occur as the reduction in CPO price does not make the CCO to be scarce in market. In addition to that, the higher content of lauric acid in CCO compared to CPO hold the producer to decrease its CCO demand. Moreover consumer's preference toward preservative stuff oil such coconut oil pushes CCO producer to keep producing.

## CONCLUSION

The research results concludes that (1) export development of Indonesia's CCO during period of 2000 to 2015 either from volume or price fluctuated and varied among the importers (2) determinants of Indonesia's export demand comprise from export price, IDR real exchange rate, Importer's real GDP, population of importing countries and Philippine's CCO export price.

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## THE EFFECT OF SOCIAL MEDIA ON ONLINE PURCHASE INTENTION FROM YOUNGER GENERATION PERSPECTIVE

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### EXTENDED ABSTRACT

Malaysia online shopping trend has not gained popularity even though the online shopping trend is significant across Southeast Asia region. Moreover, Malaysia's internet penetration rate was reported 67.5% compared to the neighboring country Singapore, with the reported internet penetration rate at 82%. Therefore, the unfavorable online shopping trend in Malaysia forms the ground for further research in these area. The research investigates the consumer's intention for online shopping based on trust, consumer gratification, web irritation and electronic word of mouth (eWOM). The combination of these four (4) factors is expected to influence marketing aspects through the social media. Empirical testing was carried out through 336 respondents from public universities in Malaysia. Quantitative approach was applied in the research. Consumer gratification has significant impact on online purchase intention, followed by eWOM and trust. Nonetheless, negative relationship was observed between web irritation and online purchase intention. The research findings provides some guideline for the organization on how to proactively engage with online users and finally attract and successfully secure online sale. Finally the paper ends with some avenues for future research.

**Keywords:** : online purchase intention, trust, web irritation, consumer gratification, electronic word-of-mouth

## DETERMINANTS OF TRANSPORT CO<sub>2</sub> EMISSIONS IN MALAYSIA

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### EXTENDED ABSTRACT

Carbon dioxide (CO<sub>2</sub>) emissions concentration in the atmosphere is increasing globally. It is one of the Green House Gas emissions that increase global warming. Factors that contribute to CO<sub>2</sub> emissions include transportation, economic growth and urbanization. Records show that Malaysia's CO<sub>2</sub> emissions were rising between 1980 and 2011, reaching the levels found in more developed countries such as Switzerland, Sweden, and Italy. The country's GDP level was also rising during the same period. This study examines the long run and short run relationship between economic growth, urbanisation, transportation intensity, and transport CO<sub>2</sub> emissions in Malaysia using the ARDL cointegration and Granger Causality techniques. Findings from the study confirm that there is a long run relationship amongst the variables. Meanwhile, urbanization and also transportation intensity granger cause transport CO<sub>2</sub> emissions. These findings could lead to the development of more effective urban planning strategies and implementation of policies that mitigate air pollution. This would ensure a more sustainable economic growth which will benefit the future generation.

**Keywords:** CO<sub>2</sub>, economic growth, urbanisation, transportation

### INTRODUCTION

The presence of carbon dioxide (CO<sub>2</sub>) in the atmosphere is important to keep Earth from turning into a frozen ball in space. However, the increase of CO<sub>2</sub> concentrations has instead resulted in global warming and caused calamities such as storms, floods, and droughts (Safaai, Noor, Hashim, Ujang & Talib, 2010). Climate change is indeed a major ongoing concern for both developing and developed countries. China is the largest CO<sub>2</sub> emitting country with 28.2% of global emissions, followed by the US (16%) and India (6.2%) (Statista, 2016).

CO<sub>2</sub> emissions are released into the atmosphere both by natural processes and human activities. The former is not preventable but the latter can be controlled. Many human activities produce Green House Gas (GHG) emissions, but approximately two-thirds of the total anthropogenic emissions comes from fossil fuel combustion for transportation, buildings and industry (Ghadimzadeh et. al. 2015). The transport sector is responsible for the emission of more than a quarter of CO<sub>2</sub> worldwide and is one of the largest single contributors to global GHG emissions (Shahid, Minhans, & Puan, 2014). It is a vital sector, driving economic growth and development. It is also reported that wealth creation and economic growth have been accompanied by rising per-capita CO<sub>2</sub> emissions from transport activity (International Transport Forum, 2010).

Another environmental concern is the rapid growth of urbanization which affects the environment through higher demand for vehicles and transport CO<sub>2</sub> emissions. According to Mustapa and Bekhet (2014), the rapid expansion of urbanization and population growth has caused the demand for transport services and travel to increase. Most Asian countries have experienced significant growth in their road transport fleet, particularly in urban areas, resulting in soaring transportation energy use and CO<sub>2</sub> emissions (Timilsina & Shrestha, 2009).

Among ASEAN countries, Malaysia is the second largest per capita GHG emitter (Saxena, 2009). While many developed countries successfully reduced their GHG emissions, the emissions level in Malaysia continues to rise (Shahid et al, 2014). Between 1990 and 2011, the CO<sub>2</sub> emissions in Malaysia increased along with the increase in GDP. The transportation sector is among the highest contributor of CO<sub>2</sub> emission in Malaysia (Trading Economics, 2013).

The challenge for Malaysia then would be on balancing the need for greater transportation alongside economic development, and the need to reduce CO<sub>2</sub> emissions, which is a by-product of transportation. Clearly, Malaysia needs a more prudent strategy to achieve a more sustainable development in the future. Therefore, this study seeks to examine the relationship between transport CO<sub>2</sub> emissions and its determinants such as economic growth, urbanization and transportation intensity. By identifying which of the variables have long run and short run relationship with transport CO<sub>2</sub> emissions; the government can formulate policies to reduce the emissions.

### LITERATURE REVIEW

Based on the Environmental Kuznet Curve theory (Kuznet, 1955), environmental degradation could not be avoided as a country's economy grows through industrialization activities. Numerous researches have been done to ascertain the impact of economic growth on the environment, particularly on the CO<sub>2</sub> emissions. Al-mulali (2011) found that CO<sub>2</sub> emissions have a long run relationship with economic growth in MENA countries. Moreover, there is a bi-directional Granger causality between CO<sub>2</sub> emission and economic growth in both the short run and the long run.

Shahbaz, Khraief, and Jemaa (2015), conducted a study in Tunisia that reveals energy consumption, road infrastructure and transport value added, increases CO<sub>2</sub> emissions. They found a bidirectional relationship between energy consumption, transport value added and CO<sub>2</sub> emissions. Transport CO<sub>2</sub> emissions have also been well studied by other researchers but with different explanatory variables. Jariyapan (2012) studied the transport CO<sub>2</sub> emissions for 16 countries with explanatory variables such as economic growth, trade openness and urbanization. Meanwhile, Ratanavaraha and Jomnonkwao (2015) used size of population, GDP, and the number of small, medium and large sized registered vehicles as the variables for their study on Thailand. Large sized registered vehicle, GDP and population exert significant effects on CO<sub>2</sub> emissions from transportation. Wenyu, Tao and Xiaoshu (2015) found that in China, most socio-economic, urban and transportation development factors had significant positive effects on per capita CO<sub>2</sub> emissions from transportation. Many studies have also examined how increases in GDP or economic growth lead to increases in pollution. Among such studies, Nasir, Rawawi and Sharif (2012) found evidence that there exists short run and long run relationship between GDP and CO<sub>2</sub> emissions. There is bidirectional causality between these variables. Govindaraju and Chor (2013) similarly conclude that economic growth plays a greater role in contributing to CO<sub>2</sub> emissions in ASEAN-5 economies. The study found that Malaysia's GDP affects CO<sub>2</sub> emission in the long run. On the other hand, Ahmet, (2012) explored the relationship between economic growth and CO<sub>2</sub> damage using the panel fixed effects method. Results reveal a positive relationship between both variables for the sample of 213 countries between 1970 and 2008.

Increase in population is linked to urbanization growth, leading to higher demand for energy and pollution levels (Keho, 2015). Therefore, studies were conducted to determine the relationship between urbanization density and CO<sub>2</sub> emissions. Jariyapan (2012) found that urbanization actually exerts a negative impact on transport CO<sub>2</sub> emissions. Sharma (2011) also discovers that urbanization exerts a negative impact on CO<sub>2</sub> emissions in 69 high, middle and low income countries from 1985 to 2005. In China, urbanization influences CO<sub>2</sub> emissions. However, it is the least important variable (Xiaoling & Boqiang, 2017). Another study on China by Bin and Boqiang (2015) shows that the nonlinear impact of urbanization reveals an inverted "U-shaped" pattern on account of large-scale population migrations in the early stages and expanding use of non-polluting urban rail public transportation and hybrid fuel vehicles at the later stage. Tay, Rahman and Labadin, (2012) found population density not to have any direct effect on CO<sub>2</sub> emissions in Malaysia.

Transportation is the key driver for economic growth and development. Nevertheless, the recent rapid growth of transportation has worsened the environment. Ubaidillah, Rahim and Ismail (2012) found that in Malaysia, there is a long run relationship between GDP, population, oil price and vehicle with CO<sub>2</sub> emissions between 1980 and 2009. There is also a bidirectional relationship between the number of vehicles and CO<sub>2</sub> emissions. Meanwhile, Sugihara et al. (2009) discovers that the number of passenger car per capita has a positive effect on CO<sub>2</sub> levels per capita. Ong, Mahlia and Masjuki (2012) concluded that passenger cars are the main cause of CO<sub>2</sub> emissions. Bin and Boqiang (2015) who investigated factors affecting CO<sub>2</sub> emissions in China's transport sector found private vehicles population follows an inverted "U-shaped" relationship with CO<sub>2</sub> emissions. For Jakarta, Ahyahudin and Iwa (2016) explained that the higher CO<sub>2</sub> emission is due to the rapid increase in the number of motorcycles and private vehicles arising from urbanization.

The above discussion clearly shows that economic growth, urbanization and transportation could influence the CO<sub>2</sub> emissions. Studies on Malaysia however, have obtained mixed findings (Ubaidillah et al., 2012; Tay et al., 2012; Nasir et al., 2012; Govindaraju & Chor, 2013; Idham et. al., 2013 among others).

## **METHODS**

Annual data from 1980 to 2011 for each variable is used. Real GDP data, representing economic growth, is obtained from the Penn World Table. The number of cars registered with the Road Transport Department Malaysia serves as the proxy for private vehicle. CO<sub>2</sub> emission from transportation and urbanization growth annual data is obtained from the World Bank. The general form of empirical model adopted from Bin and



Boqiang (2015) is applied to identify the relationship amongst the variables. The function is expressed in its logarithm form, as seen below:

$$\log \text{TCOE}_{2ti} = f(\log \text{RGDP}_{ti}, \log \text{Urb}_{ti}, \log \text{CAR}_{ti}) \quad (1)$$

where  $\log \text{TCOE}_{2ti}$  = log of carbon dioxide from the transportation sector;  $\log \text{RGDP}_{ti}$  = log of Real Gross Domestic Product;  $\log \text{Urb}_{ti}$  = log of urbanization growth and  $\log \text{CAR}_{ti}$  = log of private vehicle.

The ARDL cointegration technique is used to estimate the model above. Based on the bounds testing procedure by Pesaran et al. (2001), the test for the joint significance of the coefficients of the lagged level variables is performed. From the equation that incorporates the long run multipliers and the short-run dynamic coefficients in a conditional vector equilibrium correction model, the F statistic obtained is then compared with two sets of critical values that create a band. If the F-statistic exceeds the upper level of the band, the null hypothesis can be rejected, indicating the variables are cointegrated. If the statistic lies below the lower band, the null hypothesis cannot be rejected, indicating no cointegration (Narayan, 2004). Next, the short-run dynamic coefficients through the error correction model associated with the long-run model are estimated. A negative and significant coefficient of the error correction indicates the speed of adjustment as the variables converge to their long run equilibrium. The granger causality test is also conducted to determine which variable precedes which.

## FINDINGS AND ARGUMENTS

The result of the Bounds test is inconclusive as to whether or not cointegration exists since the value of F-statistic of 4.14 lies in between the upper and lower bounds at 5% significance level for unrestricted intercept and no trend case. The presence of cointegration could only then be confirmed by the error correction model that demonstrates a negative and significant error correction term. Thus, the variables in the model move together towards equilibrium in the long run. The estimated error correction model yields such results:

$$\begin{aligned} \Delta \log \text{TCOE}_t = & 0.049 + 0.183 \Delta \log \text{TCOE}_{t-1} + 0.548 \Delta \log \text{TCOE}_{t-3} - 0.833 \Delta \log \text{RGDP}_{t-4} - 0.491 \Delta \log \text{URB}_{t-1} \\ & (1.656) \quad (0.974) \quad (2.169)** \quad (-1.803) \quad (-2.456)** \\ & - 0.289 \Delta \log \text{URB}_{t-3} + 0.462 \Delta \log \text{URB}_{t-4} - 0.085 \Delta \log \text{CAR}_{t-1} - 0.107 \Delta \log \text{CAR}_{t-3} + 0.183 \Delta \log \text{CAR}_{t-4} \\ & (-1.411) \quad (2.259)** \quad (-2.729)** \quad (-2.873)** \quad (2.901)** \\ & - 0.756 \text{ECT}_{t-1} \\ & (-3.161)*** \end{aligned}$$

*Note: Numbers in parentheses are t-ratios, \*\*\*, \*\*, \* indicates significance at 1 percent, 5 percent and 10 percent, respectively.*

The model above shows the short run dynamic coefficients for the four variables. In the short run, transport CO<sub>2</sub> emissions in the past three years, past one and four years urbanization as well as past one, three and four years private vehicle significantly influence the CO<sub>2</sub> emissions. The signs of the coefficients are, however, mixed. The error correction term that is negative and significant indicates the speed of adjustment is very fast. As much as 76 percent of the disequilibrium from a given shock is corrected within one period, as the system reverts back to its long run equilibrium. The short run model exhibits an R<sup>2</sup> of approximately 68 percent and passes the diagnostic test for serial correlation implying that there is no serial correlation. The CUSUM test conducted shows that the parameters are stable over the sample period. The findings point out that increase in urbanization and the number of private vehicles contribute to the increase in the CO<sub>2</sub> emissions after four years. This is expected since for a developing country the greater economic activities that ensue would create more pollution to the environment. However, the increase in urbanization and number of private vehicles after only one to three years cause a decrease in transport CO<sub>2</sub> emissions. Nevertheless, similar findings were obtained by Jariyapan (2012) and Sharma (2011). Additionally, the wald-test to determine the short run causality running from the independent variables to transport CO<sub>2</sub> emissions was conducted and obtained the following results (see Table 1).

Table 1: Granger Causality Results

	$\chi^2$ -Statistic	Prob.
Null Hypothesis:		
LRGDP does not Granger Cause LTCO <sub>2</sub>	3.2516	0.0714

LURB does not Granger Cause LTCO <sub>2</sub>	12.3491	0.0063***
LCAR does not Granger Cause LTCO <sub>2</sub>	20.5206	0.0001***

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*Note: \*\*\* Reject null hypothesis at 1% level of significant.*

Both the null hypotheses ( $H_0$ ) urbanization and private vehicle does not Granger-cause transport CO<sub>2</sub> emissions can be rejected at 1% significant level. This implies that urbanization and private vehicle has a short run unidirectional causal relationship with transport CO<sub>2</sub> emissions. This result is similar with the findings obtained by Soheilakhoshnevis and Bahram (2014) for Iran.

## CONCLUSION

This study empirically investigates whether factors such as economic growth, urbanization, and private vehicle exert a long run and short run relationship with transport CO<sub>2</sub> emissions. The cointegration test indicates that there is a long run relationship amongst these variables, which are expected. Meanwhile, the Granger causality tests reveal that urbanization and private vehicle each precedes transport CO<sub>2</sub> emissions in the short run. Based on the findings, a more effective urban planning is imperative to mitigate environmental problems. The government needs to encourage people to use public transport and non-motorized transport like LRT and ERT more frequently to slow down the increase in CO<sub>2</sub> emissions. Transport CO<sub>2</sub> emissions can also be reduced by promoting the use of efficient energy like low energy building and solar energy in urban areas as well as energy efficient devices for transportation. The government should encourage research and development on bio-fuel technologies and target decarbonization in urban transportation as well as tighten vehicle standards in order to minimize CO<sub>2</sub> emissions.

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# ELECTRICITY CONSUMPTION AND ECONOMIC GROWTH IN ASEAN DEVELOPING COUNTRIES: PANEL DATA ANALYSIS

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## EXTENDED ABSTRACT

The relationship and causality direction between electricity consumption and economic growth is an important issue in the fields of energy economics and policies towards energy use. This study extends research in this area by studying the long-run and causal relations between economic growth, electricity consumption, labor and capital based on the neo-classical one sector aggregate production technology model. The study uses electricity consumption and real GDP measures the economic growth of these countries. These relations are analyzed for a group of six ASEANs developing countries. The analysis is conducted using advanced panel estimation approaches. Panel Auto Regressive Distribution Lags (ARDL) estimation technique found long run co-integration between variables. However, results from the panel Granger Causality method found no causality in the short run and in the long-run between energy consumption and economic growth.

**Keywords:** Electricity consumption, energy consumption, economic growth

## INTRODUCTION

Energy is essential to human societies and assumed a critical part in economic growth. It had turned into a significant contributor for worldwide economy in the course of the last few decades. Today, the need for energy has become the most important and the basic concern for many nations around the world, as the consumption levels continue to rise. Therefore, the relationship between energy consumption and economic growth has been a topical subject among economists and policymakers and taking into account that it may provide guidance for governments in the formulation of energy policies.

Energy can be disaggregated into oil, gas, electricity and coal. However, oil seems to be the most frequently used proxy for energy in the past studies to determine economic growth either by considering the price or the consumption of the energy itself, for example, Masih and Masih (1996) and Asafu-Adjaye (2000). Electricity, on the other hand, is an astounding quality energy component because it supports a wide range of products and services that encourages growth (Adom, 2011). Considering the rise in lifestyle, electricity is a vital infrastructural input for economic development especially in the growing countries. A country's economy growth and its electricity consumption are believed to be connected whether in the short-run or in the long-run. Generally, any changes in electricity consumption are often positively associated with the changes in economic growth. Past experiences of the developed countries also point out that electricity played an important role in shifting their status from developing into developed countries. This makes electricity consumption to be positively and highly linked with economic development.

Previous researches on this topic have further helped in documenting the direction of causality between the electricity consumption and economic growth in most economies around the world; and the extent to which the variables affect each other (Apergis & Payne, 2010). Yet as expected, the studies yield mixed and conflicting results.

Based on the analysis of trends data on GDP and electricity consumption for ASEAN provided by United Nations (2015) and World Bank (2015), it is apparent that the continuous increase in electricity consumption is quite consistent with GDP. However, the continuous increase in electricity consumption for the few ASEAN developing countries such as Malaysia, Thailand, and Vietnam seem to move greater than GDP, even compared to developed countries like Singapore. These differences could be interrogated and further investigation is needed to explain the reason.

## LITERATURE REVIEW

The purpose of this study is to find the relationship between energy consumption and economic growth, hence, the production model framework is employed based on the conventional neo-classical one-sector aggregate production technology proposed by Ghali and El-Sakka (2004), which was also employed by Yuan et al. (2008). This model treats capital, labor, and energy as separate inputs:

$$Y_t = f(K_t, L_t, E_t) \quad (1)$$

where  $Y$  is aggregate output or real GDP,  $K$  is the capital or gross capital formation,  $L$  is the labor or total labor force,  $E$  is energy or electricity consumption, and the subscript  $t$  denotes the time period. Taking the differential of Eq. (1) and dividing through by  $Y_t$ , there is:

$$\dot{Y}_t = a\dot{K}_t b\dot{L}_t c\dot{E}_t \quad (2)$$

where a dot at the top of a variable means that the variable is now in the growth rate form.  $\dot{Y}_t$  is the rate of change of economic growth,  $\dot{K}_t$  is the rate of change of capital,  $\dot{L}_t$  is the rate of change of labor and  $\dot{E}_t$  is the rate of change of electricity consumption. The constant parameters  $a$ ,  $b$  and  $c$  are the elasticity of output with respect to capital, labor, and energy, respectively.

The relationship between economic growth, capital, labor, and energy consumption described in the production function in Eq. (2), suggests that their long-run movements may be related. Furthermore, if the short-run dynamics in factor-input behavior is allowed, the analysis above would also suggest that past changes in capital, labor, and energy consumption could provide significant evidence in projecting the changes of economic growth, and *ceteris paribus* in the future. The study of the relationship between energy consumption and economic growth started with the inspiring research by Kraft and Kraft (1978). They discovered that increased economic growth leads to increased energy consumption. However, several researchers started to doubt the findings. Hence, the relationship between energy consumption and economic growth has been widely investigated.

Considering the developing countries consume a lot of energy, there is possibility for a causality relationship running from energy consumption to economic growth. This is supported by Bekhet and Othman (2011) who studied causality analysis of energy-growth relationship in Malaysia. Similarly, Hye and Riaz (2008) found energy consumption may cause economic growth in Pakistan, but, only in the short-run period. However, Aziz (2011) who studied energy-growth relationship in Malaysia, revealed that there is a causality running from economic growth to energy consumption, which is similar to the previous results of Hou (2009) for China. Soile (2012) also found a unidirectional causality running from economic growth to energy consumption for Indonesia. Dahmardeh et al. (2012) conducted a study in 10 Asian developing countries, using data from 1980-2008 and discovered a bidirectional relationship between energy consumption and economic growth.

Though energy consumption and economic growth appear to be highly related in developed countries, the condition may not be applicable to all developing countries. Mahmoodi and Mahmoodi (2011), who examined the causality relationship between energy consumption and economic growth in Sri Lanka found no causality between energy consumption and economic growth. This confirms the results from an earlier study by Chontanawat et al. (2006), who found no causality for and India. Another study by Razzaqi and Sherbaz (2010) on the D8 countries revealed no causality between energy and economic growth for Indonesia.

## METHODOLOGY

The study utilizes panel data from 1983 to 2012 on electricity consumption, labor, capital and real GDP for six ASEAN developing countries namely Malaysia, Thailand, Indonesia, Philippines, LAO P.D.R. and Vietnam.

Panel unit root tests are implemented to look at the level of joining between variables. It has been prescribed as an option for inspecting the causal relationship between energy consumption (electricity) and economic growth (GDP) in a panel structure. This technique is prevalently utilized on the grounds that the asymptotic dissemination is standard ordinary, rather than the non-typical asymptotic circulations (Baltagi, 2004). Panel unit root test is recently one of the most popular tests because of its higher power compared to the unit root tests for individual time series (Adhikari & Chen, 2012). The test for unit roots is conducted using three panel based methodologies proposed by Levin et al. (2002), hence, alluded to as LLC. Im et al. (2003) starting here and into the future alluded to as IPS, and Breitung (2000).

For cointegration test, the model is estimated using the ARDL developed by Pesaran and Smith (1995). This study applies the ARDL as this procedure performs better in small or finite samples (as in the present study), in the sense that it gives relatively more robust (efficient) results than other cointegration techniques. For panel analysis, Pesaran, et al. (1999) suggest Mean Group (MG) model in order to resolve the bias due to heterogeneous slopes in dynamic panels. The MG estimator, on the other hand, provides the long-run parameters for the panel by making an average of the long-run parameters from ARDL models for individual countries. The Pool Mean Group was applied in order to detect the long and short run association between energy consumption and economic growth, and also to investigate the possible heterogeneous dynamic issue across countries. Since it produces results for both estimations, PMG and MG, Hausman test is needed to test whether there is a significant difference between the PMG and MG.

Cointegration result does not specify the direction of the causality relation. Therefore, Granger causality test is implemented to establish the direction of panel causality. If the panel series are found to be not cointegrated, we employ unrestricted VAR causality. For the case where panel series are found to be cointegrated, it means causality exists between the variables, but the result still does not specify the direction of causality. We adopt panel based error correction model or known as vector error correction model (VECM). This technique uses the two-step process to examine Granger causality in the long-run relationship as proposed by Engle and Granger (1987). The first step is estimating the residuals from the long-run model, and the second step includes fitting the evaluated residuals as a right-hand variable in an element lapse amendment model.

## FINDINGS AND ARGUMENTS

### Panel Unit Root Tests

The present study uses three panel unit root tests as follows.

**Table 1: Results of the Panel Unit Root Test**

Variables	LLC		IPS		Breitung	
	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.
LnGDP	-3.5849 (0.0002)*	-4.4092 (0.0000)*	-0.7554 (0.2250)	-5.0008 (0.0000)*	1.3226 (0.9070)	-4.1757 (0.0000)*
LnElectricity	-3.7472 (0.0001)*	-4.5148 (0.0000)*	-3.3495 (0.0004)*	-6.7625 (0.0000)*	1.5702 (0.9418)	-5.0359 (0.0000)*
LnLabor	-1.5071 (0.0659)	-2.9797 (0.0014)*	0.6232 (0.7334)	-5.4494 (0.0000)*	3.112 (0.9991)	-5.1266 (0.0000)*
LnCapital	-0.6101 (0.2709)	-3.4632 (0.0003)*	-1.6484 (0.0496)*	-6.4368 (0.0000)*	-1.4059 (0.0799)	-4.6801 (0.0000)*

Notes: LLC, IPS, and Breitung examine the null hypothesis of non-stationarity, and \* indicates statistical significance at the 5 percent level. All tests assume asymptotic normality. The lag length is automatic selected using the Akaike Information Criteria. All variables are in natural logarithms (LN).

Based on the results above, LLC test indicates that LnGDP and LnElectricity are stationary at level. Meanwhile, IPS test shows that the null hypothesis of non-stationary can be rejected at 5 percent level of significance for LnElectricity and LnCapital at level. Other than that, all variables are non-stationary at level. However, after the variables are converted into the first difference, all tests indicate statistical significance at 5 percent level. Therefore, based on the panel unit root test for developing countries, it can be established that the variables are stationary at first difference, I(1). Considering results above, developing countries is integrated at first difference, I(1).

### Panel Cointegration Test

**Table 2: Results of the Panel ARDL**

Variables	MG Estimation		PMG Estimation		Hausman
	Coef.	P> z	Coef.	P> z	
LnElectricity	0.033808	0.923	0.3293004	0.000	Prob>chi2= 0.0149
LR LnLabor	1.454215	0.293	0.5923499	0.012	
LnCapital	0.0222087	0.942	0.344987	0.000	
ECT	-0.2420505	0.000	-0.1116824	0.142	
D.LnElectricity (-1)	0.041152	0.664	0.0660375	0.551	
SR D.LnElectricity (-2)	-0.0199949	0.716	-0.0136806	0.808	
D.LnLabor(-1)	-1.082654	0.066	-0.7970996	0.170	
D.LnCapital(-1)	0.0997544	0.000	0.1170969	0.000	
Constant	0.5224493	0.448	-0.0995368	0.405	

Note: Estimations are done by using (xtpmg) routine in Stata. The lag structure is ARDL (1, 2, 1, 1), and the order of variables is real GDP, energy consumption, labor force and real gross fixed capital. All the ASEAN developing countries, annual data 1983–2012.

Table 2 reports that only ECT and D.LnCapital(-1) coefficients are statistically significant in the short-run and the long-run period in MG estimator. Giving PMG estimation, error correction coefficient in the long-run (-0.1116824) is negative. These

findings show an existence of a long-run negative relationship. The error correction coefficient corresponds to the speed of reaching equilibrium in the long run. However, since error correction coefficient is not significant ( $p = 0.142$ ), this finding is not valid.

In the long run, PMG estimation results show that the coefficient of LnElectricity, LnLabor and LnCapital are statistically significant at the 5 percent significance level, and the effect is positive as expected by the energy-growth theory. All independent variables coefficients are reported to have a long-run impact on GDP of developing countries. The coefficients of the variables are positive, which indicate that when the electricity consumption, labor and capital rate increases, GDP rate will also increase.

In summary, it was discovered that there is a long-run cointegration among all variables, particularly between electricity consumption and economic growth. Therefore, there is evidence that electricity consumption is an important contributing factor to economic growth. The results also indicate that any changes in electricity consumption would bring a significant impact on economic growth in the long-run (Lee and Chang, 2008).

### Panel Causality Tests

**Table 3: Results of the Panel Causality Test**

Dependent variable	Independent variables				
	Short Run				Long Run
	$\Delta LGDP$	$\Delta LEC$	$\Delta LLBR$	$\Delta LCPTL$	ECT
$\Delta LGDP$	-	0.161838 (0.9223)	0.993501 (0.6085)	7.93318 (0.0189)***	-0.001084 (0.8930)
$\Delta LEC$	2.574948 (0.2760)	-	1.525743 (0.4663)	1.59733 (0.4499)	-0.003058 (0.1497)
$\Delta LLBR$	1.955897 (0.3761)	1.340302 (0.5116)	-	1.904716 (0.3858)	-0.000159 (0.1122)
$\Delta LCPTL$	13.59543 (0.0011)***	0.140612 (0.9321)	0.168393 (0.9193)	-	-0.163938 (0.0000)***

Notes: Figures denote F-statistic values. P-values are in parentheses. ECT indicates the estimated error correction term. \*, \*\*, \*\*\* indicates statistical significance at the 10, 5 and 1 percent level, respectively.

The results of VECM causality show no evidence of short-run causality running from electricity consumption to real GDP and vice versa as shown in the table above. It was also found that none of the variables show significant impact on electricity consumption and labor. The results indicate that real gross fixed capital formation has a significant impact in the short run on real GDP at 5 percent significance levels and at the same time, real GDP also indicates a significant impact on real gross fixed capital at 1 percent significance level. Thus, it should be noted that there is a short-run causality running from real gross fixed capital formation to real GDP and from real GDP to real gross fixed capital formation. These results indicate that there is bidirectional causality between the real gross fixed capital formation and GDP.

Further analysis has found that the coefficient of the error-correction term is statistically significant for capital equation at 16.39 percent. This suggests that the deviation of capital from short-run to the long-run is corrected by 16 percent each year, and convergence to equilibrium after a shock to capital takes about 5 to 6 years. It was also found that error-correction term is statistically significant at 1 percent level towards the capital, which suggests that capital is responsive to adjustments towards long-term equilibrium at 16.39 percent.

### CONCLUSION

As a whole, the demand for electricity in ASEAN is growing at a very fast pace since it is required for economic growth and development. Looking at the electricity consumption trend, which expected to be increased higher in the near future, there is a concern among ASEAN leaders and the world community that this region will be facing an energy crisis in the near future. Such crisis may affect the growth of ASEAN as it has been established by the outcomes of the estimation because energy has long-run implications in economic growth for this region as a whole. Therefore, the respective governments through the ASEAN community should establish an immediate and effective plan in order to avoid potential turmoil due to the energy crisis in the future. One of the approaches and might be the only answer to the energy-related problems is the development of renewable energy to generate electricity. Thus, the study in the future should include the element of renewable energy in ASEAN.

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## TOURISM SUPPORTS ECONOMIC GROWTH IN SOUTH ASIAN PACIFIC: AN EMERICA: REVIEW

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### EXTENDED ABSTRACT

The role of tourism industry has been promoted and acknowledged as a fundamental tool for comprehensive economic growth possessing the parallel position as capital. The idea of tourism industry is still under the discussions by the researchers belonging to social, economic and management sciences. The researchers has been discussing it for developed and faster developing countries, however, the discussion of tourism for south east Asia region is still a gray area which needs to be focused. This is an empirical research investigating the relationship of tourism and GDP growth for south Asian countries particularly considering the idea of Economic Growth. This particular study have tried to look at the correlation and regression analysis to examine the relation between variables after analyzing its descriptive trend of increased tourism. The vibrant role of tourism is being advocated by this paper in regard to the economic development of South Asian countries unless they are facing some serious environmental concerns. Indeed, the tourism trends seem not only bridging the gaps with other multiple economies but also can assist the south Asian economies to grow and develop. Furthermore, this study will support discussion and provide insights which will be useful to design an intervention to achieve the sustainable development goals specifically in south Asia pacific region.

**Keywords:** Tourism, Economic Growth, South Asia

### Introduction

The main agenda of any developed, developing or less developed countries has always been the economic growth of the country. Different industrial dynamics have been taken into the consideration to look forward the economic growth. Economic growth is defined as a capacity of an economy to increase production of goods and services compare to one period of time to another. Most of the times the economic growth is measured in terms of Gross National product (GNP) and Gross Domestic product (GDP). As since it has been realized that although economic growth is a macro factor but, it is an outcome of the strata of many small micro factors. So, all the activities that affect micro and macro factors have been studied widely around the globe. Tourism is one of them. In that regard It is stated important by World Tourism organization to know, that to what extent tourism contributes to economic growth and what are the government revenues which are attributable to tourism (Brockwell, 2011)

The first ever definition of tourism by Guyer Feuler in 1905 has defined it as a phenomenology that deals with people's need to look for a change and to relax, and deals with people's wants of exploring the beauty of nature and art and their certainty that nature gives happiness to them and also it helps the communities and nations to get to know each other. It brings the development in communication and commerce industry, furthermore, enhances the transportation tools. In the early 90's the concept was new and hence the definition was broader. The increase and growth of tourism has brought the attention of all local and international agencies to reach to a consensus definition of tourism and its related concepts. Then another definition of tourism states tourism as the time being move away of people from their original living or work places and the initiatives they take on these new places to carter their needs (Mathieson and Wall, 1982). With the increased interest in tourism and passage of time it was again defined as the aggregate of outputs resulting in order to attract and host these visitors or tourists by business suppliers, host governments and host communities (Macintosh and Goeldner, 1986). Somehow, the emerging definition of tourism by UNWTO is defined as the set of actions involved in by persons known as visitors for the time being away from their normal setting for a period of not exceeding more than one year, and for an extensive range of leisure, business, religious, health, and personal reasons, without the intention to follow up for some kind of compensation or the intention of residence (Report, 1994). Hence, these particular definitions denies the idea that simple travel is a tourism, rather it contains certain conditions. In addition, (Brockwell, 2011) identified tourism as an industry though it is different industry as compare to the rest conventional ones. Hence this difference makes the measurement or understanding of tourism different. Moreover, the increase in number of tourism has dramatically brought the attention of national statistical agencies and other international organizations to get to some concrete points to define the tourism and its related concepts.

History of tourism is perhaps as old as that mankind. But as an organized, as large scale activity, qualifying for the status of industry, tourism came into the prominence in current century especially after the Second World War. And now, is ranked as the fastest growing industry in the world. The social and economic specialists are considering tourism as an important

contributor to economic growth as similar as capital in recent times. As since from the era of globalization and revolution, the dramatic changes have been occurred all around the globe. People are more experienced, mobile and careful in choosing their destinations. They are more keen and eager to look for the holidays seeking out different activities (European Commission, 2002). As mentioned in figure 1, according to the UNWTO report, most of the increased tourism trend has been observed in Europe with a 52.8% share, following up the Asia and Pacific with 21.0% share. In America its share is observed as about of 16.4%. Whereas, middle east, Africa and from origins that are not specified, tourism shares 3.8%, 2.9% and 3.0% simultaneously. These figures brought intention of the agencies to look after the definitions and concepts of tourism.

One third of population's home is in South Asia. The highest and the second highest mountains peaks of the world are being placed in this region (Mount Everest, K2). Best of the world's excellence water resources are in this area through the river systems originating from the Himalayas. Few of world's best oceans i.e. Coral reefs of Maldives, some of the best beaches i.e. Coxes Bazar and mangrove areas i.e. Sunder bans are also placed in this similar region. It also possess unmatched biodiversity (Sinharaja, Chitwan). Few of the wonders of world are being placed here including Taj Mahal, Ajanta, Sigiriya, Timpu, Taxila, all of them have history culture and heritage which is date back of thousands years. Maritime people, for centuries have been finding this region as a hotspot for them. All the colonial powers used to be here, but now it's almost home to all the religions of world. Not only people over here are warm and friendly but also its cuisine is outstanding. South Asia has all the key ingredients in order to delight its visitors. Yet, According to the Alwis (2008), Poverty, gender related issues, health are the issues that demolish this region's image. Economic growth is one of the essential and desired elements for these developing countries to fix the problem of poverty and unemployment.

As since the studies as (Guyer & Fuelel, Mathieson & Wall, Macintosh & Goeldner, UNWTO reports, Brockwell) identified that tourism is not only visiting activity, rather it impacts so many sectors of economy including hotels, transportation, textile and few others. Hence, all these impacted micro factors result in some big change at macro level which may positively or negatively impact economic growth. The development of tourism industry by itself is an ample example. Although, the assumption has been confirmed by world tourism organization in 2011. Still, this study attempts to predict either in which way tourism is impacting economic growth, positively or negatively, particularly for South Asian countries. Tourism industry is considered as one of major sources of foreign exchange for several countries in including Asian countries namely as: Nepal, Maldives, Srilanka, Bhuta, India, Pakistan and Bangladesh. For these, under developed economies, Bhutan and Maldives are good examples who have no primary sector of significance and also lack export diversification, yet tourism over there is prominent source of economic growth. Tourist activities are seen as they bring the foreign exchange, creates employment opportunities and contribute in revenues. In the recent times, Tourism has emerged as the vital contributing factor to the economic growth of developing countries. For instance, ample of studies in the territory of tourism led economic growth hypothesis indicate that tourism positively and significantly contribute to the economic growth (Balaguer & Cantavella-jordá, 2002; Lean & Tang, 2010; Tang & Tan, 2013). According to the World Bank statistics tourism is increasing in South Asian countries namely, Pakistan, India, Bangladesh, Sri Lanka, Nepal, Maldives and Bhutan since 1995. Which can be seen here in the following figure:

#### **PROBLEM STATEMENT**

The major countries that are generating tourism are highly developed economies, for instance, United Kingdom, France, Poland, Italy, Belgium, Cyprus and more. Through the figure 1 we can see that the trend of tourism is more vivid for European countries with 52.8% of share. And assisting those developed economies to strengthen their economic growth by influencing multiple micro factors which are used to cater the needs of tourism. The Asia region, following up those developed economies considerably is observed as possessing the second best share with a ratio of 21.0% share. The fastest growing economies of Asia region are fostering and developing the tourism industry ravishingly mainly China, Japan, Indonesia, Malaysia, Cambodia, Vietnam and more. This derives the attention in particular for South Asian countries to understand vividly that either increase tourism is fostering economic growth or not. As since, in these south Asian countries there are some other control factors as well including inflation, poverty and climate in some places. These factors might neutralize the contribution of tourism for economic growth in south Asian countries. Whereas, the absence of these factors for developing economies is the assurity of good impact of tourism for economic growth. Nonetheless, the importance to study the impact of tourism has been more focused since from the time UNWTO has stated tourism as a way of poverty alleviation. Tourism industry started flourishing in South Asian countries namely, Pakistan, India, Maldives, Nepal, Srilanka, Bhutan and Bangladesh since 1995. But the economic growth of these countries remained fluctuating and even declined as shown in the above cited graphs. This situation makes policy makers and government officials of the South Asian countries to inquire either the tourism induce economic growth or economic growth encourages the tourism to these countries. To investigate this phenomenon in South Asia, this study put forwards the following research questions:

#### **Research Question**

- 1 Is there any impact of tourism on economic growth?
- 2 Is there any causal relationship between economic growth and tourism?

#### **Research Objectives**

To answer the aforementioned questions the study set the following objectives:

- 1 To identify the impact of tourism on Economic Growth in South Asia.
- 2 To identify is there causal relationship between economic growth and tourism in South Asia.

Figure 1.

International Tourist Arrivals By (Sub) Region					
	2009	2010*	Change (%)		Share (%)
			09/08	10/09	2010*
World	882	940	-3.8	6.6	100
From:					
Europe	479.7	496.1	-5.5	3.4	52.8
Asia and the Pacific	178.8	197.4	-1.9	10.4	21.0
Americas	146.3	154.4	-3.4	5.5	16.4
Middle East	32.7	36.0	2.7	10.2	3.8
Africa	25.8	27.5	-0.1	6.5	2.9
Origin not specified	18.6	28.5			3.0
Same region	689.2	721.3	-3.7	4.7	76.7
Other regions	174.2	190.1	-4.9	9.1	20.2

Source: World Tourism Organisation (UNWTO)

Data as collected by UNWTO, June 2011

Figure 1 : International Tourism receipts ( current US \$)  
Source: World Tourism Organization

Figure 2.

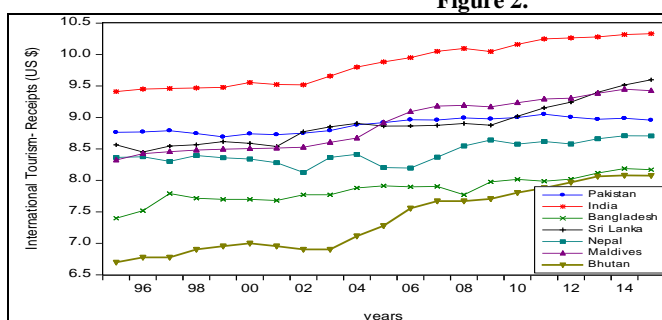


Figure 2 : International Tourism receipts ( current US \$)  
Source: World Development Indicators

## LITERATURE REVIEW

There is plethora of research to explain either there is any impact of tourism industry on economic growth of the host country or not. Nonetheless, the outcome of the studies proved to be inconclusive and require further research to have robust findings. For instance, Pratt (2015), by using Computable General Equilibrium (CGE) model, input output model and linkage method observed that tourism has positively and significantly contributed to the seven Small Island Developing States (SIDS). Moreover, Aslan (2014) through employing panel Granger causality test, examines the tourism led hypothesis in the Mediterranean countries for the period 1995-2010. The study concludes that for some countries such as Spain, Italy, Tunisia, Cyprus, Croatia, Bulgaria and Greece the bi directional relationship between economic growth and tourism is observed and it supports the tourism led growth hypothesis. However, for Malta and Egypt, there is found no bidirectional relationship. Similarly, Brida, Lanzilotta, & Lionetti (2006), find the tourism led growth hypothesis robust for the Uruguay. By using the co-integration techniques the study holds that tourism from Argentina positively impacts the economic growth of Uruguay in the long run. In another study, Lean and Tang (2010) examines the validity of tourism led hypothesis in Malaysia for the period 1989-2009. The study confirms the tourism led hypothesis for the Malaysia. Hence, by most of the studies in different contexts answers are in yes of our first research question, that either there is a relationship between tourism and economic growth. Lee & Chang (2008), estimate the influence of tourism on economic growth of OECD and non-OECD countries through using heterogeneous panel co integration techniques for the period 1990-2002. The findings of the study conclude that to OECD countries. Lastly, the findings of the study stat that for OECD countries unidirectional causality relationship has been observed by applying panel causality test, whereas for non OECD countries bidirectional relationship has been observed but relatively week for Asia region as whole. On a global level, once allowing for the heterogeneous country effect, a co-integrated relationship among GDP and tourism development is endorsed. It is also determined so as to tourism development has a greater impact on GDP in non-OECD countries as compare to OECD countries.

But, Oh (2005), while investigating the tourism led hypothesis for Korea by using Angel and Granger two stage approach and a bivariate auto regressive model finds that there is no impact of tourism on the economic growth of Korea. For the country of South Korea, no impact has been observed on economic growth so there is found no support tourism led growth hypothesis for South Korea. Tugcu (2014), tried to measure the impact of tourism on economic growth of European, Asian, and African countries for the period 1998-2011. The study through using Granger causality test observed that there is no linear relationship between tourism and economic growth but the growth depends on the country group and tourism indicator. Among the selected countries, European countries are more successful in generating economic growth through tourism. Among few

The literature review indicates that there is no robust finding for the tourism led economic growth hypothesis. In addition, there is a lack of research focusing the tourism and economic growth relationship for south Asian countries. This study will endeavor to fill this gap in literature through conducting a scientific study in order to access the tourism impact on economic growth for South Asian countries.

#### Model

The current study will follow the simple regression, where the percentage of explanatory variable explain the percentage change of dependent variable.

$$Y_i = b_0 + b_1X + e$$

In the above production function “Y<sub>i</sub>” is GDP growth rate percentage change, “b<sub>0</sub>” is denoting the factors which are constant. Whereas “b<sub>1</sub>X” is depicting the slope of line for change in “x”, and x is tourism (measured by international receipts in US\$). “e” is considered as term, which might occurs because of other factors to which we assume are constant. i.e. poverty, inflation, infrastructure etc.

#### METHODOLOGY

The study is using quantitative research design, as this particular research design is used to examine the relationship among variables (Burns & Grove 2005:23). The percentage change has been calculated for both of the variables in order to see the general trend and to identify the direction between tourism and economic growth. The general trend of the percentage has helped the researcher to predict the general relation of tourism with economic growth for south Asian countries. Hence, afterwards the regression analysis has been applied to test the relationship which is in line with the nature of project and phenomenon under consideration. This analysis technique has helped the researcher to approve or disapprove the relationship between tourism and economic growth for south Asian countries. Thus depicted, carefully collected data during the period from 1995 to 2015 for south Asian countries has been analyzed to support the assumption and answer the research questions postulated in the study. Thus study is explanatory in nature and follows up a deductive approach, Quantitative epistemology is being adopted to investigate the relation and the strength of relation between variables. This study intends to measure that how tourism is impacting the economic growth or how the relationship exists amongst tourism and economic growth or there is causal relationship among these two variables in selected South Asian countries namely, Pakistan, India, Bangladesh, Sri Lanka, Maldives, Bhutan and Nepal for the period 1995 to 2015. All the data has been extracted from World Bank, OECD and world tourism organization accounts files for the period of 1995 to 2015 considering seven South Asian countries excluding Afghanistan because of its missing data. The calculated percentages have been run through SPSS software to identify the relationship amongst variables.

#### FINDINGS AND ARGUMENT

After running the data through SPSS software, we found some results in form of the following tables. The summary statistics have been described in *Table 1*. The mean value of total 119 observations is 0.1161 with a standard deviation of 0.1311 for GDP US\$. The less variance from mean shows that our sample chosen is true representative of population. Similar is the case with international tourist receipts with mean of 0.1458 and standard deviation of 0.29111. Still we see the less dispersion of value from mean, denoting itself as a true representative of population. Somehow, we observe more difference between mean and standard deviation of international tourism receipts as compare to the mean and standard deviation of GDP. This is because of the little bit instability of data available for international tourist receipts as compare to the GDP which is stable and consistent. The Pearson correlation value of 0.586, as being closer to one shows there is a strong relationship between two variables. So, we can say that changes in international tourist receipts may cause change in GDP. These results answer our first research objective that if we see economic growth as GDP growth and tourism as international tourist receipts, then there is a significant relationship between tourism and economic growth. *Table 2* depicts R=0.586. This R value represents the simple correlation and indicates a high degree of correlation. In *Table 3* R square exhibits 33.7% of the variation in GDP growth can be explained by international tourist receipts. Which might be good enough as a one prominent contributing factor for GDP growth. And this analysis answers our second research objective. *Table 4*, the Anova table indicates the regression model predicts the dependent variable significantly well.

**Table 1: Descriptive Statistics (Collective for countries)**

	Mean	Std. Deviation	N
Percentage Change GDP	.1162	.13116	119
Percentage Change INT receipts	.1458	.29118	119

**Table 2: Partial Correlation Coefficient Matrix**

International Tourism, Receipts (Current US\$) n=17	GDP (Current USD \$) n=119
Bangladesh	0.362 (0.153)
Bhutan	0.365 (0.149)
India	.660** (0.004)
Maldives	.629** (0.007)
Nepal	0.131 (0.618)
Pakistan	.616** (0.008)
Sri lanka	.525* (0.003)

\*\* Correlation is significant at the 0.01 level (2-tailed)  
 \*\* Correlation is significant at the 0.05 level (2-tailed)

**Table 3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	1	.586	.343	.337	.1068
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**Table 4: Anova**

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	.696	1	.696	61.049	.000
	Residual	1.334	117	.011		
	Total	2.030	118			

## Conclusion

South Asian countries are a rich strata of population in terms of scenery, culture and heritage, thus now are becoming the policy focus for exploiting tourism adoption strategies. Considering all other factors constant, it has been predicted in this paper that tourism also enhance economic growth of these countries. But, the tourism sector has not been promoted yet much in these south Asian countries because of the lower paid attention towards it for past few decades. Still, the speed and growth of tourism for south Asian countries is subjected to the policy focus. This research using the percentage change in economic growth (GDP per year) and tourism (international tourism receipts) seeks to predict the relationship between tourism and economic growth, in order to completely understand the worth of tourism for the economic growth of countries. A since by UNWTO, tourism has been stated as a way of poverty reduction too. This activity by UNWTO confirms the positive role of tourism in macro factors of economies as well. Thus, we take it as a support for prediction that tourism has positive impact on economic growth. Since, the tourism impact many industries i.e. food, transport, clothing, so, the tourist's spending should have an impact on macro factors of the economy. The literature, on the positive relationship between tourism and economic growth helps to explain the research questions of this study. The paper is based on Tourism led growth hypothesis to explain the direction of impact of tourism to economic growth. After, the study is clearly able to predict that there is positive relation between tourism and economic growth for most of the south Asian countries, mainly for Nepal, Bangladesh, Maldives and Bhutan. India, Pakistan, Sri Lanka are in follow up to exploit the economic growth benefit resulting from tourism industry. Somehow, the implication of this research is that it ignores the impact of poverty or financial development for tourism, which are also major drivers of economic growth because of time constraints. In future, determinants of tourism demand can be studied keeping in view all these other important macro factors also in consideration. This study is helpful for the policy makers to support the existing tourism growth policy matters and to initiate the newer ones, considering its strong impact on economic growth, which has been main agenda ever for the policy makers.

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# CONVENTIONAL VERSUS SHARIA MICROBANKS EFFICIENCY : CASES FROM WEST JAVA PROVINCE, INDONESIA

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## EXTENDED ABSTRACT

Small business can continue to exist in the middle of a business challenge, because financial supported from microbanks which called Bank Perkreditan Rakyat (BPR), either conventional microbanks (BPR) or sharia microbanks / Bank Perkreditan Rakyat Syariah (BPRS). Sharia banking today on its development continues to increase along with the economic development of sharia that are increasingly in demand. The fact that Indonesia is destined to become the country with the largest Muslim population in the world. The BPRS profitability levels nationwide, showed a trend of data continues to increase, from the past years, but the BPR is inversely related to the BPRS, which showed a declining trend during the same period, although BPR existed beforehand than BPRS. Therefore, in this the research problem is to study differences in efficiency through Data Envelopment Analysis (DEA), between the conventional microbanks (BPR) and sharia microbanks (BPRS) cases in West Java province, as the center of BPR and BPRS development in Indonesia. The results revealed that there was no difference in efficiency between BPR and BPRS. BPR is not more efficient than the BPRS. Thus, BPRS despite the economic scale is smaller than BPR, but can achieve the same efficiency as BPR.

**Keywords:** microbank, sharia, efficiency, data envelopment analysis

## INTRODUCTION

The Government today continue to boost sources of financing easier for small and medium enterprises (SMEs) by providing bank's credit without collateral. Hafidz et.al (2013), in Indonesia, the financial system is bank-based economy, financing for SMEs today tend to be dominated by the banking sector, both commercial banks and micro banks or in Indonesia called Bank Perkreditan Rakyat (BPR). At first, not many commercial banks that extend credit to SMEs, especially for small businesses. Micro-credit granting more synonymous initially carried out by micro banks, and other microfinance institutions. The objective of establishing a micro bank is basically to serve farmers or ranchers, or small entrepreneurs who have not been touched by commercial bank services.

BPR started to develop since 1988, the Indonesia Government issued a Policy Package October 1988 (PAKTO 1988) which is the initial momentum of the establishment of BPRs. The policy provides clarity about the existence, and business activities of the BPR. Meanwhile, sharia micro banks or Bank Perkreditan Rakyat Syariah (BPRS) develops after the BPR. The presence of Islamic banks in Indonesia have been formally recognized after 1992, by the enactment of Act. No. 7 of 1992 as amended by Act 10 of 1998 on Banking. According to the law, there are two types of Islamic banks in Indonesia, sharia conventional banks and sharia micro banks. BPRS first in Indonesia was established in 1991 in West Java. BPRS today on its development continues to increase along with the economic development of sharia that are increasingly in demand. This fact raises awareness in most economic scholars and practitioners of the need for an economy that is in accordance with the values of Islam run by the Muslim community in Indonesia.

Yahya et.al. (2012), argue that Islamic banking and finance industry has improved tremendously to become a viable and competitive alternative to conventional financial systems at the global level. Islamic banking and finance institutions have captured major markets such as the Middle East, South East, and South East Asia. There are 164 BPRS in Indonesia as of November 2016. Meanwhile, the number reached 1638 for conventional micro bank (BPR). BPRS in the development of the business has increased in recent years, compared with BPR that already emerged starting in the 1980s. The main problem is the development of small business financing.

The two types of banking today continues to grow, along with the rise in small and medium enterprise business, and business in general. So, it should be assumed that there are differences in efficiency between BPRS and BPR. Using Data Envelopment Analysis (DEA) efficiency measurement, the study focused on BPR and BPRS in West Java province, the national operations of the two types of banks, and have seen a large market share of total assets as proxy in Indonesia.

## LITERATURE REVIEW

The Bank has a central role in the economic system and financial markets. The economic crisis in Indonesia in 1998, preceded the collapse of several banks. Therefore, efficiency is important in managing bank risk. Alsarhan (2009) state that the efficiency of the banking system is one of the most important issues in the financial market because the efficiency of banks can affect the stability of the banking industry, and thus the effectiveness of the whole monetary system. Perera and Skully (2012) states that academic research is primarily focused on the efficiency of the bank to the two methodologies, namely parametric and non-parametric. It is further mentioned Perera and Skully cited Bauer (1998), a parametric approach using econometric techniques for estimation of efficiency allow for random error, so that it can be separated inefficiencies with random noise. However, this parametric approach, there is a shortage or bias because the data distribution assumption that it is difficult to separate random error with efficiency itself, and also both are difficult to observe. In contrast, non-parametric approach (such as Data Envelopment Analysis / DEA) using mathematical programming techniques to obtain a score for efficiency. Not restricted by assuming the form of functional structures such techniques. While the limitations are assuming no random error, or no error due to measurement.

DEA first model known as the CCR (Charnes-Cooper-Rhodes) model, the development of the concept of efficiency. Cava et.al. (2016) explains that the DEA is a mathematical technique program which calculates the relative efficiency of a homogeneous unit. This homogeneous unit called Decision Making Unit (DMU), which are all showing the same activity that it could do a comparison. DMU stated efficient when the efficiency score is 1, while the DMU with efficiency values of less than 1 otherwise inefficient. DEA technique is also known as non-parametric mathematical program used to estimate the frontier. CCR DEA models then further developed by Banker, known as BCC models. The difference between the two models of the DEA is on the assumption of the model used. CCR Model using the assumption of constant returns to scale (CRS) which means one unit of input will generate a fixed output unit. Instead, the BCC model uses the assumption of variable returns to scale.

## METHODOLOGY

Efficiency method in this study is using Data Envelopment Analysis (DEA). DEA in efficiency measurement is more powerful than other efficiency analyzes such as ratio analysis, which is partial. DEA includes elements of output and input variables with no restrictions on the number of variables, resulting in an analysis with comprehensive information of existing entities on the object / bank. DEA also does not require assumptions for input and output variables as well as functional equations like among variables in statistical analysis such as regression analysis. DEA is a mathematical model to maximize the function of ratio between output and input, and it is using linear programming calculation. The optimization model can divided into two models, using the assumption of constant returns to scale (CRS) which means one unit of input will generate a fixed output unit. Instead, the other model using the assumption of variable returns to scale (VRS), the ratio of addition of input and output are not the same (variable). At CCR model, the increase in input makes the output increases proportionally. VRS model assumes DMU under variable returns to scale, if the alleged increase in input does not produce proportional changes in output.

Determining the input and output variables by intermediation approach. According to Cava et.al (2016), bank on this approach is seen as a capital intermediary. The point is that banks raise funds from the agency budget surplus and lend funds to the agency to lack of funds (deficit), and subsequently obtained a commission for the services performed. In accordance with the characteristics of bank lending, with limited banking activities, compared to commercial banks.

Determination of input-output, based on the course of a study previously for efficiency in commercial and micro banks, adjusted to the structure of the financial statements for the availability of data input-output. Therefore variable input / output used in this study are: 1.) Input: third-party funds, total assets, operating costs; 2.) Output: total loans, operating income, other income.

Data sources for the input-output in the study came from secondary data obtained from the annual financial statements, Balance Sheet & Income Statement of BPR and BPRS samples in the period of 2012-2016. The 5

year periods was taken assumed to be fairly used as a basis in the changes in efficiency, and productivity of BPR and BPRS. The study of bank efficiency is addressed to BPR and BPRS in West Java province, with the consideration that the turnover of assets to the largest Islamic is West Java. Also for BPR, West Java is still the second largest after Central Java. Based on the data from Otoritas Jasa Keuangan (OJK), in West Java, there are 117 Conventional BPR in 24 regencies / cities, and 22 BPRS in 12 District Municipality.

Sample of BPR / BPRS taken judgmental, that BPR / BPRS with the largest asset in every district / municipality. Also with the restriction that the value of third-party funds, at least 50% of total assets, it is to support the intermediary approach. The data also may not disconnected from the year of 2012 to 2016.

Sampling for the last 5 years (2012-2016), it is bring sufficient information to the changes that occur in the object of research. In that years span there was also no economic condition that caused the analysis to be misleading. DEA as a non-parametric analysis does not require large samples, so 5-year observation data is sufficient as the sample to be analyzed. The study also used Malmquist Index. Cooper et al. (2004): Malmquist Index is part of DEA method that can be used to process non-parametric panel data. Malmquist index (MI) is often used to measure changes in productivity of a DMU. The index value can be decomposed from changes in technology and change in efficiency.

Inference statistics used to determine which micro bank is more efficient, between BPR and BPRS, in this case Mann-Whitney test (U) is used. Siegel (1997: 145) states that the Mann-Whitney test can be used to test whether two independent groups have been drawn from the same population.

## FINDINGS AND ARGUMENT

The efficiency score for BPRs and BPRSs can concluded in a graphic as follows:

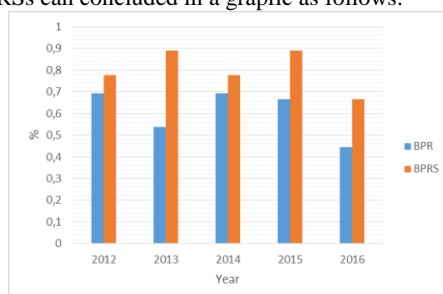


Figure 1. Comparison of bank efficiency (%), 2012-2016

The graph above shows overall in 2012-2016, BPRS achieved more efficiencies compared with the BPR. Based on the input and output data, can be described that on average the total assets of BPR showed better than that indicated resources by the BPRS, but the BPRS also can reach the maximum value of the total assets that equal the maximum value of total assets of BPR. The average value of the third-party fund owned by BPR is larger than the BPRS, BPR's operational activities require a larger operating costs compared to the BPRS. At the output variables on average, granting loans to customers of the BPR continued to increase during the period of 2012-2016. But, in terms of operating income in subsequent years show a maximum value of operating income from BPRS is larger than the BPR. So, in terms of input that either BPR or BPRS can reach increased, but in term of output BPRS can reach greater value than BPR, especially in the variable of operating income.

It can be deduced that in 2012-2016, some of BPRSs able to reach the total asset value of BPR, even with third-party funds in the average under BPR, but with smaller operating costs than BPR. The third input variable conditions of the BPRS is able to match the growth in total loans during 2012-2016, with operating income greater than BPR. Therefore, the more BPRSs achieve greater efficiency than the BPRs, in the period of 2012-2016.

In the aggregate, the ratio of the number of BPRs and BPRSs which productive is as follows.



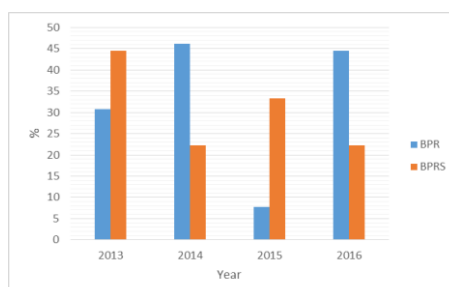


Figure 2. The Comparison of Productive Bank (%), 2012-2016

The above graph shows overall for the year 2013-2016, the productivity of the BPRS and BPR are volatile. Overall productivity gains from software calculation for BPR / BPRS is only happening in 2013. In the subsequent years is not reached productivity. In 2013, BPRSs are more productive than BPRs, so that in 2013, the BPRS is better in efficiency compared to 2012. By contrast the efficiency of BPR in 2012, little has experienced an increase of efficiency in 2013. In the years that followed, one after another mutual between the BPR with BPRS in productivity gains. So that, both BPRs and BPRSs have yet to implement productivity as a reference in management. Bank operations are emphasizing on the quantity of input or output, so the efficiency is more easily achieved than productivity. Bank has not emphasized on increasing in output to produce efficient performance with a fixed input. There is no difference in efficiency between BPR and BPRS according to the Mann-Whitney test. Based on sample data from 2012 to 2016, BPR is not more efficient than the BPRS. Thus, BPRS despite the economic scale is smaller than BPR, but can achieve the same efficiency as BPR. These results indicate that the ability of Islamic banks to compete with commercial banks. Where in previous studies, commercial banks tend to be more efficient than Islamic banks. But, in the context of the BPR study, it turns out that the BPRS has been able to achieve efficiencies that is the same as BPR. The development of the BPRS will get better because it has a different market segment with mainstream banking. The BPRS market share in West Java is still very large.

## CONCLUSIONS

DEA resulted that BPRS provides better efficiency results compared with the BPR. This description is derived from the number of BPRS achieve efficiencies and meet the criteria in the year of 2012-2016. In 2012-2016, some BPRS able to approach the total asset value of BPR, even with third-party funds in the average is below BPR, but with a smaller operating costs than BPR. However, from the aspect of productivity, both BPR and BPRS, over a period of years, in average, only in 2012, reaching the level of productivity in accordance with the criteria of Malmquist Index. Descriptively, some BPRS are more efficient than BPR, but from the aspect of inference there was no significant difference in efficiency. BPR is not more efficient than the BPRS. So, it is not proven that a larger-scale effort shown by BPR is more efficient than the BPRS that relatively smaller scale of their business.

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# DGT 7 RELOCATION AND HRSG INSTALLATION PROJECT INVESTMENT ANALYSIS – CASE STUDY AT OIL FIELD BLOCK IN CENTRAL SUMATRA

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## EXTENDED ABSTRACT

Gas Turbine DGT 7, operated by company XYZ, has low utilization (~40%) due to location and manpower dispatching issue. The project to relocate DGT 7 and install new equipment Heat Recovery Steam Generator (HRSG) is proposed. The research objective is to analyze project financial using Discounted Cash Flow of NPV, IRR, DPI, and PBP parameters for Cost Recovery Contract between XYZ and Government of Indonesia and new Gross Split scheme due to the Contract will be expired in 2021. Total Project Capital is US\$ 15,900,000 and Operation Cost is following Company projection. Total project benefits from gas saving by increasing operation efficiency and replacing DSF (Steam Boiler) units operation is 4.73 BBTUD. Keys of uncertainty: Oil Price, HRSG Production, Project Capital, and Project Duration. DCF analysis for existing Contract shows all parameters are positive and DPI value is 1.15. Gross Split scheme shows all DCF parameters are positive and the DPI value is 2.70. Oil price and HRSG production is the most sensitive variables for this project. Thus, the project is not acceptable in this current Contract by company investment policy that required DPI above 1.20 rather than NPV criteria. However, the project can be re-evaluated in Gross Split Contract.

**Keywords:** *DGT 7 Relocation, HRSG Installation, PSC scheme, Discounted Cash Flow Analysis, Sensitivity Analysis.*

## INTRODUCTION

PT XYZ operates one of Oil Field Block located in Central Sumatra, Indonesia. XYZ has own electric power system separated with National Electricity Company (PLN) system. To supply electricity in their operational field, XYZ operates 17 Gas Turbines (GTs) & 5 Heat Recovery Steam Generators (HRSGs) which consist of 3 area: MGT, CGT, and DGT. DGT 7, one of GT unit in DGT area that was installed in 1983, has low utilization (~40%) due to location and manpower dispatching issue. In order to improve DGT 7 utilization, the project to relocate the unit to CGT area, which is located ~15 kms from DGT area, and install new HRSG to produce steam without burning gas is proposed.

The proposed project will require investment costs for relocating, constructing and equipment procuring with potential benefit from fuel gas saving. Thus, the business issue is to know how economic of the proposed project investment. Due to the issue, this reaserch objective is to analyze project investment of alternative to relocate DGT 7 and install new HRSG after relocation using current PSC Contract scheme (Net split with Cost Recovery) and comparing with new GOI PSC Contract Gross Split scheme based on Energy and Mineral Resources (ESDM) Minister Regulation no.08 year 2017 (Permen ESDM Nomor 08 Tahun 2017). The Discounted Cash Flow (DCF) method will be utilized in this investment project analysis.

There are several questions that shall be answered in this research:

1. Is the project financially acceptable by the company?
2. Which key of uncertainty variable will be the most sensitive variable for the project?
3. Which PSC scheme will give more benefit, net split (with Cost Recovery) or gross split?

The research scope will be in Power Cost Reduction due to efficiency increment, Steam Cost Reduction due to HRSG installation, Economical Analysis using DCF parameters of Discounted Profitability Index (DPI), Net Present Value (NPV), Internal Rate of Return (IRR), Sensitivity Analysis for the key of uncertainty factors defined using Tornado Chart, and comparison of the investment project analysis for existing PSC & new Gross Split PSC.

In this research there are some limitation that will be considered as the research out of scope. First is production scale of declining reserve issue and assume that the declining reserve will not impacting the project benefit as of the end of the

project period. And the second is engineering aspect of the project such as Front End Engineering Design (FEED) result also will be considered as given data in this research study.

## LITERATURE REVIEW

DCF is one of the methods used to estimate total value of all future cash flows both in and out and then discounting them using discount rate ( $r$ ) to find a present value of that cash. DCF analysis is widely used in Investment Project Analysis.

The calculation formula for DCF is as follow:

$$DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_n}{(1+r)^n}$$

CF = Cash Flow

$r$  = discount rate

Discount rate is return rate that use to convert amount of cash spending or receive in the future to be as present value. Theoretically, discount rate should reflect an opportunity cost of capital that put to other investment with same risk.

The advantages of DCF:

- ✓ Clear, consistent decision criteria for all projects
- ✓ Same results regardless of risk preferences of investors
- ✓ Quantitative, decent level of precision and economically rational
- ✓ Not as vulnerable to accounting conventions
- ✓ Factors in the time value of money
- ✓ Relatively simple, widely taught, widely accepted
- ✓ Simple to explain to management

The disadvantages of DCF:

- ✓ Decision are made now, and cash flow are fixed
- ✓ Projects are “mini firms” and they are interchangeable with whole firms
- ✓ Once launched, all projects are passively managed
- ✓ Future free cash flow streams are all highly predictable
- ✓ Discount rate used as the sources of all financial risk for the project

## METHODOLOGY

The project investment for DGT 7 Relocation & HRSG Installation will be analyzed using the following flow process:

1. Collect data of project investment & operating cost estimation
2. Determine key of uncertainty of the project
3. Oil price forecasting analysis
4. Cash flow calculation using existing PSC Scheme & new PSC Gross Split Scheme
5. Investment Project analysis using Discounted Cash Flow by the following parameters:
  - a. Net present Value (NPV)
  - b. Internal Rate of Return (IRR)
  - c. Pay Back Period (PBP)
  - d. Discounted Profitability Index (DPI)
6. Sensitivity Analysis related with key uncertainty input parameters
7. Comparison of PSC Net Split & Gross Split Scheme

DCF method is used to analyze project investment both under PSC Net Split Cost Recovery and Gross Split Scheme. The existing scheme is PSC Net Split with production cost recovery. In PSC Net Split, SKKMigas, as the represent of Government Of Indonesia, will refund the amount of cost recovery that comprised of capital and operation expenses. The production profit after cost recovery will be shared to Contractor's share 23.08% before tax or 12% after tax as described in PSC agreement between XYZ and GOI for Oil field block in Central Sumatra. The analysis will be started from 2017 as of 15 years after project construction completed as the remaining life of DGT 7. The capital expense will be refunded based on depreciation calculation. For production facility capital, Cost Recovery scheme for depreciation stated in PSC is recovered for 5 years start on 1st year operation/production using Declining Balance Method for year 1-4 with 25% depreciation rate. The rest of depreciation will be recovered in 5th year. The discount rate is stated as 10% as per Company standard and also already stated on PSC agreement. This rate is being compared with calculation of Company data using Weighted Average Cost of Capital (WACC) method that gives value 10.36%.

Gross Split scheme concept is to split production share between contractor and GOI whereas the production cost will be contractor responsible. So the scheme eliminates cost recovery responsibility of GOI to contractor. The base split stated by

GOI for Oil production is 57% and 43% for GOI and contractor respectively before tax, which will be threatened as per oil upstream activities tax rule.

## FINDINGS AND ARGUMENT

The framework of the project investment analysis above can be described at Flow Chart and IPO diagram on Figure 1 below.

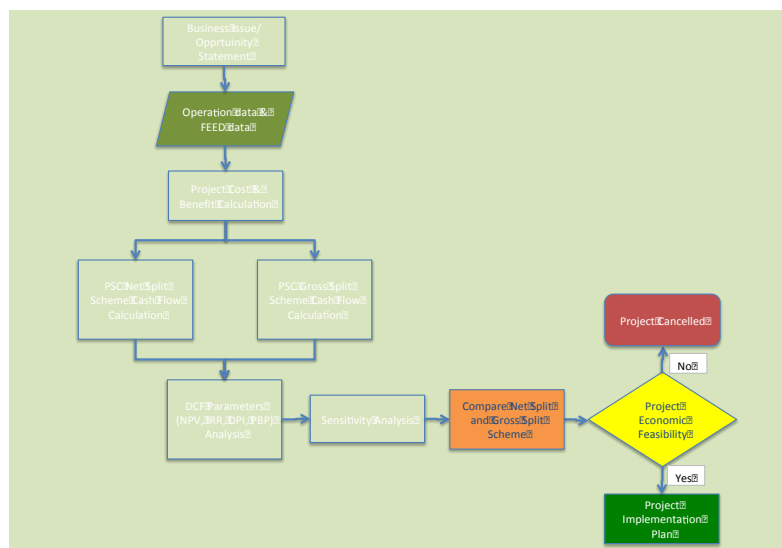


Figure 1 Project Investment Analysis Flow Chart

Total Project Capital is US\$ 15,900,000 based on Front End Engineering Design (FEED) data. The investment consists of relocation cost, construction cost, and procuring new HRSG and auxiliary equipment. The OPEX base data for Operation and Maintenance Cost in 2017 is US\$ 1,522,022 per year consists of Operation Cost = US\$ 1,222,022 and Maintenance Cost = US\$ 300,000, and its gradually increasing yearly based on Company projection. Total project benefit from gas saving is 4.73 BBTUD, consists of gas saving for power generation efficiency increment and replacing Steam Boiler units operation. The revenue is gas saving multiplied by Oil price, which is using World Bank price forecasting.

Cash generated or consumed by an investment is called “cash flow”. The important point about cash flow is that it involves actual cash transactions, not accounting entries. The net cash flow calculation is following both Net Split and Gross Split scheme, which is depicted in Figure 2.

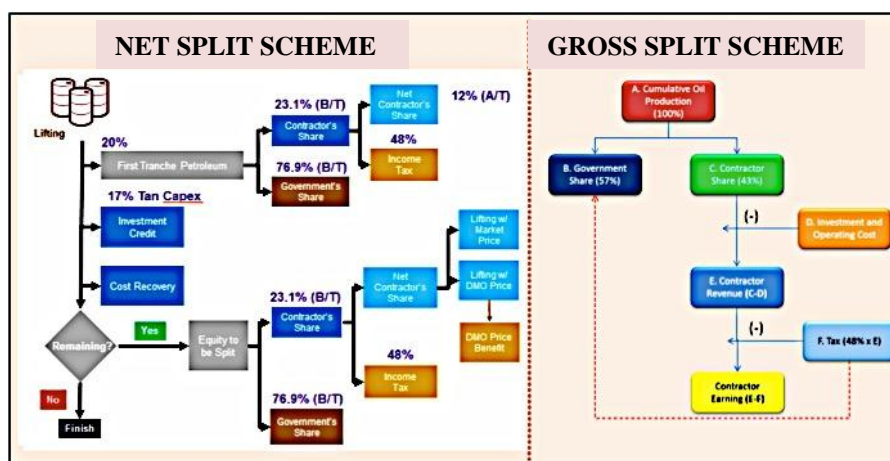


Figure 2. PSC Net Split & Gross Split Scheme

Based on Figure 2 for Net Split Scheme, there are three (3) components in cash flow calculation that will be delivering company profit, which are Contractor First Tranche Petroleum (FTP) share, Company Equity to be Split (ETS) share, and Domestic Market Obligation (DMO) price benefit. FTP is the oil and gas shared by the parties in PSC before the cost

recovery. It is set in PSC as 20% of production. ETS is the equity that shall be split after FTP, Investment Credit and Cost Recovery. In this project case study the Investment Credit is set as zero (0) because it is out from new well or new technology category refer to PSC. DMO is set by SKK Migas in the PSC as the responsibility of contractor to sell 25% of their Gross Crude Oil share to Indonesian Market at 15% of market price.

The Gross Split scheme is simpler than Net Split. The cash flow calculation will be performed directly from Contractor Gross Split share 43% of production to determine Equity Before Interest, Tax, Depreciation, and Ammortization (EBITDA), Equity Before Interest, Tax (EBIT), Net Operation Profit After Tax (NOPAT) and Net Cash Flow (NCF).

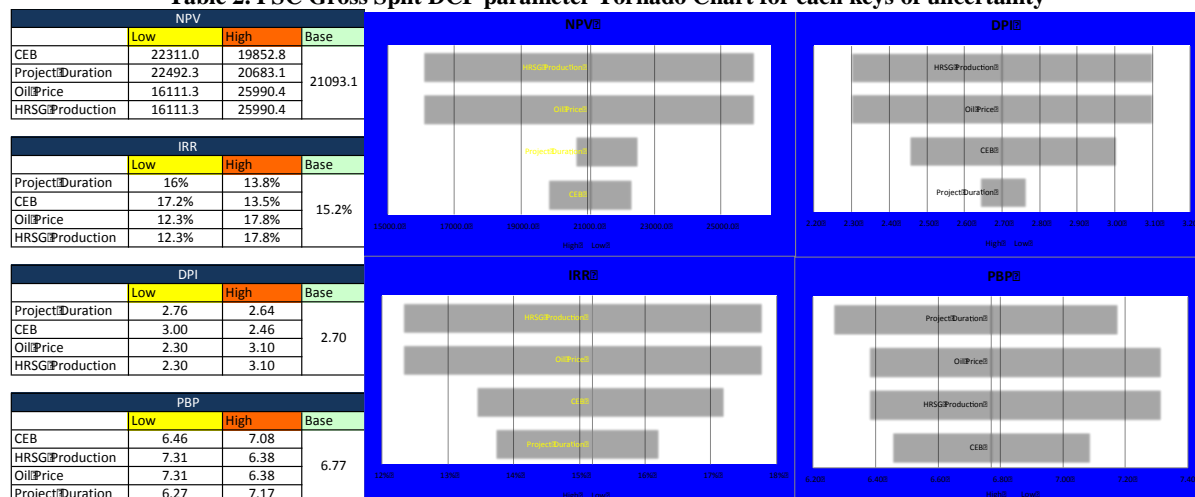
The DCF analysis gives outcome in PSC Net Split NPV = US\$ 1,816,000, IRR = 13,24%, PBP = 6.43 years, and DPI = 1.15. The outcome denotes the project is positive, means will give profit to company. Meanwhile the DCF analysis in PSC Gross Split scheme gives outcome NPV = US\$ 21,093,000, IRR = 15,19%, PBP = 6.77 years, and DPI = 2.70. The summary of comparison of Project Investment Analysis for both PSC Scheme is depicted at following Table 1.

Tabel 1. Comparison Summary of Project Investment Analysis			
Parameter		Net Split	Gross Split
Discount rate		10%	10%
Pay Back Period	Years	6.43	6.77
NCF after 15 operation years	M US\$	15,133	24,039
NPV	M US\$	1,816	21,093
IRR		13.24%	15.19%
DPI		1.15	2.70

Discounted Profitability Index is used by XYZ as company hurdle to determine a project is financially feasible to be done or not. DPI is required to measure investment efficiency. It is the indicator to determine how much value will be added per dollar investment. DPI hurdle for company is 1.20. It means that if the project DPI is exceeding 1.20 then the project can be continued.

Sensitivity analysis is the study of how the uncertainty in the output of a mathematical model or system (numerical or otherwise) can be apportioned to different sources/keys of uncertainty in its inputs. In calculating the project investment analysis, parameters determined to be keys of uncertainty are Oil price, HRSG production, Project Capital or Capital Expense Budget (CEB), and Project Duration. In order to address the most sensitive parameter of the keys of uncertainty in this project financial analysis, that is already determined in previous sub-chapter, Tornado chart is used with low-high parameter that is described as 90%-110% of Oil price, HRSG production, and CEB, and  $\pm$  6 months of Project Duration. Tornado Chart of each keys of uncertainty for PSC Gross Split is described in Table 2.

Table 2. PSC Gross Split DCF parameter Tornado Chart for each keys of uncertainty



From the table above the most sensitive parameter yielded in analysis is Oil Price and HRSG Production for NPV, IRR & DPI; except for PBP the most sensitive low parameter is project duration. This outcome is indicated that at PSC Gross Split

Scheme, the NPV, IRR, and DPI parameter in this project is very sensitive with Oil Price and HRSG Production variation. However, the minimum value of all parameters is still above Company hurdle.

## CONCLUSIONS

Based on DCF analysis outcomes, the project is below Company hurdle for DPI value on PSC Net Split with Cost Recovery scheme. The DCF analysis of the project with total CAPEX USD 15,900,000 gives result NPV = US\$ 1,816,000, IRR = 13.24%, DPI = 1.15, PBP = 6.43 years. In spite of the NPV is positive and also the IRR > discount rate 10%, which means the project will give profit to Company, the DPI is less than Company hurdle that is stated as 1.20.

Sensitivity Analysis for existing PSC scheme using Tornado Chart shows variation of the most sensitive parameter for NPV, IRR, PBP and DPI. Except for PBP value sensitivity, for the NPV, IRR, and DPI value, Project Completion becomes the most sensitive parameter for low value. The reason of this result is because in lagging or high period of project completion, equipment is late to produce so the Cost Recovery is also delayed. For high value, Total Capital Expense (CEB), Oil price and HRSG production becomes more sensitive than Project Duration. For Pay Back Period parameter, Project Duration will be the most sensitive parameter because it is related to the starting of project Cost Recovery for depreciation value that will be recovered start from the first production of the project. The late project completion the delay project break-even point. However, since the maximum DPI value in highest estimate Oil Price or HRSG Production is equal to Company hurdle, which means almost all variances is below Company hurdle, the project is not admissible by company investment policy despite NPV and IRR give positive value.

Diversely with existing PSC scheme, the new PSC Gross Split scheme calculation give result better. The DCF analysis results NPV = US\$ 21,093,000, IRR = 15.19%, DPI = 2.70 and PBP = 6.77 years.

Sensitivity analysis of new PSC Gross Split scheme yields all scenarios are giving positive value and DPI value is more than Company hurdle. It is because the NPV is quite large so it means that the profit of the project is quite large. With the large yearly profit, gross split will give more benefit share than net split. However, this condition could not be generalized with other projects within PSC Contractors or lifting cost calculation that might have higher operation cost.

In regards of above explanation, the project is not acceptable to continue in current contract due to company investment policy, nevertheless it might have been re-evaluated in new PSC Gross Split scheme.

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# COST ANALYSIS OF A NON-REVENUE-GENERATING PROJECT IN PRODUCTION SHARING CONTRACT

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## EXTENDED ABSTRACT

A non-revenue-generating project is one of investment proposals driven by safety and environmental requirements. In this research, although it is mandated by contractual obligation and regulatory requirement, the Company still has to consider the cost required to execute the project. The Company has to execute this non-revenue generating project to provide additional processing facility with thermal technology based to complete site remediation program before end of its Production Sharing Contract (PSC). Two viable alternatives, “Build Company Own Facility” and “Use Third Party Facility”, are developed and reviewed to proceed with the execution of this project. The alternative with the lowest cost will be recommended from the financial perspective.

The required CAPEX and OPEX of each alternative will be mapped into PSC cost split mechanism, including the respective depreciation method. The Discounted Cash Flow analysis is applied to the annual net cash flows resulted from the PSC cost split mechanism. The Net Present Value (NPV) analysis, including its sensitivity based on the Put Is Service schedules, resulted that “Use Third Party Facility” alternative provide the lowest cost to the Company which is indicated by the lowest negative NPV.

**Keywords:** Non-Revenue-Generating Project, Production Sharing Contract, Discounted Cash Flow, NPV

## INTRODUCTION

The Company has a continuing effort to complete appropriate site remediation in Sumatra Operations area prior to end of its Production Sharing Contract (PSC) which is mid of 2021. Site remediation program is intended to clean-up all hydrocarbon impacted soil as results of Company operations. The primary objective of this program is to avoid significant oil-related public health risks to inhabitants and to the environment within concession and area of operations.

This Company effort is also driven by the contractual obligation and regulatory requirements. This project is *one of investment proposals that is driven by safety and environmental requirements. The other investment types are expansion, replacement and strategic proposals* (Gati, 2008, p.95). There are associated risks related with inability to execute the program to the Company, such as disruption to current productions, liabilities claims, and company reputational issues.

The scopes of site remediation program are driven by the number of sites to be handled and the associated volumes of soils. Considering the expected volumes of soils to be handled and the capacities of existing facilities, the new processing facilities are required to process the impacted soil.

Therefore, the Company is exploring more alternative processing facilities of bigger capacities in order to complete the site remediation within the concession. One of the initiatives is a project to utilize Thermal Technology as a new processing facility. To be able to execute this project in meeting its objective, two viable alternatives which are “Build Company Own Facility” and “Utilize Third Party Facility” are developed and reviewed.



From the PSC Cost Recovery scheme, this non-revenue-generating project will reduce the net share of the Company and further the economics of the field where the areas to be cleaned are located. From the execution time perspective, this non-revenue-generating project also impacts the Company cash flows and the allocation of capital for other revenue generating investments.

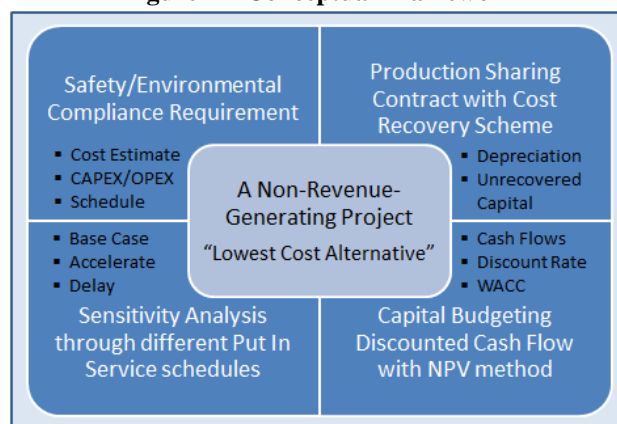
The project cost is a significant aspect to be reviewed considering the current low oil price environment. The alternative with the lowest cost which is measured with the lowest negative NPV will be recommended from the financial perspective.

## LITERATURE REVIEW

### METHODS

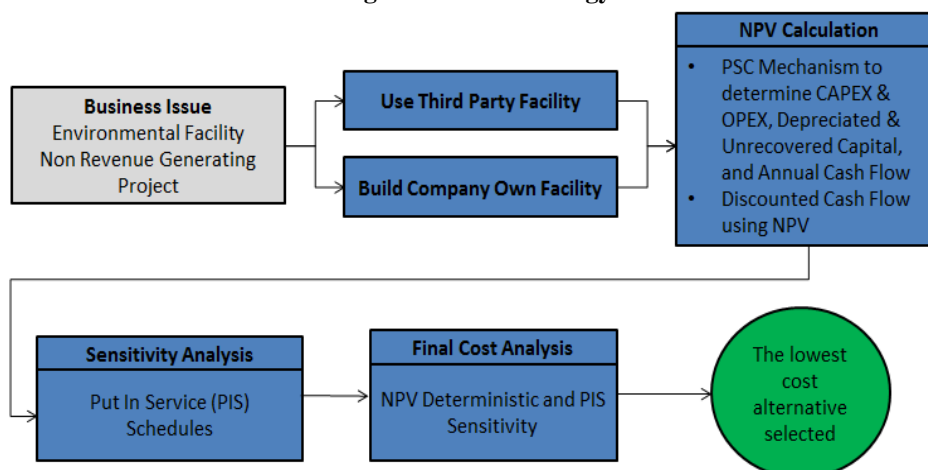
The conceptual framework is used to elaborate the theory and logically connect several variables which are important to the business issue. The business issue in this study is to determine the lowest cost to the Company in providing the new processing facility for site remediation program. This business issue is further explored using some of variables observed and measured based on the conceptual framework in **Fig 1** below.

**Figure 1 – Conceptual Framework**



In this research, the business issue related with the cost required to perform a non-revenue-generated project will be analyzed and resolved by Capital Budgeting techniques with NPV approach, with the sensitivity analysis related with different Put In Service schedules. Referring to the conceptual framework, it is critical to establish the methodology in **Fig.2** as a step-by-step process to be able to analyze and resolve the business issue.

**Figure 2 – Methodology**



## FINDINGS AND ARGUMENT

The business solution for the cost analysis of this non-revenue-generating project will refer to the process as depicted in the **Table 1** below.

**Table 1 – Process Flow for Business Solution**

ACTIVITY →	INPUT →	PROCESS →	OUTPUT
<b><u>Technical Analysis</u></b>	<b><u>Parameters</u></b>	<b><u>Methodology</u></b>	<b><u>Outcome</u></b>
1. Number of sites	1. Refined total volume of solid to be cleaned-up	1. Required CAPEX and/or OPEX, depreciated and undepreciated capital, and annual cash flow based on PSC scheme	1. Annual Cash Flows for each alternatives (base case)
2. Total volume of soils to be cleaned-up	2. Total required processing capacity	2. Different scenario based on schedule variations (base case, accelerate and delay)	2. Annual Cash Flows for each alternatives (accelerate and delay cases)
3. Existing Processing Facility Capacity	3. List of available and potential processing facilities		
	4. Soil characteristics		
Generate Alternatives	Technical analysis output	Develop well defined scopes, cost estimates and schedules	Evaluate and select alternative
Preliminary Cost & Schedule Development	Number of Alternatives and breakdown activity	Related PSC terms to define budget category and depreciation method.	Discounted Cash Flows & Sensitivity Analysis
Preliminary Cost & Schedule Analysis	Detail Scope, Cost & Schedule Development	PSC Schematic Model, Annual Cash Flows	NPV, The Lowest Cost Alternative

The results from technical analysis will generate two viable alternatives to execute the project, which are:

1) Build Company Own Facility

Company to build the processing facility by its own investment and use/operate it to process hydrocarbon impacted soils to support Company remediation program. Total project cost is USD 64.7MM which consists of CAPEX and OPEX components.

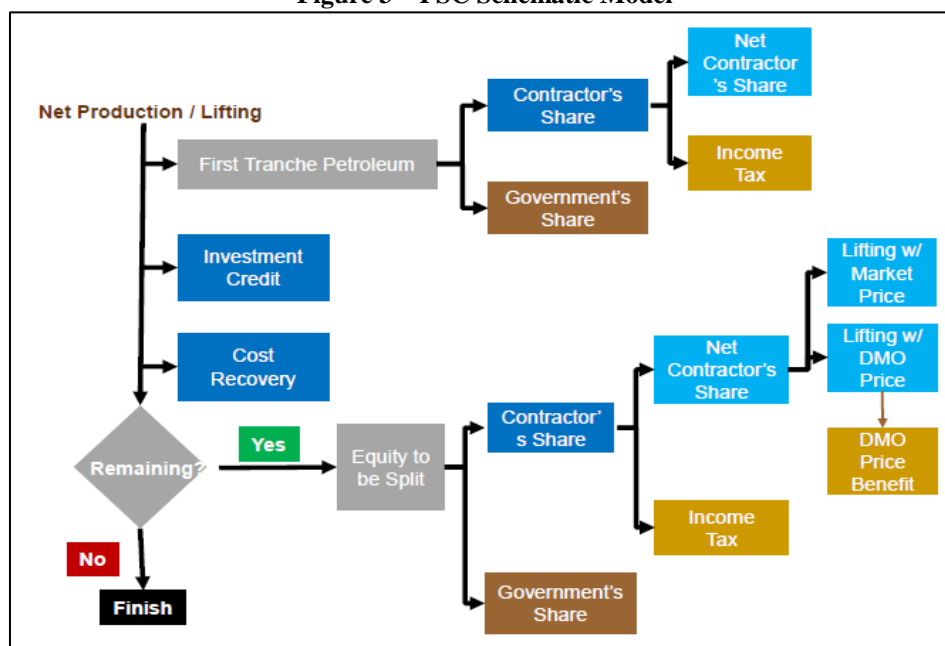
2) Use Third Party Facility

Company to use the processing facility built, owned and operated by the third party provider. Company will only pay the processing services based on certain unit cost (per cubic meter of the treated soils). The total project cost is USD 74.7MM and only consist of OPEX component

The schedules for each alternative are also developed, including the possibility of acceleration and delay scenario. The required cost translated into CAPEX and OPEX components based on related PSC terms. These cost components mapped out to PSC schematic model as detailed in the **Fig 3**, including the depreciation method, to calculate the outlook of Annual Cash Flows.

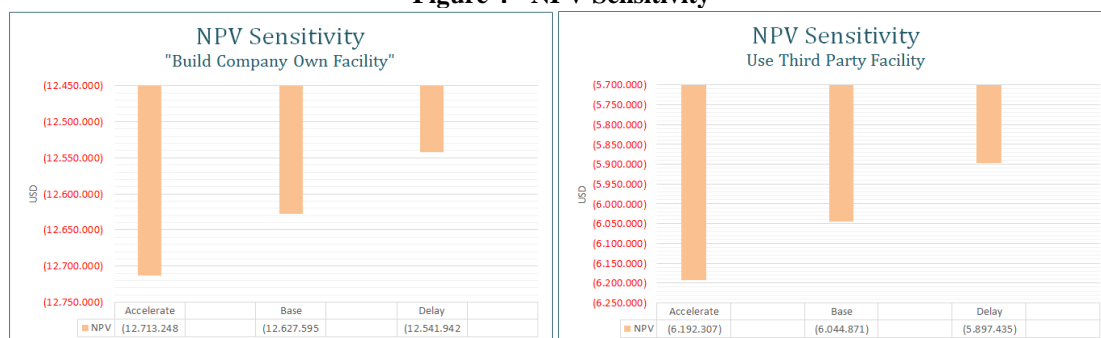
As a non-revenue-generated project, there is no oil production related with the project. The PSC split mechanism applied only for the project cost that will be part of cost recovery. Instead of splitting the equity, both Company and Government will share the cost of the project. The net cash flow split to Company is negative. In actual, the cost will reduce the net oil share from the oil produced within the block where the soils to be cleaned or the project is located.

Figure 3 – PSC Schematic Model



The uncertainties and risks associated with the project are the variables that will impact to the unrecovered capital and NPV in the base case scenario. Project schedule, in this case is the Put in Service schedule of the facility is predicted will be varied depend on some internal and external approval process and also the potential delays during procurement and constructions. The accelerated and delay of Put In Service scenarios are tested to understand the impact to the NPV for both alternatives and the unrecovered capital for “Build Company Own Facility” alternative. The results of NPV calculation and its sensitivity analysis for each alternative can be seen in Fig. 4 below.

Figure 4 - NPV Sensitivity



These results indicate that the negative NPV trending was decreasing as the Project Put In service is delaying. Generally *investors prefer an amount of cash to be received earlier to the same amount to be received later* (Bierman & Smidt, 2007, p.9). In this non-revenue-generating project, it is preferred to have the cash to be spent later than earlier. So that the later we spent the money, the better the NPV as long as the project still meet its critical objectives to complete the site cleaned up before mid of 2021. The Put Is Service delay increases risk of the project to not meeting its objectives. The gain from decreasing the cost which is measured in NPV trades-off by increasing the risk.

## CONCLUSIONS

The cost composition of a non-revenue-generating project which are CAPEX and OPEX will have different cost recovery treatment in the PSC context. In addition, the PSC depreciation terms for the CAPEX have resulted in undepreciated/unrecovered capital which has also been considered in evaluating the financial aspect of the project. The Discounted Cash Flow is implemented to determine the NPV of the project.

The alternative “Build Company Own Facility” is providing less OPEX, but its CAPEX burdens the project because of the associated undepreciated capital. This can be even worse if the project experienced delay over the year as the component of undepreciated capital becomes higher. In the other hand, the alternative to use Third Party facility is even though requiring higher OPEX, but there is no CAPEX and no associated undepreciated capital. No significant impact to the project NPV on the project delay.

The NPVs for both alternatives, including its sensitivity impacted by different Put In Service schedules, are summarized in the Table 2 below.

**Table 2 – NPV Summary & Comparison**

ALTERNATIVE	NPV		
	Accelerate	Base	Delay
Build Company Own Facility	(12.713.248)	(12.627.595)	(12.541.942)
Use Third Party Facility	(6.192.307)	(6.044.871)	(5.897.435)

The alternative of “Use Third Party Facility” is concluded as the lowest cost one as measured in its NPV. It has lower negative NPV in any sensitivity scenario (accelerate, base and delay) than other alternative and requires lowest cost to the Company to implement this project.

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# PROJECT INVESTMENT ANALYSIS OF DRILLING WELL WITH DUAL ARTIFICIAL LIFT ESP TECHNOLOGY IN CONSTRAINED “GJ” FIELD

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## EXTENDED ABSTRACT

Drilling a well in constrained field with more expensive investment in current relatively low oil price environment and bounded with block expiration issue is a challenge for Oil Company. A new technology as Dual ESP is introduced as an alternative to improve project feasibility. This paper focuses on project investment analysis by using discounted Cash Flow (DCF) method. Production sharing contract/Cost recovery and Gross split/Non-Cost Recovery schemes are evaluated as comparison and project timeline optimization. The result shows that all alternatives have DCF indicators above than oil company requirements. By PSC scheme, Alternative Baseline is the best selection with results oil production volume as 527 MSTB, NPV @ 10% as 1,535 MUSD, IRR 755%, and Pay Back Period 0.6 year and DPI 1.89. Gross Split calculation for the best alternative for 10 years gives results as oil recovery 756 MSTB NPV @10% 6,296 MUSD, IRR 135%, Payback period 1.6 years and DPI as 4.62. The same calculation under PSC gives results as oil recovery 756 MSTB NPV @10% 2,332 MUSD, IRR 75%, Payback period 1.79 years and DPI as 2.35. Overall, It is strongly recommended to conduct drilling project Alternative Baseline uses gross split scheme.

**Keywords:** : Production Sharing Contract, Cost Recovery, Dual ESP technology, Discounted Cash Flow, Gross Split

## INTRODUCTION

Oil Company has commitment to drill three wells in “GJ” field based on Plan of Development (POD) commitment. This drilling is part of “GJ” field development to retain oil production level and to drain proven reserve. This study focuses on economic drilling optimization for one well what so called as well GJ#01. Drilling cost in this well is categorized as more expensive compared to other fields under the same block. It is since “GJ” field location at river crossing. “GJ” field historically also has high well down cycle time and big loss production oil when a well goes down due to pump failure. This is since long waiting time on rig availability driven by shortage river water level during dry season.

Oil industry is known as high investment and high risk business sector. Investment return is highly depending on oil price level as direct parameter for investment return indicator. Oil price has been declined significantly from \$104/bbl in 2013 to \$ 50s/bbl on early 2017 (OPEC 2016 World Oil Outlook Report, 2016:60). Drilling execution timeline is predicted also time sensitive due to block expiration issue. Business issue of this paper is evaluating whether drilling project as part of commitment with bigger investment and big loss oil production risk is still the best alternative for company particularly in current oil price environment and block expiration limitation issue. Evaluation the best alternative uses Gross Split mechanism is also exercised to compare with cost recovery scheme.

The purpose of this study is to evaluate bigger investment of drilling in constrained “GJ” field. This plan has been stated as commitment to government in “GJ” Plan of Development. Drilling execution is facing several constraints such as more expensive drilling investment, big loss oil production risk, relatively low oil price environment and limited timeline due to block expiration issue. First two constraints are caused by field location at river crossing. Access to the field is become limited and has more uncertainty. It increases drilling investment in “GJ” field. Efforts to mitigate the constraint cover both sides drilling cost reduction and optimize oil production profile.

Oil production reduction possibility due to high well down cycle time is unavoidable in “GJ” field included proposed well GJ#01. Dual ESP is introducing in this study to address this issue. Dual ESP is a new technology in Indonesia oil companies even though it has been used commonly around oil fields in the world. A dual ESP

configuration consists of two identical pumps. When one pump is running, another pump is in standby mode. The standby pump can be started to continue the production when first pump fails or broken. It can reduce down time and remove rig necessary. Those two ESP are completely independent with duplication of all components. A dual configuration provides redundancy and hence increases system reliability. Dual systems can be beneficial if pump lives is short and the well need rig more frequent. Its installation is more common in offshore environment due to cost, loss production oil and safety issues

Y-tool is regarded as the main equipment in Dual ESP technology to enable two pumps is installed in limited wellbore clearance. It is used to in well job without pulling pump from wellbore such as cased hole logging job. Y-tool can be set temporary or permanent in wellbore based on objective and well completion strategy. There is two type of Y-tool based on position of pocket, namely Dual Y-tool configuration and Single Y-tool configuration. Based on well production casing size, there are also two types of Y-tool which is commonly used such as Y-tool for well production casing 7" and production casing 9-5/8". It is called as Dual ESP 7" and Dual ESP 9-5/8". These types refer to common well production casing population in across the world. Dual ESP 9-5/8" is aligned with current ESP ready line configuration (ESP Series 400 and 500) which is maintained by third party contract. Hence for existing well, Dual ESP 9-5/8" installation does not need ESP activation cost. Dual ESP cost for this type is only for Y-tool charge. ESP activation cost is capital spending for new artificial lift installation usually for new well or existing well but never installed with same artificial lift before.

The scope of this evaluation is investment project analysis in drilling a well in "GJ" field under cost recovery contract scheme before block expiration. Analysis is conducted from company perspective. DCF is used as method to analyse several alternatives. Gross Split scheme is also evaluated for the best Alternative Baseline. This study also included Dual ESP new technology highlight as one alternative to optimize oil production after the well has put on production.

Final outcome from this study is proposing best alternative which gives most benefits to the company using Discounted Cash flow (DCF) method such as NPV, IRR, PBP and DPI.

## METHODS

Project investment analysis on this case has been analyzed by using Discounted Cash Flow (DCF) method under Cost Recovery and Gross Split Schematic Term. Financial Indicators are as the outcome of this analysis which are Net Present Value (NPV), Payback period (PBP), Internal Rate of Return (IRR) or sometime called Rate of Return (ROR) and Discounted Profitability Index (DPI). Feasibility and effectiveness of this project is perceived from the comparison of financial indicators outcome among alternatives.

NPV is standard and traditional method that used to value long term project by 'bring' outflow and inflow in future to this time or at initial investment. Concept time value of money is introduced in NPV indicator. Gitmann and Zutter in Principle of Managerial Finance Chapter 10 define NPV as following sentence. "..... NPV is a sophisticated capital budgeting technique; found by subtracting a project's initial investment (CFO) from the present value of its cash inflows (Cf<sub>t</sub>) discounted at a rate equal to the firm's cost of capital (r)" (2015:449)

Internal rate of return (IRR) is the discount rate that equates the NPV of an investment opportunity with USD 0 (it means the present value of cash inflows equals the initial investment), (Gittman and Zutter, 2015:453). It is the rate of return to the company if the project is decided goes and it creates some cash inflows. Guideline for IRR for decision making is as follows: accept IRR and go with the project when IRR number exceeds the cost of capital and rejected or hold the project if the IRR is less than the cost of capital

Payback Period (PBP) is the method to understand time recovery of capital spending. "The payback period is the amount of time required for the firm to recover its initial investment in a project, as calculated from cash inflows" (Gittman and Zutter, 2015:445). Although popular, the payback period is generally viewed as an unsophisticated capital budgeting technique, because it does not explicitly consider the time value of money

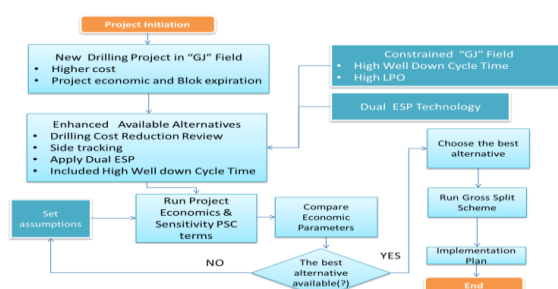
DPI is a measure of investment efficiency. It indicates how much value is added per dollar invested. DPI parameter for CX is critical indicator compared to IRR, PBP even NPV. It since DPI has been included risk factor. For investment in country with moderate to high risk, DPI become more important and regarded more reliable as project indicator. DPI guideline for this company is at level 1.3

Drilling cost structure can be grouped into seven big group based on typical and related jobs such as drilling preparation, drilling, cementing, logging, well logging interpretation, third party and oil testing. Pareto chart for these group cost mostly the same that more than 70% of drilling cost is spend out for three groups namely drilling preparation, drilling itself and cementing. The more drilling footage means higher in drilling cost, the

longer drilling time and cycle is also the higher of cost. It is similar with formation tightness. Complexity well type such as horizontal wells, side tracking wells, vertical wells, is corresponding to different drilling costs. Gross Split concept is based on the gross production split without anything related to the cost recovery mechanism. It is called as Non cost recovery scheme. The base split should constitute as the baseline in span of Plan of development (POD) with the split for oil 57% and 43% for Government and Contractor respectively, and for gas about 52% and 48% for Government and Contractor respectively. Tax treatment is to follow specific tax rules for upstream activities.

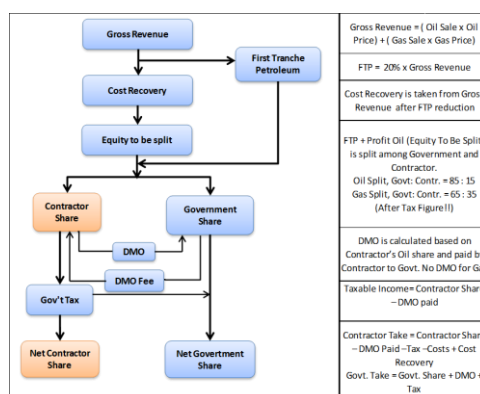
## FINDINGS AND ARGUMENT

The process in this study has been followed the process as depicted in this Figure 1. After business issue identification and exploration, there are three alternatives which each of them has different in drilling investment and production forecast profile. Net cash flow calculation for each alternative in this paper has been proceed under PSC schematic for period before block expiration and both PSC and Gross Split for after block expiration with assumption 10 years extension.



**Figure 1. Business Solution Process Flow**

DCF calculation flow that uses cost recovery scheme is following chart in Figure.2. Gross Split scheme is similar with this process except there is no FTP, depreciation and operating cost terms. There are several specific terms related to this flow such as cost recovery, depreciation, equity to be split and Domestic Market Obligation. Cost Recovery is all expenses incurred by Contractor that will be reimbursed by government as in term of crude oil valued at yearly weighted average price. Cost recovery calculation is done separately for Oil and Gas costs, but most PSCs allows for transfer of cost, in case of insufficient revenue. Unrecovered costs are carried over to subsequent year. Cost recovery consists of operating cost, intangible capital and depreciation of tangible capital. Equity to be split also known as Equity Profit is the remains after FTP, Investment Credit and Cost Recovery to be shared between Government and Contractor based on the agreed profit split. This study uses 19.23% before tax split for contractor and 80.77% for Government since the case is under Primary or Waterflood area or stage.



**Figure 2. Cost Recovery Schematic Term for Calculation**

There are two main component related to oil production in this study such as oil production forecast and oil production reduction due to high cycle down time in “GJ” field. To accomodate uncertainties factor, then

probabilistic approach was applied to estimate P10, P50 and P90 for the sensitivity with considering nearby behavior and history in term of wells and production historical data.

Dual ESP technology is introduced to address oil production reduction issue in “GJ” field since field location at river crossing. The benefit of this technology is reduce rig necessary and remove high well down cycle time which impact to oil production realization. The down size of Dual ESP is slim ESP usage compared to common ESP in single type. ESP is used to utilize 400 and 500 series but Dual ESP has to used 300 series due to wellbore limitation. It impact to maximum allowable rate which only can deliver maximum at 2,800 BFPD.

Another alternative is also has the same issue with Dual ESP such as maximum allowable rate. It as Side track alternative. This alternative is drill the well thrus side track well with 4.5” production liner and single slim ESP series 300. This alternative focuses to reduce more drilling cost by exercise side track well but no Dual ESP application due to side track trajectory well issue. Side track drilling is part of directional drilling by utilizing existing wellbore which is typically done to bypass an obstruction (fish) in the original borehole to reuse existing wells or to enhance additional reservoir exposure. Nowadays, sidetracking well is also proposed to develop multiple wells from existing borehole to more economically developing field, especially in offshore environment or constrained in well pad and land clearances. Side track in this paper is proposed to reduce drilling cost by utilize idle wells.

The last alternative is baseline. This alternative has specification as Directional well, 7” Production Casing and Single ESP. This alternative C is positioned in the middle among three alternatives. It has medium drilling cost and oil production reduction is just due to high well down cycle time risk. **Table 1** summarizes all alternatives with difference in drilling cost and production forecast profile.

**Table 1. Alternatives of Study**

Alternative	Definition	Up Side	Down Side
Alternative A Dual ESP	Directional well, 7” production casing, Dual ESP	Reduce high well down cycle time and high loss oil production, 1st Dual ESP with Y-tool 7”	Dual ESP activation cost, rate adjustment maximum liquid as 2,800 BFPD due to Dual ESP 300 series
Alternative B Side Track	Side track well, 4.5” production liner, Single slim ESP series 300	Lower drilling cost	Single ESP, Risk for high well down cycle time and high loss oil production when well down, rate adjustment maximum liquid as 2,800 BFPD due to slim ESP 300 series
Alternative C Baseline	Directional well, 7” production casing, Single ESP	Lower cost for Single ESP, Remove liquid rate limitation	Risk of high well down cycle time and high loss oil production when well down

The outlook of net cash flow and discounted net cash flow perceive how the investment works for each alternative and how good the response if the Government changes the term and mechanism. Gross Split calculation was done for best alternative. Gross split calculation process does not consider FTP, amount of depreciation and opex which entire cost responsible to the Contractor, therefore it combination between the lowest investment and production profile to deliver higher return. However, Cost Recovery term mechanism will deliver different outcome depends on the cost category on that investment. Net cash flow calculation has been summarized on **Table.2** below.

Initially drilling investment was 2,521 MUSD. Cost reduction efforts were succeed to reduce it become 1,903 MUSD. There are 3 alternatives namely Dual ESP, Side track and Baseline. All alternatives have DCF indicators above company requirements. Alternative Baseline is the best with results oil production volume as 527 MSTB, NPV @ 10% as 1,535 MUSD, IRR 755%, and Pay Back period 0.6 year and DPI 1.89. Gross Split calculation for Alternative Baseline for 10 years has results as oil recovery 756 MSTB, NPV @10% 6,269 MUSD, IRR 135%, Payback period 1.6 years and DPI as 4.62. The same calculation period but using PSC terms give results oil recovery 756 MSTB, NPV @10% 2,332 MUSD, IRR 75%, Payback period 1.79 years and DPI as 2.35.

Under PSC scheme before end of contract calculation, the highest NPV and DPI values are belong to Alternative C Baseline. The lowest NPV is gone to alternative B Side Track while for lowest DPI is alternative A Dual ESP. This project is looking for the highest in DPI and NPV but in case of DPI and NPV do not align,



then detail further review should be addressed. In case of alternative A and Alternative B, the second ranking should be put on Alternative A since the DPI different has only in small number. Payback period (PBP) and Internal Rate of Return (IRR) ranking follows DPI ranking with Alternative B at second and Alternative A at the third place.

Exercises is conducted for Gross Split and PSC post block expiration with assumption ten year block extension. Details indicator PSC post end of contract is included in Table.2. Pay back period more than 1 year for after end of contract and High IRR for before end of contract calculation are caused the project is Put on Production (POP) after one year preparation, while it has been POP at initial year for before end of contract PSC calculation. Overall it is strongly recommended to execute the best Alternative Baseline drilling project in GJ#01 uses Gross Split scheme after 2021.

**Tabel 2. Summary of Project Investment Analysis – Contractor Stand point**

DCF INDICATOR	PSC TERM BEFORE END OF CONTRACT, USD			>2021, 10 YRS EXTENTION	
	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	GROSS SPLIT, USD	PSC, USD
	Dual ESP	Side Track	Baseline	ALTERNATIVE C	ALTERNATIVE C
PAY OUT TIME , YR	1.1	1.0	0.6	1.7	1.8
NPV @ 10%, USD	1,014,537	837,605	1,535,489	6,269,947	2,332,958
IRR, %	144%	179%	755%	135%	75%
DPI	1.53	1.57	1.89	4.62	2.35

Sensitivity analysis is performed to see impact of four parameters to DCF indicators namely NPV and DPI. Those four parameters are tangible, intangible, oil price and oil volume. The calculation shows that Oil Price and Oil Volume are the most sensitive parameters to DPI and NPV indicators.

Introducing Dual ESP technology in this study is important as new technology to address oil production reduction for high well down cycle time both in well and field basis. Unfortunately, Dual ESP is less economic due to more expensive in capital investment. Dual ESP also still can not remove all oil reduction since ESP 300 series usage. Additionally, evaluation for drill the well with Dual ESP and 9-5/8" production casing needs to be analyzed furthermore. It since the DCF indicators is still has DFC indicator as good as The best Alternative Baseline even though drilling cost exceeds until 23% from base line alternative as consequence of changing in 7" production casing to 9-5/8" production casing proposed well. Dual ESP 9-5/8" is recommended for next study since this technology has three benefits: minimize oil production reduction, improve pump run life and cost avoidance due to rigless operation.

## CONCLUSIONS

Project investment analysis on drilling one well in constrained GJ field as a company commitment has been conducted under Cost Recovery and Gross Split Schematic term for several alternatives to obtain the best alternative to be proposed in term of DCF indicators. There are 3 alternatives namely Dual ESP, Side track and Baseline. All alternatives have DCF indicators above company requirements. Alternative Baseline is the best with results oil production volume as 527 MSTB, NPV @ 10% as 1,535 MUSD, IRR 755%, and Pay Back period 0.6 year and DPI 1.89. Gross Split calculation for Alternative Baseline for 10 years has results as oil recovery 756 MSTB, NPV @10% 6,269 MUSD, IRR 135%, Payback period 1.6 years and DPI as 4.62. The same calculation period but using PSC terms give results oil recovery 756 MSTB, NPV @10% 2,332 MUSD, IRR 75%, Payback period 1.79 years and DPI as 2.35.

Dual ESP 7" technology as second ranking has given alternative to minimize oil production reduction issue in this study. Additionally, exercise Dual ESP 9-5/8" technology has financial indicator at least as good as Alternative Baseline at additional drilling investment as 23% of Alternative Baseline. This is as consequence of changing in 7" production casing to 9-5/8" production casing proposed well. Further evaluation for Dual ESP 9-5/8" is recommended for next study since this technology has benefit such as minimize oil production reduction, improve pump run life and cost avoidance due to rigless operations.

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# BANK SPECIFIC AND MACROECONOMIC DETERMINANT OF BANK PROFITABILITY IN INDONESIA FOR PERIOD OF 2012- 2016

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## EXTENDED ABSTRACT

This study examine the relation between bank profitability which proxies by return on asset (ROA) and return on equity (ROE) with bank specific variables; capital adequate (RCAR), non-performing loan to total loan (NPLTL), size, liquid asset to short-term liability (LASL), liquid asset to total asset (LATA), and total deposit to total asset (TDA), and macroeconomic factors; economic growth (real GDP), interest rate, inflation rate in 19 commercial bank (from BUKU 3 and BUKU 4) in Indonesia for period of 2011-2016. The method used in the study is random effect model (REM) panel data regression analysis.

The result of the study shows that there are significant and positive relationship between bank profitability with capital adequate (RCRA), size and total deposit to total asset (TDA). Non-performing loan to total loan (NPLTL) have significant relationship with bank profitability but in negative way. Liquid asset to short-term liability (LASL), liquid asset to total asset (LATA) have non-significant and negative relationship with bank profitability. For the macroeconomic factor, only real GDP show significant relationship with bank profitability.

**Keywords:** : *Bank profitability, Indonesia, bank specific variables, macroeconomic factors*

## INTRODUCTION

Bank is the most vital financial intermediaries in most country. The main function of bank are collecting public money and give interest to them, and lending the money out and imposes higher interest to the borrower. At micro level, bank are known as a cheapest source of funding and it is the most desirable one for business at many layers from individual credits, small enterprise to well-established huge corporation.

Banking industry in Indonesia have a vital responsibility in generating and distributing public funds and aim to support the implementation of national development in order to improve the distribution of development and its results, economic growth, and national stability toward improving the living standard of the people (*ojk.go.id*). As it is contributed to national economic growth and development, government pay a close attention to banking industry stability as it reflected the economic stability of the country and endanger banking industry lead in systemic crisis. The more profitable the banking sector can be seen as the more desirable environment for a business to live in the country. Therefore, it is important to study the determinant factor that affected profitability of bank.

Determinant factor that affect profitability of bank come from internal and external environment of bank. Internal determinants are in micro level and it is bank specific variable that affected and/or result of management decisions. Such as capital adequacy, liquidity ratio, asset quality, cost efficiency, size and risk management. External determinants in bank profitability are factor that not a result of bank specific policies and management decisions. They come from external environment and it is affecting the operation and performance of the bank. Those can be macroeconomic variable such economic growth, inflation, and market interest.

To reflect the profitability of bank, there are three ratio that widely used as a proxy to picture it, they are return on asset (ROA), and return on equity (ROE).

## LITERATURE REVIEW

Several studies has been done regarding variables that affected bank profitability before. We are taking four studies as the foundation of the study.

Mirzaei and Mirzaei (2011) study taking place in Middle East and they discussing about relationship between bank specific and macroeconomic factor to banking profitability.. They used both, static and dynamic model. Random effect model (FEM) regression analysis is used in this empirical study. They found that internal

variables (cost to income, equity to size, loan to size, overheads to size, personnel expenses to size, and loan loss provisions to total loans) have significant relationship with profitability. Bank size found to have non-linear relationship with profitability. For external variables, the result show there are no relationship between real GDP with profitability.

Alpe and Anba (2011) also investigate the relation between bank profitability with bank specific and macroeconomic determinant in Turkey. They used panel data fixed effect model (FEM) model. The result show asset size have positive and significant relationship with bank profitability. The larger the bank, the higher ROA and ROE of the bank. Non-interest income/asset also show positive and significant relationship with bank profitability measured by its ROE. In the other hand, ratio loan/asset have negative and significant relationship with bank profitability. The other factors; capital adequacy, liquidity, deposits/assets ratio and net interest margin, real GDP growth rate and inflation rate did not show significant relationship with bank profitability.

Future study done by Roman and Dănuțiu (2013) in Romania. They studying the bank profitability in Romania. The method used in the study is multiple linear regression model. The result of the study shows there are significant relationship between ratio of nonperforming loans, the management quality and the ratio of liquid assets to total assets with bank profitability. Beside, ratio of total equity to total asset, the ratio of loans to total assets, funding costs and income diversification of bank did not show significant relationship with profitability. For the external factor, banking concentration and GDP have significant relationship with profitability.

Owoputi, Kayode, and Adeyefa (2014) also done the similar study in Nigeria. The method used in this study is panel data random effect model (REM). The result show well capitalized bank have bigger exposure to credit risk that reduce its profit. Bank size and productivity growth, and deposit volume have positive and significant relationship with bank profitability. Liquidity, and operating expenses found to have negative relationship with profitability. For the macroeconomic factors, interest rate and inflation rate have negative and significant relationship with profitability, and real GDP have insignificant relationship with profitability.

## METHODS

This study examine 19 commercial bank from BUKU 3 and BUKU 4 in Indonesia for period of 2012-2016 which involved 378 observation. This period of time are chosen because these specific times describing the recent situation of Indonesia banking industry. Another reason is because of the availability of data for public usage. Bank specific data obtained from quarterly financial report of bank that provided by official site of Indonesia Financial Service Authority, and the macroeconomic data obtained from publication report of Bank Indonesia and Indonesia Central Bureau of Statistic. Because the data are both cross sectional and time series data, panel data regression analysis used for empirical analysis.

### Variables

Following literature reviews, there are several variables that affecting bank profitability. Considering the availability of data, we are using nine relevant variables from bank specific and macroeconomic factors as the independent variables and two variables for proxies the bank profitability.

Variable	Concept	Formula	Scale	Unit
ROA	The ability of corporate to make profit from their total asset	$ROA = \text{Net income} \div \text{Total Asset}$	Ratio	%
ROE	The ability of corporate to make profit from their total equity	$ROE = \text{Net income} \div \text{Total Equity}$	Ratio	%
RCAR	Percentage weight of credit in bank	$RCRA = \frac{\text{Tier One Capital} + \text{Tier Two Capital}}{\text{Risk Weighted Asset}}$	Ratio	%
NPLTL	Measurement of credit risk of bank	$NPLTL = \frac{\text{Non-performing loan}}{\text{Total gross loan}}$	Ratio	%
Size	Natural logarithm of bank asset	$\text{Size} = \log_e(\text{Total Asset})$		
LASL	The ratio of liquid asset to its short term liability	$LASL = \text{Liquid asset} \div \text{Short-term liabilities}$	Ratio	%
LATA	The ratio of liquid asset to its total asset	$LATA = \text{Liquid asset} \div \text{Total asset}$	Ratio	%
TDA	Main source of fund in bank	$TDA = \text{Total deposit} \div \text{Total asset}$	Ratio	%
Real GDP	Economic growth indicator adjusted by base year	$\text{Real GDP} = \frac{\text{Nominal GDP} \times 100}{\text{GDP deflator}}$		

Inflation Rate	Increase in common price emulated by the money supply in the market	<i>Inflation = CPI Index-1</i>	Ratio	%
Interest Rate	Direction of monetary policy set by government	<i>Interest Rate</i>	Ratio	%

**Table 1. Variables, Concept, Formula, Scale and Unit of the Variables**

### Technique and Model Specification

Regression model that will be used is panel data regression analysis. This model chosen because the variables that we want to analyze are included the two dimension—time series and cross sectional. The good things about this model is it's keep the object individually, and measure quantity about them overtime (Brooks, 2008). The basic regression model of panel data regression analysis is:

$$y_{it} = \alpha + \beta x_{it} + \mu_i + v_{it}$$

$y_{it}$  is the dependent variable,  $\alpha$  is intercept term,  $\beta$  is coefficient of independent variables, and  $\mu_i$  is variables that cross sectionally affecting the dependent variable, and  $v_{it}$  is the error component of the time series and cross sectional being combined, where  $t$  is 1, ...,  $T$ , and  $i$  is 1, ...,  $N_2$  (Brooks, 2008).

There are two technique that can be used when doing panel data regression analysis, they are fixed effect model (FEM) and random effect model (REM). FEM or also called as Least Squares Dummy Variable Model. This model have constant slope but differ intercept according to its cross sectional unit. In the other hand REM handling the error with treating the intercept as random outcome variable. There are two intercept in the model, they are intercept from the cross sectional and overtime (Yaffee, 2003). To determine which model should be used, Hausman test conducted. This study using random effect model (REM).

The regression model are modified to match our data, where the explanatory variables in the equation added as much as the independent variables that we are analyzing.

$$y = \beta_0 + \beta_1 * RCAR - \beta_2 * NPLTL + \beta_3 * SIZE - \beta_4 * LASL - \beta_5 * LATA + \beta_6 * TDA + \beta_7 * INF - \beta_8 * INT - \beta_9 * LNRGDP + \varepsilon$$

Where:

$y$	= Dependent Variable (ROA or ROE)
$\beta_0$	= Constant Term
$\beta_1$	= Coefficient for capital adequate ratio (RCAR)
RCAR	= Capital Adequate Ratio
$\beta_2$	= Coefficient for NPLTL
NPLTL	= Non performing loan to total loan
$B_3$	= Coefficient for SIZE
SIZE	= Bank Size
$B_4$	= Coefficient for LASL
LASL	= Liquid Asset to Short Term Liability
$B_5$	= Coefficient for LATA
LATA	= Liquid Asset to Total Asset
$B_6$	= Coefficient for TDA
TDA	= Total Deposit to Total Asset
$B_7$	= Coefficient for INF
INF	= Inflation Rate
$B_8$	= Coefficient for INT
INT	= Interest Rate
$B_9$	= Coefficient for LNRGDP
LNRGDP	= Natural Logarithm of Real GDP
$\varepsilon$	= Error Component

### FINDINGS AND ARGUMENT

The result of the study show that capital adequate (RCAR), asset quality (NPLTL), bank size (LNSIZE), and deposit (TDA) have significant effect of profitability of bank that proxies by ROA and ROE. Capital adequate, bank size, and deposit have positive relationship with the profitability, while asset quality that proxies by non-performing loan to total loan have negative relationship with profitability. Liquidity that proxies by two variables (LASL & LATA) shows negative and non-significant relationship with bank profitability.

From the result we can see that the more well capitalized the bank is, the more profitable the bank become. Loan is the main source of bank to make profit so the higher the number of non-performing loan, the more it will

disadvantageous for the bank in making profit. Deposit is the main source of bank fund, so it is obvious that the bigger the deposit the bank has, the more it will affecting profitability of bank in positive way. Liquidity level have to maintained by the bank to ensure bank can pay their current obligation when it needed, but liquidity does not significantly affecting the ability of bank in making profit.

For macroeconomic factors, only real GDP that show significant relationship with bank profitability while inflation rate and interest rate does not show significant relationship with bank profitability. So we can conclude that the profitability of bank in Indonesia will increase along the increase in economic standard of the people.

Independent Variables	ROA	ROE
Constant	0.301270	2.580205
Bank Specific Variables:		
RCAR	0.129358	0.664410
NPLTL	-0.444095	-2.912630
SIZE	0.004222	0.033735
LASL	-0.000143	-0.004209
LATA	-0.019864	-0.096266
TDA	0.018221	0.166046
Macroeconomic Variables:		
Inflation Rate	0.022875	0.097928
Interest Rate	-0.016032	0.039209
Real GDP	-0.025764	-0.217927
Number of observation	378	378
R-square	0.520590	0.470527
F-statistic	0.000000	0.000000

**Table 2. Panel Data Regression Result**

## CONCLUSIONS

This study investigate the relationship between bank specific and macroeconomic variables with bank profitability in Indonesia. Data used in the study are from quarterly financial report of 19 commercial bank listed in BUKU 3 and BUKU 4 from period of 2012-2016 that published in Indonesia Financial Service Authority website, Central Bank of Indonesia (Bank Indonesia) website and Indonesia Central Bureau of Statistic website. Random effect model (REM) panel data regression analysis are used as the method to achieve the aim of the study. Result of the study shows most of bank specific variables contributed significantly to its profitability so management decision and action is the most important things in maintaining the profitability and then performance of banking sector. The macroeconomic factors significantly affecting bank profitability is real GDP, so with the escalation of people economic standard, banking industry in Indonesia will follow to be more profitable.

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## EARLY INVESTOR INTENTION IN PEER TO PEER LENDING PLATFORM

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### EXTENDED ABSTRACT

Peer-to-peer lending platform is one of the financial technology platform that could help to fund an institution or campaign for social, and also the small business by having a crowd investor to give a loan to the borrowers with technology system. Since the peer-to-peer lending platform could be the solution to have the capital for SME, however, the number of peer-to-peer lending investors in Indonesia is quite low and there are a lot of other investment instruments that could be alternatives for the investors. The research is exploring (1) investor's reason for not using peer-to-peer lending using chi-square (2) the most affecting factors for the investor to choose peer-to-peer lending using multi-linear regressions and (3) the potential investor for peer-to-peer lending platform using cluster analysis. Based on those methods, there are significant correlation between the educational level towards their reason for not using peer-to-peer lending yet. Also, the social relevance, diversification and perceived security are the most impactful factor for the investor to use peer-to-peer lending. In the other hand, the potential investor for peer-to-peer lending is a university student or fresh graduate who have conservative risk profiling. In summary, this research could be beneficial for peer-to-peer lending company in Indonesia to generate more investors.

**Keywords:** *Peer-To-Peer Lending, Technology Acceptance Model, Investment Intention, Linear Regression Model, Cluster Analysis*

### INTRODUCTION

Indonesia has lower financial literacy among the South East Asian countries, as only 21.8% understand the financial knowledge, compared to the other countries like Singapore with 91%, Malaysia with 81% and Thailand with 78% (SWA, 2016). It is affected the number of people who has a bank account from Indonesian population, which is only 36%. As one of the processes to reach the other 64%, Indonesian have the financial inclusions program. One of the program is financial technology interpretations in order to increase the financial literacy and increasing people who have bank account (Yoga, 2016; KEMENKOMINFO, 2016).

Peer-to-peer lending is one of the financial technology product that helped the SME to get their capital by using crowd investor in order to fulfil the fund (Davis & Murphy, 2016). But as a new platform, peer-to-peer lending has only a few members as investors, caused by the inexperience and possibly low levels of awareness of the real risks of the investors (Oxera, 2015). Thus, the lower member of the members lead into a lower fund that could be funded for SME's capital. This is leading to a lower number of lender thus making a less diversified loan portfolio to the investors. And also, there are a lot other alternatives for investor to use as investments. Therefore, what is the intention for early investor to use peer-to-peer lending for both adopter and non-adopter. In order to answer the question, this research aims to measure the different attitude toward their intention for using peer-to-peer lending platform for both adopter and non-adopter.

### LITERATURE REVIEW

#### Peer-to-Peer Lending

Peer-to-peer lending is a system to connect between two parties without the need for a central intermediary (Milne & Parboteeah, 2016). In detail, peer-to-peer lending parties are borrowers and investors, and the central intermediary is replaced by the online platform to directly match both parties rather using traditional financial institution as intermediary (Davis & Murphy, 2016). Peer-to-peer lending system works by a cycle of two parties which are investor and borrower and being facilitated by peer-to-peer lending operator. The cycle started when the individual borrower make a loan demand to the platform. It assessed by the platform and if the loan is

creditworthy, the loan will be listed to the platform including the detail data of the loan objective and risk-related information.

### **Crowd lending Intention**

Crowd lending Intention is about the motivation and decision to participate in different kinds of crowdfunding. The motivations of people are in contributing time, energy and skills to crowdsourcing activities (Kleemann, Voß, & Rieder, 2008). A Canadian crowdsourcing platform finds that financial reward is the main intention for investor participate. The possibility for someone to learn something new, networking, peer recognition is come after the financial reward (Ebert & Schöndorfer, 2014). The terms of crowdlending intention also arrive from the individual investor behavior theory before (Nagy & Obenberger, 1994).

There are several researches with the first research done by Ebert and Schöndorfer (2014) with 5 factors and 10 sub-factors that become the basis for other research for other countries like Šetlers & Valdmanis (2016) in Latvia and Hervé, et al. (2017) in France. Based on Ebert and Schöndorfer (2014) research, trust in online platform and diversification are the most important factors for Crowdlending investors intention.

### **Technological Acceptance Model**

Technology Acceptance Model is a model created by Davis (Davis, Bagozzi, & Warshaw, 1989) as an advance model from the Theory of Reasoned Action (TRA), for a focus user acceptance model which is on information systems. The purpose of TAM is to provide explanation toward the user behavior across broad range of end-user computing technologies toward the technology and information systems.

In 2009, a study in Taiwan make a more specific use of TAM in online financial services (Chang, 2009). The research itself modified the use of the online financial service for both adopter and non-adopter. It basically has 8 main factors that may take the user's intention to use online financial services after all, and the actual use of the online financial services. Basically, there are 7 factors that impactful to the intention to use online financial services, but the most significant is the perceived usefulness and ease of use, which is how people believe that technology help them to enhance their work.

### **Research Frameworks**

To conduct this research, the researcher applied the intention in Crowdlending model from Ebert and Schöndorfer (2014) to be applied as the intention in terms of investment system to the Peer-to-Peer Lending and also including the model from the Online Financial Services Adoption by (Chang, 2009) for the aspect of Financial Technological Intention.

### **Data**

The quantitative method was used in order to test and measure each variable to the early investor intention. Thus, to access the data, researcher is using questionnaire. Some variables items adopted from preceding research related to peer-to-peer lending intention model and technological acceptance model. There are 100 samples respondent needed to assessed their intention in using peer-to-peer lending that distributed toward Indonesian early investor stock community, academic civitas, and peer-to-peer lending and other investment community.

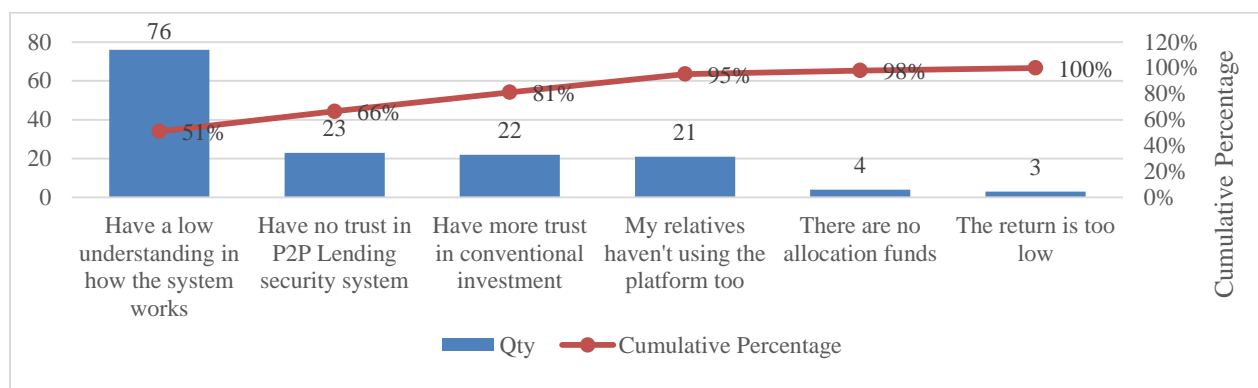
## **METHODS**

In order to answer the research question, the data are processed through descriptive statistics in chi-square to discover the correlation between their intention to use peer-to-peer lending in the future and their reason they have not yet based on their demographic variables. Afterwards, the data are analyzed using multiple linear regression, which is the analysis from the relationship between two or more independent variables ( $X_1, X_2, \dots, X_n$ ) with the dependent variable ( $Y$ ). The analysis is aiming to determine the relationship between the independent variables and dependent variable whether each of the independent variable have positive relationship or negative relationship. And lastly, using two-step cluster analysis to analyze the potential target market investor by analyzing cluster.

## **FINDINGS AND ARGUMENT**

### **Descriptive Analysis**

The research is start with comparing the adopter of peer-to-peer lending and non-adopter, and the results were only 11.5% who have used the platform. Even though the number is quite low, non-adopter was aware enough with the platform with 40% of awareness level, which is quite good for a new platform. From those number, the intention of people who'd like to use the platform was quite big which is 58%.



**Figure 2 Pareto Chart of Their Reason for Not Using Peer-to-Peer Lending Platform Yet**

However, there are several reasons why they do not want to invest, with the most frequent responses were have a low understanding in how the system works, no trust in peer-to-peer lending security system and more trust in conventional investment (Figure 1).

<b>Gender</b>	<b>Age</b>	<b>Professions</b>	<b>Educational Level</b>	<b>Risk Profiling</b>
0.406	0.169	0.514	0.042	0.627

**Table 13 Chi-Square Analysis Results**

Following this, is there are correlations toward their reason and demographic of people who have intentions. The Chi-Square analysis shown that the demographic variables that correlated to their intention level and reasons is educational level with less than 5% significance on Pearson Chi-Square analysis (Table 1).

This could be a reason since the higher the level of educational level means there are a lot of educational learning toward either financially or non-financially that helps them to rethink the need of investment in the future. With the other factors are have no significance correlations, means despite their gender, age, professions and risk profile, they could be the investor of the platform.

#### Multi-Linear Regression (MLR)

The research is started by checking the validity and reliability of the data. Afterwards, the data are being processed on classical assumptions test in order to make sure the data are representative enough. The method to test those data are being transformed into LN mode to fit into the test data.

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4.769	10	.477	8.665	.000 <sup>b</sup>
Residual	4.899	89	.055		
Total	9.668	99			

a. Dependent Variable: IN

b. Predictors: (Constant), AR, CI, PS, RI, CO, DI, PE, PPP, ER, SR

**Figure 3 F- Sig Test Result**

In order to discover the sample representativeness to the population, F-Sig Test by ANOVA are used. The results indicating F score with 8.665 and significance 0.000, means the model is representative enough to the population (Figure 2)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.702 <sup>a</sup>	.493	.436	.23461

a. Predictors: (Constant), AR, CI, PS, RI, CO, DI, PE, PPP, ER, SR

**Figure 4 R-Squared Test Result**

Following that, the data are being assessed on multi-linear regressions analysis started with the R-Squared Test. The results were 0.702 of R number which means the number of relationship between independent variables and dependent variable and 43.6%  $R^2$  percentage means the capability to explain the variability of the response data (Figure 3).



Coefficients <sup>a</sup>					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-1.058	.390		.008
	PE	-.004	.124	-.004	.973
	CI	-.081	.092	-.080	.381
	PPP	.038	.095	.043	.688
	PS	.266	.112	.265	.020
	CO	-.252	.161	-.173	.122
	ER	-.154	.143	-.122	.287
	DI	.371	.137	.281	.008
	RI	.130	.125	.089	.303
	SR	.610	.142	.517	.000
	AR	.027	.148	.019	.855

a. Dependent Variable: IN

**Figure 5 T-Sig Test Result**

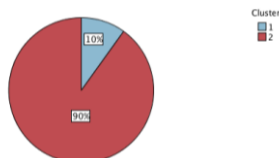
The last is the T-Sig Test, which discover the independent variables impact toward dependent variables (Figure 4). From those analysis, the result is being transformed into the equation as stated below

$$Y = -.004X_{PE} - .081X_{CI} + .038X_{PPP} + .266X_{PS} - .252X_{CO} - .154X_{ER} + .371X_{DI} + .130X_{RI} + .610X_{SR} + .027X_{AR} - 1.058$$

It is shown that the most significant factors are social relevance, diversification and perceived security, with the other variables are having small impact or negative impact toward their intention in peer-to-peer lending platform.

#### Cluster Analysis

In order to determine the potential target market investor for peer-to-peer lending, Cluster Analysis with Two-Step Clustering are used. Based on the demographical data, there are basically two different clustering with different variables content.



**Figure 6 Cluster Size Result**

Based on the demographical values (profession, educational level, age, gender and previous/recent investment platform) from the total sample, formed 2 clusters with 10% and 90% respectively (Figure 5 and Table 2)

Variables	Mean	Std Dev	Z1	Z2	X1	X2	Cluster 1	Cluster 2
Gender	0.43	0.498	0.54	-0.06	0.699	0.400	Prone Female	Both
Age	1.03	1.029	1.43	-0.16	2.502	0.865	> 27 Years Old	21 - 26 Years Old
Profession	0.54	1.184	2.33	-0.26	3.299	0.232	Entrepreneur	Uni Student / Fresh Grad
Education	0.55	0.857	1.92	-0.21	2.196	0.370	Master (S2)	High School / Bachelor (S1)
Risk Profile	1.48	1.096	0.2	-0.02	1.699	1.458	Moderate to Mediocre	Conservative to Moderate

**Table 14 Two-Step Cluster Result**

## CONCLUSIONS

Peer-to-peer lending platform is one of the financial technology platform that could help to fund an institution or campaign for social, and also the small business by having a crowd investor to give a loan to the borrowers with technology system. Since the peer-to-peer lending platform could be the solution to have capital for SME, the number of peer-to-peer lending investors in Indonesia is quite low and there are a lot of other investment instruments that could be alternatives.

The objective of this paper is to discover the main intention of investor in using peer-to-peer lending, how their behavior toward the platform and discover the potential investor for this platform. This research has contribution to peer-to-peer lending company in Indonesia for their market analysis, thus for Indonesian financial technology market respectively. To conduct the analysis, 100 samples of investor are analyzed from questionnaire.

The awareness of peer-to-peer lending are quite high for a new platform, but the active investor members are quite low considered by several reasons which the highest concern on their low understanding in the platform system the trust issues on peer-to-peer lending security system and more entrusting the conventional investment. Following that, there is correlation from their demographical variables to the reason why they haven't used the platform, which is from their educational level. This is could be happened since educational level determine their knowledge level, respectively their importance toward the platform.

On the other hand, several factors that affect investor in considering peer-to-peer lending is the social relevance, diversification and perceived security. This could be happened since investor are basically concern on their

investment fund to be used as a good social impact, have a diversification to mitigate the risks and concern on the security of the platform system.

The second cluster (female and male in 21-26 years old as university student / fresh graduate with high school / bachelor degree with conservative to moderate risk profile) is being the first priority for potential target market of peer-to-peer lending platform followed by the first cluster. This could be a reason since the first target market are more-likely to be more savvy-technology than the others based on their age, in the state to experimenting on a new platform and have concern on their fund allocation and since the peer-to-peer lending has reporting on each step of their fund allocations, thus their risk profiling is more likely to be conservative for their mitigation in the investment but prone to be moderate as their behavior in experimenting (Sweeney, 2006).

### Recommendations

Indonesian peer-to-peer lending platform company could invest more target market based on the potential target market specified above which is millennials, since peer-to-peer lending characteristics is also related to the millennials characteristics (Sweeney, 2006). Moreover, to attract the potential investor, the company could see at the most affecting factors of intention and make a highlight on those factors since it could be the biggest consideration toward them.

To be specified, the social relevance is become the highest consideration since people would like to help people in a direct impact to satisfied them, thus, having a social-impact investment is making them more interested to invest. This strategy actually has been implemented by several peer-to-peer lending company in Indonesia and having a positive feedback.

Hence, to be compared to other crowdfunding system that has been more popular in Indonesia which is donation-based, public have known enough the system for funding the social project they have no interest in having their money returned, but since they have a social benefit toward the project, they still give their funding. On the other hand, diversification possibility for investor is the other reason since having a diversified investment may mitigate the risk and help them to raise more return in a more secure way. And for the perceived security, since this platform is relying on technology, people have a high concern on technological security, moreover on payment and virtual account. In order to attract the potential investor, the platform had to ensure the security system in their platform and ensure the security itself. The other recommendation is having a partnership with entrusted platform in security payment and online banking.

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# LOCUS OF CONTROL EFFECT ON CUMULATIVE PROSPECT THEORY BIASES ON EARLY AND POTENTIAL INVESTOR

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## EXTENDED ABSTRACT

Locus of control (LOC) shows how one perceives things and changes in life, as either a result of their own acts or of things beyond their control. LOC measures how much control one think they have over their life, and it was proven having influence on risk attitudes. On the other hand, Cumulative Prospect Theory is well-known for its explanation on biases (in this case Certainty Effect, Reflection Effect, and Framing Effect) occur in decision making under uncertainty. This study observes how one's locus of control could affect their attitude towards bias when making investment decision. This research uses quantitative method to collect data from early and potential investors who reside in Jabodetabek and Bandung, then uses logistic regression to measure the relationship between Locus of Control and tendency towards bias. It is found that the Locus of Control has no significant impact on human tendency towards bias.

**Keywords:** : Cumulative Prospect Theory, Locus of Control, decision making, bias, risk

## INTRODUCTION

### Objective

As the number of investors in Indonesia is still considered low, Indonesian government has been encouraging its people to start investing, especially in stocks (*nabung saham*). However, there are not many studies done to observe the relationship between investors' personality or behaviour and their investing decisions. Thus, to support the effort to increase Indonesian investors, this research is conducted with the main focus of seeing how one's locus of control could affect the magnitude of bias experienced by early and potential investors.

It is widely known that investors are not always rational, as behaviourists believe people have 'bounded rationality' instead of perfectly rational. Thus, Cumulative Prospect Theory (Tversky and Kahneman, 1992) which explains various biases in decision making under risk (with uncertainty) is used as the main theory for this study. The biases discussed in this study are: *Certainty Effect*, *Reflection Effect*, and *Framing Effect*. Locus of control (Rotter, 1986) is proven to be one of the important aspects which affect humans, both in professional world and in daily life, with internals usually being preferred over externals.

Data is collected by distributing questionnaire to early and potential investors who live in Jakarta and its surrounding (Jabodetabek), with Bandung as an addition. The method used is based on Tversky and Kahneman's Cumulative Prospect Theory (1992) to decide whether or not biases exist in subject's choice. After assessing the subjects' locus of control and their tendency towards bias, logistic regression is used to see the relationship between both aspects. It is expected that people with different locus of control will behave differently when making decision under uncertainty.

## LITERATURE REVIEW

### Cumulative Prospect Theory

Cumulative Prospect Theory was introduced by Amos Tversky and Daniel Kahneman in 1992, as a completion of Prospect Theory (Tversky and Kahneman, 1979). Prospect Theory itself was developed to answer anomalies found in Expected Utility Theory by Neumann and Morgenstern in 1944. Expected Utility Theory claimed that an alternative with higher expected value should have a higher utility value as well, making it more preferable compared to other alternatives with lower expected value. These values are calculated by taking the alternative's payoff with its probability of occurrence into account. However, Allais (1953) found a flaw in Neumann's theory, especially from real cases in which people perceive themselves as being in the loss domain rather than in gain domain. Therefore, Prospect Theory was introduced in 1979, to fill Neumann's Expected Utility flaws. A lot of researchers studied Prospect Theory further, finding correlation between the biases and investor

personality (Sadi, et al., 2011; Yoshinaga and Ramalh, 2014, Damanik and Koesrindartoto, 2016) and gender (Rokhyadi and Koesrindartoto, 2016).

### Locus of Control

Developed by Rotter in 1986, Locus of Control describes one's orientation towards change. It is explained as "the attitude people develop regarding the extent to which they are in control of their own destinies," (Whetten and Cameron, 2011). When one believes things that happen to him/her are mainly caused by his/her own course of actions, he/she has internal locus of control. On contrary, people who have external locus of control believe that external forces – things beyond their control – are the cause of things that happened to them.

## METHODOLOGY

As mentioned before, there are several biases representing the Cumulative Prospect Theory that are discussed in this study, namely: *Certainty Effect*, *Reflection Effect*, and *Framing Effect*. Questionnaire is used to collect a sample data of the research subject, containing questions to determine the respondent's locus of control and questions that can show their bias tendency by providing questions with potential biased answer. All of the questions are in Bahasa Indonesia since the respondents are Indonesian people.

### Assessing Locus of Control

Using a set of questions made by Rotter (1986) and developed by Whetten and Cameron (2011) in their book: "Developing Management Skills", respondents' score is used to determine whether they belong to internal or external category. The average of the sample's score is used to decide the threshold between internal and external. Subjects whose scores are higher than average fall into external category, while respondents with lower-than-average scores are categorized as internals. Thus, the higher the score, the more external a person is.

### Assesing the Bias

Several questions taken from Tversky and Kahneman's paper (1979) are included in the questionnaire after adjusting them into Indonesian currency (Rupiah) with appropriate value. Respondents are asked to choose one out of two options that have (considerably) same expected value but different cumulative prospect value. If one chooses an alternative with lower prospect value, one is considered as biased. To decide which alternatives have higher prospect value, the calculation is done by using formula provided in Tversky and Kahneman's Cumulative Prospect Theory (1992).

Total Prospect Value:

$$V(f) = V(f^+) + V(f^-)$$

The value of the positive part of a lottery,  $V(f^+)$  is calculated as below:

$$V(f^+) = \sum_{i=0}^n \pi_i^+ v(x_i)$$

The value of the negative part of a lottery,  $V(f^-)$ , can be calculated by using the formula below:

$$V(f^-) = \sum_{i=-m}^0 \pi_i^- v(x_i)$$

As Cumulative Prospect Theory allows different decision weight ( $\pi$ ) for positive and negative aspect, two equations were developed, which are:

Positive aspect:

$$\pi_n^+ = w^+(p_n) = w^+(p_i + \dots + p_n) - w^+(p_{i+1} + \dots + p_n), 0 \leq i \leq n-1$$

Negative aspect:

$$\pi_{-m}^- = w^-(p_{-m}) = w^-(p_{-m} + \dots + p_i) - w^-(p_{-m} + \dots + p_{i-1}), 1-m \leq i \leq 0$$

### Determining the Bias and Coding Method

In order to process the data using statistical method, coding process is important. Every question in Certainty, Reflection, and Framing Effect has two options, one contains bias and the other does not. For every alternative with bias, it is given code 0, and the rational alternative is given code 1.

There are three questions to observe the Certainty Effect bias, all are in gain domain. When a person chooses at least two coded 0 alternatives, he/she is considered as consistently showing Certainty bias tendency, and given a final code 0.

To see the Reflection Effect, for each question used in Certainty Effect, its negative counterpart (which is in the loss domain) is formulated. To determine whether a person has shown a Reflection Effect, there pairs of questions (as there are three questions in the Certainty Effect) are observed. When a respondent chooses an alternative with certainty in gain domain, but does not choose its negative counterpart in the loss domain, he/she is considered as showing the Reflection Effect, and thus, given code 0. If at least two out of three pairs of questions a respondent is given code 0, he/she can be assumed as consistently showing Reflection Effect, and given the final code 0.

For Framing Effect, there are two questions in which the alternatives have exactly the same values, but are framed in a different way, making it as if one question is in the gain domain, and the other is in the loss. When a respondent chooses two options with different value, he/she is believed to be affected by Framing Effect, and given code 0.

### Pearson Correlation

Before doing the analysis using logistic regression, Pearson Correlation test has to be done first to see whether there is any correlation between the independent variables. The Pearson Correlation test result is shown on Table 1.

**Table 15 Pearson Correlation**

	LOC	Gender	Level of Income	Education	Investment Experience
LOC	1				
Gender	-.078	1			
Level of Income	.010	-.026	1		
Education	.009	.035	.225**	1	
Investment Experience	-.071	-.141*	.267**	.120	1

\*. Correlation is significant at the 0.05 level (2-tailed), \*\*. Correlation is significant at the 0.01 level (2-tailed).

Based on the result, it can be seen that all correlation values are below 0.3, which means there is no correlation between any of the independent variable, indicating it is safe to analyze the data using logistic regression method.

### Logistic regression

After determining respondent's locus of control and assessing the biased choices, logistic regression is used to measure to what extent one's locus of control affects one's tendency towards bias. The dependent variable (y) is whether or not a subject is biased, while the independent variables ( $x_i$ ) are: (i) subject's locus of control score (the higher the score, the more external a person is), (ii) gender, (iii) level of income, (iv) education level, and (v) investment experience.

### FINDINGS AND ARGUMENT

Based on the result obtained from processing the data by using SPSS, it was found that there is almost no independent variable included in this study that have significant impact on the biases focused on this research, namely Certainty Effect, Reflection Effect, and Framing Effect (see Table 2). This analysis is based on the fact that there is no value in the significant column (sig.) which is lower than 0.05. The significance level is calculated by using Wald test. The only significant aspect on all dependent variables is the gender variable on Certainty effect bias.

To verify the accuracy of this study, several robustness tests were done on each dependent variable except for the Framing effect bias. The reason is because for both Certainty and Reflection effect, there are three questions used to determine whether or not a person is affected by bias. However, this is not the case for Framing effect bias, which only has a pair of questions. Therefore, the robustness test was done only to check the main model of Certainty and Reflection Effect.

For Certainty effect, the robustness was tested by combining only two instead of three questions, and regressed it with the same independent variables used in the other tests. Therefore, there are three robustness tests for Certainty Effect bias (see Table 3). The results are as expected, as all of the tests show the same conclusion as the main test which include all questions.

As to check the accuracy of Reflection Effect model, robustness test was done for three pairs of questions. In this case, each pair was tested to make sure the main model of Reflection Effect is credible (see Table 4). The results of these robustness tests are also consistent with the main result. It can be seen from the table that not even single independent variable, which have significant influence on one's tendency on bias, is found in each pair.

### Hypothesis Testing

Based on the result of the logistic regression done for all of the dependent variables, it is proved that this study does not find enough evident to support all of the alternative hypothesis ( $H_A^1$ ,  $H_A^2$ , and  $H_A^3$ ), which believe that Locus of Control (LOC) could affect a person's tendency towards bias.

**Table 16 Main Result**

	Certainty Effect				Reflection Effect				Framing Effect			
	B	S.E.	Wald	Sig.	B	S.E.	Wald	Sig.	B	S.E.	Wald	Sig.
LOC	-.079	.047	2.838	.092	-.065	.046	1.967	.161	-.028	.045	.401	.527
Gender (1)	.562	.295	3.631	.057	.083	.292	.082	.775	.053	.288	.033	.855
Level of Income	.032	.230	.019	.890	-.274	.230	1.419	.234	-.112	.226	.246	.620
Education	-.045	.299	.022	.881	.194	.296	.433	.511	-.190	.291	.427	.514
Investment Experience	-.193	.127	2.296	.130	-.102	.125	.667	.414	.050	.123	.167	.683
Constant	.316	.622	.259	.611	.562	.619	.824	.364	.737	.614	1.442	.230

B = Beta, S.E. = Standard error, Sig. = significant level. Locus of Control (LOC), Gender, level of income, education, and investment experience are the independent variables.

There are three panels in this table, which are Certainty Effect, Reflection Effect, and Framing Effect.

**Table 17 Robustness Test for Certainty Effect**

	Certainty Robustness (1 and 2)				Certainty Robustness (1 and 3)				Certainty Robustness (2 and 3)			
	B	S.E.	Wald	Sig.	B	S.E.	Wald	Sig.	B	S.E.	Wald	Sig.
LOC	-.060	.058	1.060	.303	-.031	.068	.208	.649	-.080	.058	1.861	.172
Gender (1)	1.484	.378	15.371	.000	.171	.431	.157	.692	.008	.354	.001	.981
Level of Income	-.031	.288	.012	.914	.196	.341	.332	.564	.034	.274	.015	.902
Education	-.581	.421	1.899	.168	-.710	.518	1.881	.170	.400	.343	1.360	.243
Investment Experience	-.246	.166	2.208	.137	-.066	.186	.126	.723	-.152	.158	.930	.335
Constant	-.497	.808	.378	.539	-	.964	1.580	.209	-	.731	2.576	.108
					1.212				1.173			

B = Beta, S.E. = Standard error, Sig. = significant level. Locus of Control (LOC), Gender, level of income, education, and investment experience are the independent variables.

There are three panels in this table, each showing the robustness test using: (i) the first and second question in the Certainty Effect, (ii) first and third question, and (iii) second and third question.

**Table 18 Robustness Test for Reflection Effect**

	Reflection Robustness 1				Reflection Robustness 2				Reflection Robustness 3			
	B	S.E.	Wald	Sig.	B	S.E.	Wald	Sig.	B	S.E.	Wald	Sig.
LOC	.007	.045	.026	.871	-.072	.047	2.332	.127	-.047	.051	.827	.363
Gender (1)	.541	.291	3.460	.063	.290	.308	.886	.347	-.578	.335	2.986	.084
Level of Income	-.151	.229	.436	.509	.065	.242	.072	.788	-.040	.264	.023	.879
Education	-.421	.299	1.986	.159	.246	.315	.610	.435	-.624	.326	3.664	.056
Investment Experience	.005	.123	.002	.967	-.211	.127	2.770	.096	.055	.144	.143	.706
Constant	.531	.619	.737	.391	.919	.654	1.978	.160	2.502	.730	11.734	.001

B = Beta, S.E. = Standard error, Sig. = significant level. Locus of Control (LOC), Gender, level of income, education, and investment experience are the independent variables.

There are three panels in this table, each showing the robustness test using: (i) the first pair of questions in the Reflection Effect, (ii) second, and (iii) third pair.

## CONCLUSIONS

This study was done to observe the effect of one's Locus of Control (LOC) on tendency towards bias when making decisions under uncertainty. These biases are explained by Tversky and Kahneman in their papers – Prospect Theory (1979) and its newer version, Cumulative Prospect Theory (1992) – namely Certainty Effect, Reflection Effect, and Framing Effect. Using logistic regression, several tests were done to see the influence of one's locus of control on the biases mentioned. Each dependent variable is tested with locus of control score, and to test the accuracy of the test, robustness tests were done for Certainty and Reflection Effect model.

In all cases, it was shown that no independent variable can be considered as having significant effect on any bias included in this study. This result is in line with Kahneman and Tversky's study regarding Prospect Theory (1979) which states that most people tend to be biased when making decision under uncertainty. This study finds that there is not enough evidence to support the hypothesis which assume Locus of Control could affect a person's tendency towards bias.

## SUGGESTION

Observing the data analysis result, it can be concluded that the independent variables used in this study, including the Locus of Control, have no significant impact on people's tendency towards bias. This result can be seen as a sign that there are other variables and factors yet to be observed which could affect human bias tendency.

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# THE INFLUENCE OF FOUNDER'S FINANCIAL LITERACY TO ENTERPRISES PERFORMANCE

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## EXTENDED ABSTRACT

This research seeks to find the determinant factor of successful startup business, especially the factor that has the relation between soundness of enterprise and founder's financial literacy. According to a research (Furinto, 2016), not all enterprises are qualified. The result can give contribution to stakeholders (government or educational institution) so that they can educate entrepreneurs to reduce failure rate by following the given determinants. It seems like that the measurement of company's health is closely related to the owner's financial literacy – the more literate the founder, the healthier the company should be. The research is executed by correlating founders' financial literacy and soundness level of their enterprise. Financial literacy is measured with Indonesian Financial Services Authority standard questionnaire, while the soundness of enterprise is measured with Soundness Assessment Measurement Development for Indonesia Small and Medium Enterprises calculation method (Mirna & Sukarno, 2014). The combined questionnaire of financial literacy and soundness measurement questionnaire will then be distributed to 120 enterprises as our data analysis. The research found out that founder's or owner's financial literacy gives quite some contribution to the soundness of a business.

**Keywords:** financial literacy, small medium enterprise, enterprise health, soundness measurement.

## INTRODUCTION

To become a well-developed country, the number of entrepreneurs in a country must at least reach 4% of the population while in Indonesia the number has only reached 1.56% (Subekti, 2016). Unfortunately not all incubated-entrepreneurs are so-doing-well-entrepreneurs (Furinto, 2016). This study seeks on the one of business success key factor from financial literacy viewpoint. Financial literacy is the ability to understand how money works in the world: how someone manages to earn or make it, how that person manages it, how he/she invests it (turn it into more) and how that person donates it to help others (Giesler & Veresiu, 2014). It was proven that this financial literacy is important in life and especially for competency (Kezar & Yang, 2010) & (Lusardi, The Importance of Financial Literacy, 2009). Every entrepreneurs is required to be a competent person. This means there may be some correlation between a successful entrepreneur and his or her financial literacy skill. The objective of this research is to find the financial literacy level of entrepreneur and their relationship. To find this, we collect data by spreading questionnaire and process the data with logistic regression. If there is any relation, then this research want to suggest some action for better future for the country. The scope of this research is only to study about entrepreneurs in Bandung. It turned out that in Bandung, financial literacy does give positive impact to business quality. The detail would be further explained in this paper.

## LITERATURE REVIEW

### 1.1. Financial Literacy

Financial literacy is the ability to understand how money works in the world: how someone manages to earn or make it, how that person manages it, how he/she invests it (turn it into more) and how that person donates it to help others (Giesler & Veresiu, 2014). Studies in America shows that financial literacy is both an important life skill and a critical intellectual competency (Kezar & Yang, 2010). This is very understandable that there may be some connection between success entrepreneurs with their financial literacy skill since financial literacy is now seen as a competency. This financial literacy development is very crucial to country development (Cole, Sampson, & Zia, 2009). This statement is to strengthen the fact that financial literacy is very important not for the person, but also for the surrounding and country. There is even a new regulation regarding financial literacy in Indonesia. The regulation is about to provide intense education for Indonesian regarding financial literacy. This regulation was created by OJK about government strategies to provide and develop Indonesian financial literacy skill (OJK, 2016). They also did some census for Indonesian financial literacy condition. 21.84% of population are well literate; 75.69% sufficient literate; 2.06% less literate; and 0.41% are not literate.

### 1.2. Sample and Population

The population of this research are enterprises that dwell in Bandung. In this case the enterprise are segmented as small medium enterprise or that is not yet can be considered as big corporation. Based on Indonesian Law number 20 year 2008



(UNDANG-UNDANG REPUBLIK INDONESIA, 2008), small medium enterprises are enterprises with assets no more than IDR 10 billion and with yearly income no more than IDR 50 billion. Based on data from government in Bandung, there are around 10000 SMEs that were established in 2015 that are included in the criteria (www.jabarprov.go.id (Rep-Pun), 2016). From that there were 120 respondents that was collected. Time and networking limitations indirectly lead this research to only reach the number. But from logistic regression requirement, 120 respondents are considered enough as we follow one in ten rule of thumb that explain about logistic regression needs at least 10 times the variables as number of the respondents (Harrell, Lee, Califf, Pryor, & Rosati, 1984). While from statistical viewpoint, 120 also considered enough sample size if we follow general rule of sampling (Raosoft, 2004). The questionnaire was spread by using judgment convenience sampling method and snowball sampling method. Researcher judged the respondents that was quite the requirement of filling the questionnaire and then ask them to fill the questionnaire and also ask them to spread the questionnaire to some of his or her friends.

### 1.3. Logistic Regression

Logistic regression is a tool to measure impact from one or more independent variable to binary categorical dependent variable. In this case there are two steps in measuring with logistic regression. The variable can be continuous or categorical and there should be no multicollinearity among variables. In determining financial literacy index, there are several common independent variables that are used in the calculation. This research used genre, educational background, marital status, income, and business industry type as the determinant or independent variables (Freedman, 2009).

## METHODOLOGY

### 1.4. Hypothesis Construction

In this research, the hypothesis is that there should be correlation between financial literacy levels to business health. To test that hypothesis, we were using logistic regression to find relation between business quality and financial literacy. If chi square output is at least below than 10% or less, then the regression output is significant. Seek any variables that reject H0 by seeing its P-Value, if P-Value is below than 10%, then the variable rejects H0. Hypothesis models were constructed as below.

H0: financial literacy does not give any impact to business healthiness.

H1: financial literacy gives impact to business healthiness.

### 1.5. Questionnaire

#### 1.5.1. Demographical Questions

Researcher divided educational backgrounds into two parts: finance-related education, and others. Marital status is certainly only divided into two parts, single and married. Genre is more certainly to be divided into two: men and women. Other unique and new genre is not considered in this research. Monthly personal income is ranged from IDR below 3 million, 3 million to 7 million, 7 million to 12 million, 12 million to 20 million, 20 million to 50 million, and more than 50 million. The last, but not least, are their industrial business aspect. Researcher divided the industrial business area into 3 areas: trading or reselling, services, and manufacturing. All the questionnaire can be seen in this link: <https://goo.gl/forms/hZCwjKVN7DkqAi882>.

#### 1.5.2. Business Health Measurement

Based on previous research (Magetsari & Sukarno, 2014), each business industrial area has to fill different questionnaire for business health in regards of measuring their operational aspect. All questionnaire other than operational aspect are the same. There are four aspects that have to be questioned as the measurement of the healthiness of a business (operation, good governance, marketing, human resource, and finance). Each aspect has different weight for different area of business. Respondents would have to fill a statements of a business situation with Likert answer. For example: "I have settled my business objective", and for the answer never (0 score), seldom (1 score), often (2 score), always (3 score)". In the end, all the scores from Likert are summed. The summed scores are then transformed into 0 to 10 number by dividing total Likert score to total score if the respondents always answer 3 score. This transformed value is finally multiplied by its weight. To make it clearer, let us take an example of a respondent. He is a men with financial educational background, single, 3 million to 7 million monthly income, and has a service-based business. After answering the questionnaire, researcher found that:

**Table 1. Business Score Calculation Example**

Aspect	Total Likert Answer	Score (percentage)	Weight	Final Score (score x weight)
Operational	15 from 21	71.4 from 100	5.8%	4.14
Good Governance	26 from 30	86 from 100	4.4%	3.81
Marketing	30 from 36	83 from 100	17.1%	14.25
Human Resource	23 from 24	98 from 100	87%	8.34
Liquidity	9 from 10	90 from 100	17.2%	15.48
Turnover	7 from 10	70 from 100	13.2%	9.24
Debt Ratio	8 from 10	80 from 100	10.4%	8.32
Profitability	6 from 10	60 from 100	23.1%	13.86
Total				77.44

So this first respondent score is 77.44, its business score is considered as AA. All the other respondents are also being measured with the same ways. The only difference between one respondent to the others are the weighting and operational questions. In this case, researcher gave example of service business area. Different business type has different weight calculation and different operational questions.

### 1.5.3. Financial Literacy Question

This section of questionnaire measure what the level of financial literacy the founder of business is. The questionnaire is adopted from OJK standard about measuring people's financial literacy (OJK, 2016). Financial literacy questionnaire consists of multiple choices with only one right answer. In the end, the scoring is simply see the percentage of all the right answer. If the answer is true, then respondent get 1 score; but when the answer is not true the score is 0. If there is an example, for instance 12 out of 20 questions are answered true it can be said that the score of financial literacy is 6 out of 10. This score indicates that the respondent has low level of financial literacy. All other data is calculated the same way to measure how much the respondents financial literacies are.

## 1.6. Data Processing

This sub chapter discuss deeply about how the data was processed until it became result. The supporting theory had been given in chapter two. Before the data was further processed, we tested some validity and reliability test. It turned out that the questionnaire were valid except some questions from OJK questionnaire for measuring financial literacy. The research can be continued because OJK questionnaire actually has been tested several times with OJK themselves. On the other hand reliability test shows good result, with all Cronbach Alpha result are greater than 0.7, this is far from what is required 0.3, with the meaning our data is reliable.

### 1.6.1. Research Model

There are two parts of data processing. The first is demographical data to financial literacy, the second is demographical data with financial literacy to business health score. For the first data processing, we have to transform the dependent variable (financial literacy score) into dummy binary data. This time, any output with financial literacy score higher than 60 will be resembled as 1, and the other will be resembled as 0. Any financial literacy score higher than 60 can be defined as high literate, 40 to 60 score can be defined as medium literate, and any score below 40 is low literate (Definit, 2013) (Chen R. P., 1998). This research is going to measure and compare between the high literate business founder to medium and low literate business founder. The second data processing occurs when we measure the impact of financial literacy and demography to business health score. Business health score as dependent variable has to be transformed from continuous metric data into binary data. Every business score that is more than 58 will be considered as 1, and the other is 0. This judgment is based on Magetsari and Sukarno methodology of giving scores to the value formed from answering business health measurement question. If the questionnaire value is greater than 58 it means that the business health level is either A, AA, or even AAA. Vice versa, if the questionnaire value is less than 58, the business health level is either BBB, BB, CCC, or CC. In here, researcher want to measure the probability of business founder with some level of financial literacy to run a business that may result to A-level business or higher. On the other hand, independent variable can be input in the form of any data. But to prevent any error, skewed data will be transformed into log data. In this case financial literacy score will be transformed into log data (FENG, et al., 2014). Other than that, independent variable can be represented as either continuous or categorical data. Also there should be no multi-co-linearity in among data. This multi-co-linearity can be tested using any data processing program. In this case, we used SPSS as the multi-co-linearity testing tools. As the result, there is no sign of any multi-co-linearity in any of the data.

- $Pr(Y = \text{High-scored Financial Literacy} = 1) = F(C + \beta_1.Gender + \beta_2.Education + \beta_3.MaritalStatus + \beta_4.Income)$
- $Pr(Y = \text{A-scored Business Quality Measurement} = 1) = F(C + \beta_1.FinancialLiteracy + \beta_2.BusinessType1 + \beta_3.BusinessType2)$
- $Pr(Y = \text{A-scored Business Quality Measurement} = 1) = F(C + \beta_1.Gender + \beta_2.Education + \beta_3.MaritalStatus + \beta_4.Income)$

Equation above are equations that were conducted in regression test. As  $\beta$  is the coefficient of each independent variable and C is Constanta. For understanding, we take example of the third equation. It can be understood as probability of getting business quality with "A" score to be happening with the condition of some value of financial literacy and a business type.

## FINDINGS AND ARGUMENT

As the result we got 81 male respondents and 39 female respondents. Educational background is classified into two: financial-related education and others. Here there are 54 respondents with financial related educational background and 66 respondents with other backgrounds. Marital status is classified into two: single and married. Our respondents are 99 single respondents and 21 married respondents. Income range is classified into six ranges: 27 respondents are below IDR 3 million per month, 50 respondents are IDR 3 million to 7 million per month, 16 respondents are IDR 7 million to 12 million per month, 10 respondents are IDR 12 million to 20 million per month, 13 respondents are IDR 20 million to 50 million per month, 4 respondents are And more than IDR 50 million per month. In business quality measurement, there are 14

respondents with AAA results; 44 respondents with AA results; 40 respondents with A results; 12 respondents with BBB results; 8 respondents with BB results; 2 respondents with CCC results; 0 respondent with CC or B results. This seems that the quality of businessmen in Bandung are skewed to good condition. Most of the respondents are concentrated in A and AA results. While the results with BBB or below are significantly low. The standard deviation is 15.38; average business quality score is 69.08; maximum score is 95.45; and minimum score is 24.72. For financial literacy measurement, the result is as follows: 42 respondents with low financial literacy results; 59 respondents with medium financial literacy results; 19 respondents with high financial literacy results. Financial literacy for businessmen in Bandung are still a little medium to poor level. It can be seen from this result, there are only 19 out of 120 respondents that have high financial literacy level. The standard deviation is 16.67; average business quality score is 66.71; maximum score is 100; and minimum score is 20.

### 1.7. Demographical Impact to Financial Literacy for Businessman

In this part, researcher wants to measure whether demographical data can give quite some impact to financial literacy for businessman.

Logistic regression	Number of obs	=	120	
	LR Chi2(4)	=	17.72	
	Prob > Chi2	=	0.0014	
	Pseudo R2	=	0.1140	
Financial Literacy	Coef.	Std. Error	Z	P >  z
Genre	1.104789	0.443534	2.49	0.013
Education	0.563605	0.429086	1.31	0.189
Income	-0.36684	0.123266	-2.98	0.003
Marital Status	-0.21796	0.583982	-0.37	0.709
Constanta	5.624499	1.963224	2.86	0.004

Figure 1. Demographical Impact to Financial Literacy Logistic Regression

R squared value is 11%. This means independent variable only gives 11% impact to dependent variable. Chi square: 0.14%. We can 95% confidence that the independent variable determines the dependent variable. The equation is "Financial Literacy = 5.62 + 1.10 Genre + 0.56 Education – 0.22 Marital Status – 0.37 Income". Only genre and income that have P value less than 5%. Genre has P value of 1.3% and income has P value of 0.3%. The greater the income seems to give negative effect to financial literacy. While for men, it tends to be more literate than woman.

The very same tests were executed with each business type (service and trading). The results are the same in every aspect, genre and income gives the most significant impact to financial literacy. P-value from business type is very high, all above 67%. This means, financial literacy does not affected by what business the person is undergoing. With 11.52% R square, and 0.31% chi square, we can sum up that income gives negative impact to financial literacy, and male has tendencies to be highly literate than female. Other aspects do not give significant impact.

### 1.8. Impact of Business Owner Financial Literacy to Business Healthiness and Quality

In this part, researcher wants to measure whether financial literacy can give quite some impact to business quality that a businessman run.

Logistic regression	Number of obs	=	120	
	LR Chi2(4)	=	9.02	
	Prob > Chi2	=	0.0290	
	Pseudo R2	=	0.0734	
Business Quality	Coef.	Std. Error	Z	P >  z
Financial literacy	1.249116	0.748144	1.67	0.095
Service	0.420458	0.543079	0.77	0.439
Trading	1.464696	0.632686	2.32	0.021
Constanta	-4.463907	3.105939	-1.44	0.151

Figure 2. Financial Literacy and Business Type to Business Quality Regression Result

The R square value is only 7.34%. This number is small with meaning that with the only this one independent variable cannot explain enough the dependent variable. Chi square: 2.9%, this means that the equation has 95% confidence to determine the dependent variable from independent variable. P value of financial literacy is 9.5% and the equation is "Coding Business Health = -4.464 + 1.249 Financial Literacy + 0.42 Service + 1.46 Trading". Surprisingly enough, it turns out that businessman that engaged in the trading business type is easier to reach the standard of healthy business rather than the one in the service scope. It is even significant with P-value 2.1% which means we are more than 95% sure that business in the scope of trading should have easier reach the term of high quality business than service. As logistic regression has a weakness, in the previous test we only tested service and trading business scope. This time we also tested manufacture and trading scope. Manufacture even give negative impact to business health (although it does not seem to be significant as the P-value is 44%). The other independent variables do not change very much. So to sum up, business quality is significantly affected by financial literacy (90% confidence) and also easier to reach good health standard when the business is run in trading scope. To sum up, this research found that financial literacy does give significant effect to business health. But this financial literacy is not the only aspect that generate business health level. There are many more aspect other than financial literacy that can affect the health of business since the R square only around 2%.

### 1.9. Other Result about the Impact of Demographical Aspect to Business Quality

To make this research more complete and knowledge-rich, we also tested the impact of demographical aspect to business health or business quality. The result test is very insignificant. This can be showed from 99.7% chi square, it means that we can only sure 1% about this equation. R square value is 0.13% which also means independent variables do not explain very much or give impact to dependent variable. Each P-value from each variable is also more than 60%. From that we can infer demographical aspect does not give significant impact to business quality.

## CONCLUSIONS

Men tend to has greater financial literacy than women; people tends to more financially literate when they have limited source of money (income) than the one with more income. Demographical data does not have any impact to business health, it means that everyone can be an entrepreneur without exception. Moreover financial literacy gives significant impact to business health, the more literate the founder, the healthier the business is. The exception of this research is that this research was being executed in Bandung Area so that the scope is very limited. The research can further more be developed in other region such as in Jakarta, Surabaya, and many more. To know what lies behind business health, further research must also be conducted. There must be more aspects other than financial literacy that can significantly give impact to health of a business. So the recommendation is that every single enterprise in Indonesia, especially in Bandung, should start to learn more about financial literacy. So we rejected H0 that states there is no relevancies between financial literacy and business quality. On the other hand, surprisingly enough, demographical aspect does not show any relation to business quality with 70% chi square and over 70% P-value of each variable.

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## **COMPANY CHARACTERISTIC ANALYSIS ON IMPLEMENTATION OF GREEN BUSINESS IN FOOD AND BEVERAGE COMPANY LISTED IN INDONESIA STOCK EXCHANGE (IDX) PERIOD 2013-2015**

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### **EXTENDED ABSTRACT**

Companies can do many business opportunities that drive the growth rate of the country's economy. But on the other side of the rate of economic growth that occurred visible social gap and environmental damage. Therefore, the company must run its operations by not only focus on the interests of the company (shareholder), but also look at the social and environmental interests (stakeholder) by implementing green business which is the application of Corporate Social Responsibility

This study aims to determine the effect of profitability, leverage and growth on corporate social responsibility disclosure (CSR) or disclosure of the implementation of green business of food and beverage companies listed on the BEI 2013 to 2015 which is the population of this study. This group of companies is taken as the object of research because in those years the group of companies continues to experience growth and contribute the largest to GDP compared to other groups of companies.

The type of research is hypothesis testing research with the method of research is the method of causality and the data used is secondary data. The result of this research proves that profitability variable with ROA indicator influence significantly and positively to CSR. While leverage and growth does not significantly influence CSR.

**Keywords:** Corporate Social Responsibility Disclosure, Green business, Profitability, Leverage, Growth

## EXPLORING FACTORS OF CONSUMER PREFERENCE FOR BANKING SERVICE IN INDONESIA

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### EXTENDED ABSTRACT

After the prosperous growth in Indonesia banking sector, new challenges are appearing in the industry. The sector is struggling to achieve financial inclusion in both urban and rural areas of Indonesia. To address the proper adoption why consumer wants to use banking product/service, an exploratory study is needed to discover the related attributes. This paper is conducted as a starting point to explore a factors that may affect consumers to prefer banking service. This paper used factor analysis to discover consumers' determinant factors that may affect consumer preference. Five factors, which are service quality, marketing activities, financial gain, functional service, and recommendation, are found to be resonant as an initial direction to measure consumer preference.

**Keywords:** : *Consumer preference, bank, factor analysis*

### INTRODUCTION

After the crisis in 1998, the Government began to regain control of the banking industry, and have regulatory actions to have healthy and competitive industry. Banks are encouraged to carry out a variety of differentiation and promotion to penetrate the market. Indonesian banks are especially well capitalized. The development of Bank is being kept uplifted to the present day. President and the government of Indonesia emphasize out the importance of this program in Rencana Pembangunan Jangka Menengah Nasional/RPJMN 2015-2019 (National Medium-Term Development Plan). Financial technology has become an objective of Indonesia government in achieving independent economy under the development and acceleration of Indonesia financial sector (RPJMN, 2015). The financial sector aim is to create competitive advantage, improving intermediary function, and expanding distribution access to societies.

Indonesia banking sector continues to develop after years of expansion. The sector is largely stable and well capitalized. The industry is resonant with sufficient capital to support credit growth, while the regulatory environment is favourable. The sector has become stronger to withstand shocks, and by the time global financial crisis hit the banks were strong enough to sail without bailout. Banks are set to grow as the inclusivity improves, that stimulate customers to demand more complex products. Financial technology is increasing access to banks. The technology helps the penetration of the sector exponentially. Ubiquitous technology in Indonesia enable the possibility of closing the customer's distance without border. Online banking distribution channel such as SMS Banking, Mobile Banking, and Internet Banking roams in almost every major bank player in Indonesia. However, Indonesia only has 36.01% banked customers that is mostly come from urban area. To address this issue, new technology such as branchless banking is also taking a toll in the matter of market penetration. This new feature amalgamates trusted agents and financial technology to reach customers who are mostly live in disadvantaged. Experiencing the changes in the sector shifts consumer behavior towards banking service. It is imperative to explore factors that affect consumer preference and adoption towards banking services.

The goal of this study is to discover what factors that affect consumer preferences towards banking service. The objective of this study is implementing factor analysis to achieve the purpose. Factor analysis operates on the notion that measurable and observable variables can be reduced to fewer latent variables that share a common variance and are unobservable, which is known as reducing dimensionality. By exploring these factors, further plan toward preference and measurement can be properly addressed. Clear direction what factors that affect in Indonesia banking preference and adoption can help researcher to measure the relationship. This relationship

can help practitioner to devise a better strategy to interact with customers. Lichtenstein & Slovic (2006) explained that preferences can be regarded as individual's attitude towards a set of objects, that is typically reflected in their explicit decision making process. Stated preference shows respondent choices from hypothetical choice scenarios sets which are composed by the experiment design. In order to know what choices that customers make in the profile, suitable factors are needed to be measured.

#### **LITERATURE REVIEW**

It is necessary to find out what causes the rapid development of banking industry. Decision makers in banking industry also need to immediately find out what motivates people to welcome banks in various strategic places. The attitude toward the presence of banking industry which facilitates financial transactions also needs to be understood by banking management. In addition, it is important to know whether the presence of banking industry is a necessity or just an illusion (Kotler, 2008). In developing countries like Indonesia it is also necessary to know the reason why people use banks for their financial transactions. There are numerous factors that can influence the consumer's choice in selecting commercial banks such as recommendation from friend, bank's reputation, availability of loans, friendly employees, and appropriate charges (Anderson et al, 1976). There are also other factors that may influence the consumer in selecting bank, such as strategic location (Ta & Har, 2000), marketing activities (Chigamba and Fatoki, 2011), technology (Almossawi, 2001), customer service (Laroche et al, 1986), or the facilities offered for the consumers (Rehman and Ahmed, 2008).

In order to measure SP, eliciting choices that illustrate the practical field is necessary. Describing scenarios that resemble reality is difficult to be devised by merely following previous study. Designated scenarios are important to be modified that favours with current condition. For that reason, initial exploratory study is important to be carried out. Exploratory factor analysis is a widely utilized and broadly applied statistical technique in the social sciences. Yong and Pearce (2013) states that the broad purpose of factor analysis is to summarize data so that relationships and patterns can be easily interpreted and understood. It is normally used to regroup variables into a limited set of clusters based on shared variance. Hence, it helps to isolate constructs and concepts.

The purpose of this study is to explore reasons that may affect consumer preference towards banking services. One of the most influential ideas in psychology is that human behavior is, to a large extent, governed by likes and dislikes. Drolet et al (2009) defined preferences simply as what an individual want to gain or from potential alternatives. Lichtenstein & Slovic (2006) explained more that preferences can be regarded as individual's attitude towards a set of objects, that is typically reflected in their explicit decision making process. Laran & Wilcox (2011) stated that consumer preferences are constructed as decisions are made instead of retrieved from memory, which particularly happened when preferences are not strongly defined. Voicu (2013) explained that preferences can be triggered by various features and attributes of the products, such shape, size, print, taste, colour, consistency, package, to label, name.

This Anderson et al (1976) provided a basic insight about general reasons why consumers use banks. Recommendation, reputation, friendly employees, and appropriate charges are factors that can be similar for people in using not only banks, but other products and services as well. These factors are necessary to make consumers wants to try and become satisfied with the services. However, Ta and Har (2000) explained that a strategic location is also important to make consumers decide to use bank services. This is empirically aligned with condition in Indonesia that shows a high financial exclusion because of access constraints in rural areas. Consumers that have difficulties in accessing bank are not using the services, because it requires them to spend high transaction cost for a service that is supposed to economically beneficial for them.

Chigamba and Fatoki (2011) supported the notion of proximity along with other four factors, which are services, attractiveness, recommendation, and marketing. Marketing activity is one of the reasons why consumers select bank, because marketing strategy is usually consisting of action to attract as many consumers as possible (Aldlaigan, 2005). Therefore, consumers that are exposed to marketing activities may get attracted to select bank and satisfied with the promotion or advertising strategy. Other factors such as service and attractiveness can be aligned with SERVQUAL that includes responsiveness, reliability, and tangibility.

There are specific factors why people select banks such as technology and bank facilities offered for the consumers. Technology is significant to influence consumer decision in selecting bank, because there are many

banks' services that requires technology for interaction between consumers and banks (Almossawi, 2011). For example, bank provides ATMs that makes consumers don't have to go to meet with customer service, but instead a machine that is installed in certain area. Further technology such as mobile banking and Internet banking is also taking a growth in consumer's usage of banking services.

Several studies take factor analysis to discover the dimensions and factors of why consumers selecting bank. Chigamba and Fatoki (2011) conducted research in South Africa and found five major factors for students in selecting bank. Krisnanto (2011) conducted similarly in Indonesia, and found four factors based on convenience, competence, recommendation, and appropriate charges. The research found that consumers go to a bank because of four factors, which are recommendation, consumer's self decision, and advice from family and mandatory.

## METHODOLOGY

This design of this study uses factor analysis to explore factors that affect consumer preference towards banking service. The procedure of the data collection and analysis of the study is taken in survey design, pilot experiment, data collection, and data analysis. This study uses survey that is distributed online as a measurement tools. The indicators are derived from exploratory interview and previous research. There are 31 statements that are arranged in the survey design. Each statement is measured by using Likert Scale ranges from one (the least important) to six (the most important). Each statement is translated into *Bahasa Indonesia* to ease respondent in completing the survey. There is no fixed amount of variables in the analysis process. The dataset is analysed by using Principle Component Factor analysis with Eigen Value more than one (1) by using SPSS software.

DEMOGRAPHIC PROFILE				BANKING PROFILE			
Gender				Bank Account Ownership		Main Bank Brand Account	
Male	352	Female	421	One bank account	270	BCA	231
Age		Occupation		Two bank account	208	BRI	123
18-25	224	Civil	124	More two account	295	BNI	150
26-35	226	Private	261	Using ATM		Bank Mandiri	221
36-45	173	Entrepreneur	153	Yes	750	Other	48
46-55	109	Housewife/husband	49	No	23	Online Banking Usage	
Above 55	41	Student	186	Using M-Banking		Only M-Banking	109
Education		Monthly Spending		Yes	496	Only Internet Banking	102
High School	187	Rp0 - Rp2.500.000	204	No	277	Using Both	387
Undergraduate	290	Rp2.500.000- Rp5.000.000	259	Using Internet Banking		Using Neither	175
Master	213	Rp5.000.000- Rp7.500.000	182	Yes	489		
Doctorate	83	Above Rp7.500.000	128	No	284		

Table 1. Respondent Profile

Pilot experiment was conducted with low sample size ( $n=30$ ) to test the functionality and feasibility of the study. Several design adjustments such as attribute placement, design space, translation, and font type are appointed to help respondents in the survey. After pilot study has shown a favourable response, the survey questionnaire is distributed through online survey. The target sample of the study is individual above 18-year-old who has bank account. The population size of the sample is notably abundant. The recommended sample size is at least 300 participants, and the variables that are subjected to factor analysis each should have at least 5 to 10 observations (Comrey & Lee, 1992). According to Costello (2005), a ratio of 10:1 is excellent as a ratio of items and sample size in factor analysis. Accordingly, this study should have at least 290 respondents.

This study collected 733 respondents that were collected from 1 July to 20 July 2017. The socio-demographic of the respondents are proportionately distributed. Table 1 shows the summary of the respondent that is distinguished by demographic and banking groups. There is no skew domination in the demographic distribution. The age group of the respondents are comprised of 58% aged 18-35 and 42% who are 36 years older. Most respondents at least have undergraduate or master education, working at private business or studying, and have an average monthly spending up to Rp5.000.000. In banking profile, there are 65% respondents who have at least two bank accounts. Most respondents are familiar with ATM facility, only 3% of the respondents who are not using ATM. Most respondent are also familiar with online banking facility. There are 496 respondents who are using M-Banking, and 489 who are using Internet Banking. In more detailed information, there are only 175 respondents who are using neither online banking facility. Most respondents have BCA and Bank Mandiri as their main bank account.



## DATA ANALYSIS

The dataset of this study is analysed by SPSS software. According to Costello (2005), there are three tests that should be checked for factor analysis validity. Firstly, item communalities should have at least .40 to .70. Table 2 shows the extracted item communalities of the research design, KMO, and Bartlett's test. The extracted item communalities in this research was found to be 0.478, which indicates a moderate relationship in each indicator items. KMO measurement has .927 score implies an excellent sampling adequacy. This test shows that existing factors have significant proportion of significance. Bartlett's test also confirms the sampling adequacy significance. This study has also an excellent Bartlett's test that has a 0.000 significance level.

Secondly, factor structure and individual items is considered valid when minimum factor loading of an item is .32 (Tabachnick and Fidell (2001)). Table 3 shows the rotated component matrix factor loading of this study. As displayed, all items of this study have acceptable factor loading that should be more than .32. Lastly, a factor should have at least three items. A factor with fewer than three items is generally considered to be weak and unreliable. From these three tests, the factor analysis of this study should be sufficient to be considered valid.

Validity Test		Result	Default
Accumulated extraction of communalities (29 items)	0.478	0.478	>0.40
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.927	.927	>0.90 (excellent)
Bartlett's Test of Sphericity	Sig. .000	.000	.000 < 0.05

Table 2 Factor Analysis Validity Test

This study discovered five distinguished factors. First factor shows a comprehensive set of indicators in the service quality. This factor could be comprehended as a core for bank service quality. This factor has attributes that can encourage a convenient and comfort for consumers in selecting a bank. This factor can show that the consumer preference is positively affected by the bank service quality. Certain service quality from bank is required to compete the consumer preference. Factor one include indicators for bank branches, service level, employee competence, ATM facility, and transaction accuracy and efficiency.

No	Indicator	1	2	3	4	5
1	Bank is easy to reach	0.591				
2	Has many Bank Branches	0.554				
3	Quick Service	0.651				
4	Guaranteed Bank security	0.692				
5	Reputable Bank	0.681				
6	Bank has competent employee	0.594				
7	Easy to monitor my account information	0.621				
8	Bank complete transaction accurately	0.681				
9	Bank employee works based on procedure	0.666				
10	Bank environment is comfortable	0.536				
11	It is easy to open bank account	0.474				
12	ATM is available on many places	0.608				
13	ATM is easy to reach	0.665				
14	Bank handle transaction efficiently	0.576				
15	Bank has Mobile Banking facility		0.666			
16	Bank has Internet Banking facility		0.672			
17	Bank offers foreign currency exchange		0.581			
18	Bank has membership point		0.461			
19	Attractive bank promotion		0.394			
20	Bank offers credit		0.566			
21	Bank has fair price			0.513		
22	Bank has cheap transaction cost			0.563		
23	Consumer can gain from bank interest			0.665		
24	Bank has longer operational hour				0.408	
25	Bank has good customer service				0.75	
26	Bank has enough teller to serve				0.839	
27	My parents recommend that bank					0.753
28	My friends recommend that bank					0.612
29	My family know that bank					0.689

Table 3 Rotated Component Matrix

The second factor can be interpreted as a business and marketing activities of of bank. This factor comprised of distribution channel, foreign exchange, and loyalty point. Factor number two (2) shows a factor that helps bank to reach, retain, and reward consumer. It is a common practice of marketing to develop business by expanding the distribution channel. Mobile banking and Internet banking facility enables bank to reach consumers easily. This factor has also foreign exchange that can be interpreted as one of a product line in bank. Lastly, this factor also has an indicator that rewards consumer from membership point. Factor number three (3) displays a variable that indicate a financial gain for consumer. This factor includes fair price, cheap transaction cost, and benefit from bank's interest. This factor can provide a direction that pricing or cost strategy in banking industry has a correlation with consumer preference. However, measuring financial gain in banking product or service need to be handled delicately. Consumer perception regarding price, cost, or financial benefit in bank may have a spurious effect with other attributes. For example, price and transaction cost in banking industry is heavily regulated in Indonesia. Therefore, financial product between banks should have identical or close default of price and cost. Therefore, further detail about what is fair or cheap should be further elaborated in the further measurement.

Factor number four (4) displays a functional service inside bank branches. This finding may lead a further guidance from factor number one which indicates a service quality of bank. In this group, there are operational hour, customer service, and teller size indicators. Longer operational hour, better customer service, and more teller to serve inside bank branches may enable bank to serve more consumer. It may imply indication that shows consumer prefer to go to bank that has enough resource and operational time to serve them. Lastly, factor number five (5) shows the service recommendation of the consumer in selecting bank. It includes the recommendation from relatives and friends. This factor is relatively straightforward in theory. Factor number five shows the recommendation from parents, friends, and awareness from relatives. This finding can provide a direction to know how consumer have a social consideration for preferring certain bank service.

#### CONCLUSION AND FURTHER DIRECTION

This study deduces five factors as initial conclusion in exploring bank consumer preference. All five factors provide a resonant finding with previous studies. Fundamentally, it is sensible and agreeable to concur that consumer preference is affected by service quality, marketing activities, financial gain, functional service, and recommendation. These five factors are necessarily important, especially inside an industry that has strong service level. Nonetheless, each factor could provide an initial direction to measure consumer preference in further direction. After the exploration of factors that can affect consumer preference in banking service, further measurement is required to test the measurement level for each factors. Consumer preference is best measured through conjoint analysis design. Conjoint analysis allow researcher to measure of consumer preference by enabling profile choice that is preferred by consumer.

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# HALAL PRODUCTS AND LOGISTICS: MULTIPLE CASE STUDIES IN INDONESIA

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## EXTENDED ABSTRACT

Despite Indonesia is recognized as the largest Muslim populations over the world, the developments of halal principles in business activities have not yet been developed in optimum stance. To obtain better understanding about the implementation of Halal principles in Indonesia, this study is conducted through qualitative research using in-depth interview. Multiple case studies from halal non-food, halal food, and halal logistics enterprises are carried out. The findings show varied results in each business sector. However, this paper should be counted as a preliminary study of the development of halal products and halal logistics in Indonesia cases.

**Keywords:** : Halal principles, Food, Non-Food, Logistics

## INTRODUCTION

DeSilver and Marci (2017) argue that Muslim populations appear as the big number about 1.6 billion people over the world. About 209 million Muslims originate from Indonesia representing 87.2% of all Indonesian people. As the number of Muslims growing, the specific necessity as Muslim keeps increasing, i.e. Halal foods. The obligation to apply Halal principles in Muslims daily lives has been written in Quran and Hadits in which Halal is defined as “permissible” or “lawful” (Alam and Sayuti, 2011). Due to this obligation, Muslims are likely to consider Halal principles as their lifestyles that always need to be fulfilled. Realizing the emergence of Halal demands from Muslims, a firm may take the important role to provide the Muslims necessity over Halal products in their daily usages. For a firm, to fulfil the Halal demands may serve as one of many activities which potentially to contribute to firm’s performance or known as competitive strategy (Porter, 1985). This study contributes through providing a preliminary research about the Halal development in several sectors in Indonesia, namely: Halal products (divided into Halal food and non-food) and Halal logistics.

## LITERATURE REVIEW

Halal term means “permissible” or lawful” written in Quran and Hadits (Alam and Sayuti, 2011; Ibrahim and Othman, 2014; Tieman et al., 2013). On the contrary, the forbidden, unlawful, and illegal things for Muslims are called as Haram (Tieman et al., 2013). Generally, Halal principles are more associated with dietary rules for Muslims, but Halal actually should be implemented beyond the dietary because the materials which considered as Haram today are utilized in the production of other consumer goods.

Realizing the obligation to enforce the consumer protection act and the sophisticated technology used in the production process of product, in 2014 the Indonesian governments enacted the law of *Jaminan Produk Halal* (JPH) to oblige every Halal product sold in Indonesia labelled with Halal label. This decision implies on establishing the government institution to carry out the JPH, BPJPH (*Badan Penyelenggara Jaminan Produk Halal*). Later, BPJPH will coordinate with the ministries, LPH (*Lembaga Pemeriksa Halal*), and MUI to issue the Halal certificate. The other implication in 2019 is that Halal certification will be a mandatory for each firm sold Halal product in Indonesia, not as a voluntarily anymore (Sayekti, 2014). To meet this condition, Indonesian governments have arranged some stages should be implemented by the industries. Starting from November 2016, the food and drink industries are obliged to have Halal certification. Then, it will be followed with cosmetic, chemical, genetic modified organism in 2017 as well as Pharmaceutical and Biological product in 2018. According to MUI, in 2010-2015 there are 35962 products with Halal certification while the total firms are 33905 and total products are 309115. The ten top categories of Halal products in Indonesia vary from flavour,

seasoning and fragrance; restaurant; beverage and beverage ingredient; spices, seasoning, and condiments; plant and processed plant products; snack; oil, fat and processed products; extract; cosmetic; chocolates, confectioneries and supporting ingredient (LPPOM MUI).

**Table 1. Example of Previous Halal study researches**

Author	Title	Year	Aims
Z. Samori, N. Zafir and M. Mahyuddin	Current trends on Halal tourism: Cases on selected Asian countries	2016	Explore and illustrate the concept of Halal tourism within the Islamic context
M. S. Ab Talib, A. B. A. Hamid and M. H. Zulfakar	Halal Supply chain critical success factors: a literature review	2015	Critical Success factors for Halal SCM
B. L. Yeo, R. Hj N. Mohamed and M. Muda	A Study of Malaysian Customers Purchase Motivation of Halal Cosmetics Retail Products: Examining Theory of Consumption Value and Customer Satisfaction	2016	explore the relationship between perceived value and customer satisfaction

## METHODS

Yin (2003) posited “... case studies are the preferred strategy when ‘how’ or ‘why’ questions are being posed, when the researchers have little control over events, and when the focus is on a contemporary phenomenon within some real-life context”. According to Schramm, the nature of case study is to highlight the decisions happened in the case we observe (Yin, 2003). Meanwhile, this study aims to gain better description about the development of Halal implementation in Indonesian business sectors (food, non-food, and logistics). Halal food sector is considered as more developed than non-food since food sector is more associated with Halal principles as stated in Quran and Hadits as well as the basic need must be fulfilled daily. On the other hand, according to *Daftar Belanja Produk Halal Indonesia* MUI issued in January 2017, the number of non-food products with Halal certified is lower than food products. As for the Halal logistics sector, not many logistics service providers deliberately commit Halal principles in their business activities. Based on those different conditions among business sectors, this study constructs the different research questions for each sector.

This study chooses multiple-case studies as the research strategy to gain the proper answers of the research questions as following:

*For halal non-food industry:* (1) What is the perspective of the firm as to Halal concept in its business? (2) What is the motivation of the firm in implementing Halal concept in its business? (3) In which part of supply chain does the firm implement halal concept? (4) What are the obstacles and future planning does the firm have during its attempt in halal implementation in its business?

*For halal food industry:* (1) How does the firm address the halal logistics in its business?

*For halal logistics industry:* (1) How far does the firm implement halal concept in its business?

The data collection used in this study is in-depth interview with the representatives of each firm which results qualitative data type. The interviewees answer the questions originated from the research questions for each firm.

**Table 2. Case Designs**

Firm	Type of Industry	Number of employees	Position of interviewee	Variety of Halal products
A	Cosmetic	>500	PIC ISO and Law of Halal Management	All products
B	Fashion	>500	PIC Halal Management	Zoya, Shafira, Mezora
C	Pharmaceutical	>500	Logistics	Several products

D	Pharmaceutic al	<500	R&D	-
E	Agribusiness	>500	General Manager	Cooking oils, margarines
F	Food retailer	<500	General Manager	Frozen foods and groceries
G	Logistics	<500	Safety Health and Security	Distribution

## FINDINGS AND ARGUMENT

The findings of this study are described in the table as shown below:

**Table 3. Non-Food Firms regarding Halal implementation**

Firm	Cosmetic <b>A</b>	Fashion <b>B</b>	Pharmaceutical <b>C</b>	<b>D</b>
Motivation	Value driven	Value driven	Value driven	Value driven, though it has not been implemented yet
Supplier	Halal Certified and no doubt in Halal	Trust the suppliers which are Halal certified firms	Halal Certified and no doubt in Halal	-
Production	On Controls	On Controls	On Controls	production lines are still mixed between halal and non halal product
Management	Halal management	Halal management	Halal management	ISO
Distribution	On Controls	On Controls	On Controls	-
Logistics	Firm logistics	Third Party Logistics	Third Party Logistics	-
Staff	Well-Informed	Well-Informed	Well-Informed	-
Facilities	Supported	Supported	Supported	-
<b>Barrier</b>	Take longer time to extend their Halal certification	Gain resistance from competitors and customers about Halal hijab	Deep considerations about cost and R&D	(1) big effort of traceability the raw materials (2) usage of alcohol, bacterial fermentation, and capsule (3) high cost for transforming business process

Using descriptive statistics (e.g. Mean, Median, Min, and Max score) from Likert scale (1-5), the authors attempted to interpret these limited data. Mostly, the firms agree on their motives ( $\bar{x} = 4.79$ ) for getting Halal certified products because they believe it will offer more value-added for the customers in health, quality, safety, and comfort. These value-added encourage the firms to expect the more easily selling to the markets and resulting with increasing market share. Regarding the supplier aspect ( $\bar{x} = 4.47$ ), the firms admit that they put concerns of the assurance from suppliers about the origins, processing, and quality of halal raw materials. In production activity ( $\bar{x} = 4.46$ ), the firms focus are starting from the preparation until the cleaning stage to ensure the halal value of products they produce. By having clear preparation procedure, healthy and skilled employees, applying Halal production procedure, and implementing Halal principles in cleaning of equipment are the instances the firms put their effort to maintain the Halal in production activity. The next aspect is distribution activity ( $\bar{x} = 4.30$ ), especially in a matter of segregation between halal and non-halal products. To maintain the segregation, they recognize several attempts such as: the well-informed handling procedure between halal and non-halal products, the labelling of halal products, and transport activity. To support the activities, the firms rely on the facilities they have such as the availability of water complies to Halal principles and the layout to smooth the flow of process. Besides that, if the firms use third party logistics, they intend to use the Halal third party logistics. Those findings from survey are aligned with the findings from firm A, B, and C.

## CONCLUSIONS

Basically, each Indonesia enterprise in food, non-food, and logistics sector unanimously admit the implementation of Halal principles in their business activities is important. Furthermore, they expect good effect on their firm performances; especially Indonesia is a country with the largest Muslims over the world. While committing to take a part in Halal business, the consequences to implement Halal principles in accordance with MUI regulations throughout the business processed are clearly inevitable. Besides that, each business sector will face different obstacles which may affect the rate progress of development of Halal implementation. This study serves as a preliminary study, especially in Halal non-food and Halal logistics as the relatively new Halal business sectors. Further researches may be done through qualitative and quantitative research methods to gain deeper insights about Halal implementation in Indonesia enterprises.

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# INTENTION AND BEHAVIOR TOWARDS HALAL LOGISTICS IN INDONESIA

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## EXTENDED ABSTRACT

The role of Halal logistics is highly critical to assure implementation of Halal supply chain in each process to the end-product. This study applies Structural Equation Modelling (SEM) which is used to analyse structural relationships between perceived value, perceived usefulness, knowledge on halal logistic, intention and behavior. Based on questionnaire survey to Muslim in Indonesia, this study finds that knowledge on halal logistic is significant to endorse intention and behavior of people in consuming halal product. However, since the perceived value and usefulness are not significant to intention, thus a further study will be conducted to observe its relationship through modified model in a separate study.

**Keywords:** *halal logistics, perceived value, perceived usefulness, intention, behavior*

## INTRODUCTION

Halal is an Arabic word which means permissible, while the opposite of Halal is Haram that translates to prohibited in English. Halal practices to all aspects and activities of a Muslim, but it is more than just a religious obligation. Halal is usually associated with food consumption, but in essence, it incorporates every aspect of a Muslims lifestyle, including speech, social interaction, behavior, attire, and manner (Al Jallad, 2008). On the other hand, Haram means punishable and forbidden in Islam. However, on a given context, the meaning changes over times because Haram might also represent sacred or holy.

Nowadays, the halal concept is not only limited to product, but it has been shifting to Halal supply chain, each process is compulsory to meet Halal standards concerning Sharia principles. This means that for the whole chain, every aspect should be able maintained in order to keep Halalness inside. Halal aspect is not only restricted for ingredients of food products only, but it is also concluded in the packaging and in the process of production to distribution. Based on the 5th principle of Halal (HDC, 2012), anything related to the Halal food or/and non-food products should be complied with Islamic rules including the logistics activities for the Halal products. Logistics activities are one of the entities in supply chain of products. In a way to serve Halalan-Toyibban products to end consumers, all part in halal supply chain for halal products should be conducted according to Halal best practices including logistics activities. Halal logistics activities involved halal transport, halal warehouse and halal retail (SIRIM, 2010). This study is conducted in Indonesia with purpose to gain significant insight yet resourceful database for future strategy in developing halal industry worldwide. As the most populous Muslim country, market perspective towards practice of halal logistics will enrich enterprise knowledge to build a proper system to satisfying customer expectation and need. Specifically, this study analyse structural relationships between perceived value, perceived usefulness, knowledge on halal logistics, intention and behaviour.

## LITERATURE REVIEW

### Halal Logistics

The basic principle of halal transportation is to ensure physical segregation of halal cargo from non-halal cargo in transport. The purpose of this effort is to avoid cross contamination, avoiding possible mistakes during process and to ensure that the transportation system is aligned with Muslim consumers' expectations (IHIAS, 2009). Halal logistics is closely related to ensuring excellence to the supply chain starting from sourcing,

production, and transportation process. Halal logo is an assurance that the product complies with Halal principles throughout the manufacturing activities. However, customers in general would assume Halal products with Halal certification is compliant to Halal standard. Furthermore, customers haven't put much concern on the possibility for cross-contamination during logistics process. It is compulsory for manufacturers to be able to provide halal storage facility in order to comply within Halal logistics system worldwide (Tieman, 2008).

### Perceived Value and Perceived Usefulness

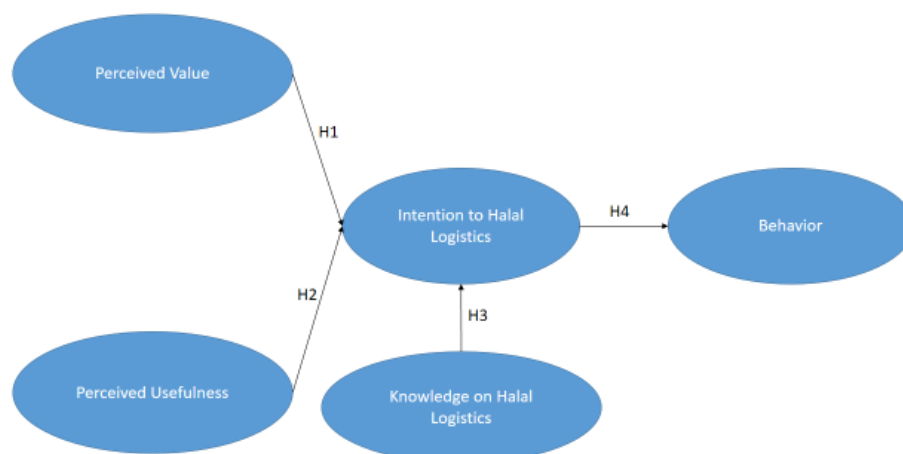
Zhitaml (1988) defined perceived value closely to a comprehensive evaluation of the usefulness of a product based on the value perceived by an individual. In a few cases, it is possible to generate an increase in perceived value when the customer or a person who is the user of a product believe on certain benefits shared by the product. The relationship is very much positive on perceived value to results showing intention and relativity to increasing customer satisfaction, loyalty, and actual purchase from customers (Ching Lung & Judy, 2015).

Perceived usefulness is defined as benefit trust, relating to customers belief on technology or system function that might increase their performance on the daily basis (Davis et al., 1989). Another definition of perceived usefulness is customer's trust upon their choice to gain improvement on their quality of life (Purnama & Widiyanto, 2012). Thompson et al. (1991) also have a definition on perceived usefulness; they said that a customer would only use information technology (IT) if and only if the person has an adequate understanding of the benefits of using technology. This concept describes system benefits that related to productivity, job performance, effectiveness, importance to a job and overall usefulness (Davis, 1989). Chin and Todd (1995) also argue that benefits use information technology consist of help job easier, useful things, increase productivity and enhance effectiveness. In this study, perceived value has three indicators consists: Quality, Syari, and Lifestyle and perceived usefulness have two indicators consists: Health and Safety. Therefore, the first set of hypotheses appears as

H1. A significant positive relationship exist between Perceived value and Intention

H2. A significant positive relationship .exist between perceived usefulness and Intention

### Knowledge on Halal Logistics



In the application of Halal logistics, the whole chain must apply Sharia principles. This means there are several factors which are critical to controlling such as finance/administration, people, process, and transportation. Tieman (2011) argues that Halal products do not only matter at the point of consumption or purchase, but they involve in each factor and processes along the supply chain, from farm to fork (supplier to consumer). This indicates Halal supply chain is depicted in an integral scheme to Halal business. There are several main principles of halal logistics to ensure the integrity of halal during shipment for instance, both the physical and the virtual segregation of the products inside the warehouses and during the transportation are maintained, the guarantee that the halal goods are not mixed with the non-halal products, the strict internal audits to maintain



quality service are conducted, and the real-time tracking system of the goods is applied (Tieman et al, 2012). In this study, knowledge of Halal logistics has four indicators consist: Administration, People, Process, and Transportation. Therefore, the next hypothesis appears as

H3. A significant positive relationship exist between knowledge on Halal Logistic and Intention

### Intention to Behavior

This research adopts the theory planned behavior (TPB), on the recent study it is the beliefs that becoming a basic foundation about halal food purchasing intention to behavior. The Theory of Planned Behavior by Ajzen (1985, 1991) is used with development from the previous framework, Theory of Reason Action (TRA) (Ajzen & Fishbein, 1985). On the TRA, the framework is unable to confront with behavior/action under individual volitional control which is incomplete. Before that, a volitional control is defined as an ability to perform behavior after there is a will (Blackwell et al., 2006). The attitude itself can be seen both as a positive and negative evaluation of the degree of behavioral performance and perceived behavioral control based on particular beliefs on an individual basis from intention to behavior (Ajzen, 1991). In this study, the intention has two indicators consist: Food and Non-Food and behavior has two indicators consist: Assurance and Frequency. Therefore, the another hypothesis appears as

H4. A significant positive relationship exist between Intention and Behavior

Variable	References
Perceived Value (PV)	Holbrook, 1996; Zeithaml, 1988; and Holbrook and Hirschman, 1982
Perceived Usefulness (PU)	Davis et al, 1989; Purnama and Widiyanto, 2012
Knowledge on Halal Logistic (KNW)	(Abdul et al., 2009; Muhammad et al., 2009; Othman et al., 2009
Intention towards Halal Logistic (ITN)	Halal Assurance System; Ajzen, 1991
Behavior towards Halal Logistic (BHV)	Abdul et al. (2009); Halal Assurance System; Ajzen, 1991

## METHODS

On the research framework, this research starts with literature review in which conducted based on historical research previously and acknowledge to the current area of interest. Most of the literature review are still in the basics of Halal concept, with a focus on logistics; finally, Halal logistics become the main concentration to analyze in this research. There is 4 hypothesis to be tested and expected to give a satisfactory result to conclude about the market in the Halal supply chain. These data will be gathered in the form of online questionnaires with Likert scale (1-5) as a part of data collection. Before going to data analyses, data will be collected with pilot testing (30 respondents). Following Structured Equation Modelling (SEM) which implied a multivariate statistic approach to analyzing inter-functional relationship between variables in the model.

## FINDINGS AND ARGUMENT

Construct	Cronbach's $\alpha$
Perceived Value (PV)	0.872
Perceived Usefulness (PU)	0.818
Knowledge on Halal Logistics (KNW)	0.764
Intention (ITN)	0.861
Behavior (BHV)	0.791

Reliability test is conducted to assure that data gathered in this study is reliable with the component of items to total correlation and also Cronbach's  $\alpha$  with a range from 0 to 1. The value for Cronbach's  $\alpha$  should achieve a minimum of 0.7 or above (Nunnally, 1978) and the standard value for an item to the total correlation is above 0.3 (Kumar, Scheer, & Steenkamp, 1995). In another case, Cronbach's  $\alpha$  minimum of 0.6 is acceptable (Kline, 2011; George & Mallery, 2003; Loewenthal, 2004). Thus, the final result on the table above shows that each measurement item has exceeded the minimum level of 0.3. Furthermore, the Cronbach's  $\alpha$  is also above 0.7 for each variable measured. Thus, it is concluded that the result is acceptable to proceed with further analysis.

	Model 1 (conceptual model)	Standardized loadings ( $\beta$ )	t-value	Result
H1	PV $\rightarrow$ ITN	0.034	0.111	Not Significant
H2	MHL $\rightarrow$ ITN	0.999	***	Significant
H3	PU $\rightarrow$ ITN	0.027	0.219	Not Significant
H4	ITN $\rightarrow$ BHV	1.000	***	Significant

Significant at: \* $p < 0.05$ , \*\* $p < 0.01$  and \*\*\* $p < 0.001$

Indices	Score
Chi-square/df	31.016
GFI	0.745
AGFI	0.638
RMSEA	0.196

## CONCLUSIONS

During this research, the authors find that the result of the conceptual model has two values which are not significant. While two others show significance, the previous variables need further modification to explore possibilities for a better model in the future. Since the result shows that CMIN/DF  $> 5$ ; GFI  $< 0.8$ ; and RMSEA  $> 0.08$ , it means the result is far from a good model because minimum requirements for conceptual model is not achieved. The ideal model should achieve a lower score for CMIN/DF and RMSEA and a higher score for GFI and AGFI in further study. The authors feel that it is necessary to find relevance among Perceived Value (PV) and Perceived Usefulness (PU) towards Intention (ITN). With further analysis, the authors expect that certain modification would result in a better model to be used a common standard in the implication of Halal logistics. Later, a further empirical study should be able to provide evidence of how the model will fit each other and the strength of variable to confirm the model.

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# NON-MUSLIM CONSUMERS' HEALTH AND ETHICAL KNOWLEDGE ON HALAL FOOD IN MALAYSIA: DETERMINING THE CONSTRUCT SPECIFICATION

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## EXTENDED ABSTRACT

Ambivalent attitudes are discovered regarding halal food consumption among non-Muslim consumers in Malaysia. In order to strengthen their attitude, halal food knowledge (HFK) is introduced. Prior to conduct any empirical analysis between construct relationships, it is important to determine the specification of the relationship between a construct and its measurement items. That is whether HFK and attitude (ATT) are classified as a reflective or a formative construct. A wrong construct specification would lead to problem in establishing its reliability and validity. What is more, incorrect interpretation of the relationship between constructs would occur. The objective of this paper is therefore to determine the appropriate specification of the two constructs under investigation (HFK and ATT). The methodology used in this paper is a literature review guided by the predictive validity framework (PVF) to determine the construct specification. In addition, different criteria required for both construct specifications also used to reach a decision on a particular construct specification to be applied. Following both guidelines, the conceptual and operational meaning of each constructs reveal that both HFK and ATT are classified into a reflective construct in the context of Malaysian non-Muslim consumers.

**Keywords:** halal food, reflective construct, formative construct, predictive validity framework

## INTRODUCTION

Ambivalent attitudes (holding both positive and negative evaluation on halal food all together) are discovered regarding halal food consumption among non-Muslim consumers in Malaysia (Golnaz et al., 2010; Haque et al., 2015). While safety reasons are the main factors in consuming halal food (Lee et al., 2016), yet at the same time, the non-Muslim consumers also perceived halal food to be unethical due to possible misunderstanding on Islamic slaughtering method (Golnaz et al., 2010). To address this issue, HFK is introduced to the non-Muslim consumers in Malaysia (Golnaz et al., 2015). In this sense, a higher level of knowledge regarding halal food is expected to stimulate the establishment of a stronger and certain attitude (Harreveld et al., 2015). Overall, this study would like to address the gap in the literature by introducing halal food knowledge in the non-Muslim consumers' context. Based on the above discussion, the paper would investigate the relationship between two constructs: Halal Food Knowledge (HFK) and Attitude (ATT).

Prior to conduct any empirical analysis, it is important to determine the specification of the relationship between a construct and its measurement items (Podsakoff et al., 2006). Particularly, construct specification would determine whether the measurement items are the effect of the construct (reflective), or in contrast, the measurement items are causing the construct (formative). A wrong construct specification would likely to increase the measurement error and, in turn, would impact the structural or the overall model (Petter et al., 2007). In addition, each construct specification has its own empirical analysis regarding the reliability and validity (Hair et al., 2014). Such measurement error could occur in the form of Type I error, where a significant path relationship is acknowledged as insignificant. Another form of error is the Type II error, where an insignificant path relationship is acknowledged as significant. Accordingly, both type of errors could lead into a misinterpretation and failure to draw a meaningful conclusion of the structural model relationship (Petter et al., 2007).

Following the discussion, the objective of this paper is to determine the correct construct specification of two constructs under investigation (HFK and ATT). Specifically, the paper asks the following questions:

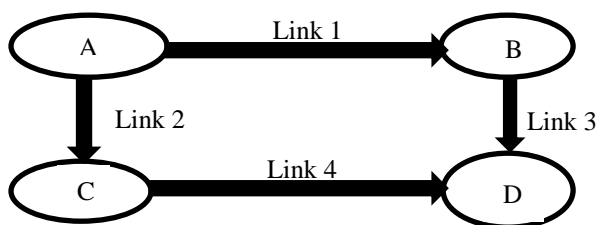
RQ1: Which construct specification (reflective or formative) is appropriate for HFK that capture the Malaysian non-Muslim consumers' knowledge of health and ethical aspects of halal food?

RQ2: Which construct specification (reflective or formative) is appropriate for ATT that capture the Malaysian non-Muslim consumers' attitude of health and ethical aspects of halal food?

## LITERATURE REVIEW

### METHODS

The construct specification of FHK and ATT would be determine through a predictive validity framework (PVF) (Bisbe et al., 2007) as presented on Figure 1. The framework provide the guidance on how to define a construct, both conceptually and operationally. The construct definition process begins with determining its conceptual meaning from existing theory (construct A and B). Subsequently, a model is developed which represents the expected relationship between constructs (Link 1). Afterwards, the constructs are translated into its respective operational variables that measure the variability associated with the constructs (Link 2 and Link 3). In other words, Link 2 and 3 would determine the relationship between a construct and its measurement items. Accordingly, the construct specification, whether the indicators are the effect of the construct (reflective), or the indicators are causing the construct (formative) could be determined. The final link (Link 4) would not be discussed in this paper, since it represents the empirical analysis of the construct measurement relationship.



**Figure 1. Predictive Validity Framework (PVF), adapted from Bisbe et al. (2007)**

In a reflective construct, a construct is viewed as an actual phenomenon that is evaluated imperfectly through its measures or items (Edwards, 2011). This indicates that the measurements in a reflective construct are indicators which prone to errors (Sarstedt et al., 2016). In addition, the measurements in a reflective construct only represent a representative sample of all the possible items available within the conceptual domain of the construct (Sarstedt et al., 2016). In this view, the status of the construct would result in certain scores in the measurement (Edwards, 2011). Stated differently, the measurement items are the manifestation of the construct. Therefore, the direction of causality is from the construct to the measurement items (Diamantopoulos, 2011).

In contrast, the direction of causality is from the measurement items to the construct for a formative construct (Jarvis et al., 2003). Consequently, changes in the measurement items would cause changes in the value of the construct (Jarvis et al., 2003). In this regard, each of the measurement items should have its own conceptual definition (Sarstedt et al., 2016). Furthermore, the measurements of a formative construct are expected to be free of any systematic or random error (Jarvis et al., 2003). That is, in a formative construct the error would lie on the construct itself (Diamantopoulos, 2011). As such, a full coverage on aspects of the domain is required to conceptually define the construct. More importantly, these aspects or indicators should derived from a consensus among scholars (Diamantopoulos, 2011). Therefore, the exclusion of a particular measure would increase the error term and could change the conceptual meaning of the construct when it specified formatively (Petter et al., 2007).

In order to determine the appropriate type of construct to be applied in this study, there are several criteria to be considered. Adapted from literatures regarding the reflective and formative construct specification, Table 1 highlights the difference between both types of construct.

**Table 1. Differences between reflective and formative construct**

<b>Reflective</b>	<b>Formative</b>	<b>Sources</b>
<b>Direction of causality is from the construct to the measurement items</b>	Direction of causality is from the measurement items to the construct	(Jarvis et al., 2003)
<b>Changes (omit) in the measurement items would not change the meaning of the construct</b>	Changes (omit) in the measurement items would change the meaning of the construct	(Diamantopoulos, 2011)
<b>Measurement items only cover a representative sample from all possible items available within the conceptual domain of a construct</b>	Measurement items are the full coverage of the possible items available within the conceptual domain of a construct	(Sarstedt et al., 2016)
<b>Measurement items share a common theme</b>	Measurement items do not share a common theme	(Petter et al., 2007)
<b>Measurement error at the item level</b>	Measurement error at the construct level	(Edwards, 2011)

## FINDINGS AND ARGUMENT

Since the study of halal food is a relatively new discipline, scholarly references are quite limited in order to cover the whole indicators that define the halal status of a food product. Further, as the knowledge construct captures the cognition aspect of the non-Muslim consumers (Ajzen et al., 2011), the meaning of HFK would require additional reference outside the theoretical domain. Accordingly, the indicators of halal in food product would be derived from the Malaysian Standard 1500:2009 (Department of Standards Malaysia, 2015). By doing this, the consensus among scholars regarding halal indicators could be reviewed. As the result, the construct specification for HFK is able to be determined. The indicators of ATT related in the food study would be covered as well. Different from the HFK indicators, ATT indicators would capture the affective aspect of consumers. In this sense, the indicators of ATT are expected to have a consensus among scholars. Table 2 summarizes the findings of each constructs' indicators.

**Table 2. Construct indicators of HFK and ATT**

<b>Construct</b>	<b>Indicators</b>	<b>Sources</b>
HFK	<ul style="list-style-type: none"> <li>Integrity (Logistics, Halal Supply Chain)</li> </ul>	Ab Talib and Abdul Hamid (2015), Soon et al. (2017)
	<ul style="list-style-type: none"> <li>Health benefits (ISO requirements, Excessive additive prevention, laboratory test)</li> </ul>	Rohman and Che Man, 2012, Abd Latif et al. (2014)
	<ul style="list-style-type: none"> <li>Ethical values (Animal welfare, Islamic slaughtering method)</li> </ul>	Farouk et al. (2016), Fuseini et al. (2017)
	<ul style="list-style-type: none"> <li>Packaging (Packaging materials)</li> </ul>	Azam (2016)
	<ul style="list-style-type: none"> <li>Product name (Proper halal name)</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Labelling (COO)</li> </ul>	Ireland and Rajabzadeh (2011)
	<ul style="list-style-type: none"> <li>Human resource in halal industry (Training, internal halal control system, personal hygiene)</li> </ul>	Rahman et al. (2016), only focusing on personal hygiene
	<ul style="list-style-type: none"> <li>Sources of Halal (Permitted animals, plants, minerals)</li> </ul>	Tieman and Hj Hassan (2015)

ATT	<ul style="list-style-type: none"> <li>• Favorability</li> <li>• Evaluation</li> <li>• Liking</li> <li>• Preference</li> </ul>	Lada et al. (2009), Al-Swidi et al. (2014)

As Table 2 depicted, from all possible indicators of HFK, there are no literature available pertaining to the product name. On the other hand, literature scarcity also found on the human resource in halal industry indicator. Only one literature available pertaining to this indicator, but do not cover all the facets (training, internal halal control system). This point out that the indicators of HFK are still lacking from consensus among scholars. Furthermore, the objective of this study is to investigate HFK related to health and ethical aspects. Accordingly, HFK is defined by a sample of indicators. In many cases, ATT is considered as a psychological construct. That is, ATT represent a psychological state which causes certain scores to be realized (Edwards, 2011). In other words, the meaning of a person's ATT toward an object is measured by the scores reported by the respondents (Diamantopoulos, 2011). In this sense, non-Muslim consumers' degree of favorability of halal food is the effect of their ATT. Therefore, ATT is considered as reflective constructs.

Taken together, treating HFK as a reflective construct would be the appropriate to capture the non-Muslim consumers' knowledge of halal food. In this regard, the non-Muslim consumers' knowledge on health benefits and ethical values of halal food is predicted by their level of HFK. Consequently, their ambivalence would be reduced as a stronger ATT is formed.

## CONCLUSION

Following PVF and construct specification criteria would enable researchers to determine the relationship between a construct and its measurement items across disciplines and contexts. This is crucial especially when a relatively new field become the interest for the study. Furthermore, as any constructs could be specified either way depending on the context of the study, researchers could refer to both guidelines in order to derive the conceptual and operational definition of a construct. Accordingly, construct specification could be determined and would interpret the hypothesized relationship correctly. As the two investigated constructs are classified into a reflective construct, internal consistency reliability and convergent validity would be the main concern. Thus, the reliability test for the two constructs would include composite reliability (CR) and indicator reliability. Whereas for validity test, convergent validity (average variance extracted) and discriminant validity would be applied (Hair et al., 2014).

On the other hand, a formative construct requires the consensus among scholars on all indicators in the construct's domain. The absence of one indicator would have a significant impact on the meaning of the construct. Taking the purpose and context of both discussed constructs, reflective direction is the most appropriate for measurements for HFK and ATT. Subsequently, incorrect conclusion on the hypothesized relationship could be reduced based on the reflective specification. It is also highly recommended for future studies to fill in the literature scarcity regarding halal food. Particularly, literatures pertaining to human resource in halal industry and product name. Meanwhile based on the systematic literature reviews, the health and ethical consequences seems to be the appropriate reflective measures of HFK, while favorability, evaluation and liking are the reflective measures of ATT. This discussion has also address part of the literature gaps in the study of halal industry which is far from complete and there is a necessity for more scholarly works in order to determine the true meaning of halal food and halal market.

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## NON-MUSLIM CONSUMER PURCHASE INTENTION AND ACTUAL PURCHASE TOWARD HALAL PRODUCTS

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### EXTENDED ABSTRACT

With the high amount population of Muslims in Indonesia which represent the majority of its population, the demand towards halal products are relatively high. However, as a minority, non-Muslims that are given this circumstance where the condition demands high amount halal products may be given no other choice than choosing halal product. This study aims to find out the factor influencing non-Muslims intention in buying halal product whereas their intention leads to an actual behaviour which in this case is buying halal product. To reach this objective, this study applies the Theory of Planned Behaviour as the basic theoretical approach. The result of this study shows that the non-Muslim's subjective norms doesn't have direct effect toward halal purchasing intention while their perceived behaviour does not directly influence the actual halal purchase. While attitude and perceived behaviour does have a significant effect in influencing their intention.

**Keywords:** : halal products, non-muslim, theory of planned behaviour, Indonesia

### INTRODUCTION

In a country with the most Muslim population in the world (Maps of World, 2016), the demand towards halal products is very high. Muslim population represents 88% of Indonesian total population (World Population Review, 2016), with the rest of 12% population are of course the non-Muslims. Currently, the amount of certified halal product is 70% of the total industries in Indonesia (Abdullah, 2015). That leads to a condition where non-Muslims as a minority in this country are given a situation where the majority of consumption products available in where they live in are certified halal. A consideration must be taken into account where the non-Muslims market are actually potential for halal products although they are the minority in the country. According to Abdullah (2007), non-Muslims feels that a halal products are better for health and taste. Cutler (2007) articulated that consumers have more confidence on halal foods, as it follows strict rules for processing foods than non-halal food processing. Therefore, halal is not only known as a religious obligation to the Muslims, it is also known as an assurance in providing high quality products which is considered as a positive selling point to the non-Muslims. This condition inspires this study to find out what are really the factor that influence non-Muslims intention in buying halal products in Indonesia.

### LITERATURE REVIEW

#### Halal

Along with the growth of the demand towards the halal market around the world, the word halal has become more familiar and known. Yet most of the non-Muslims has perception that halal is an Islamic law that only regards to food. The word halal is originally derived from Arabic language which means 'permissible' or 'lawful' (Wilson and Liu, 2010) and is mentioned several times in the Islamic holy Qur'an. Riaz and Chaudry (2009) specifies that a product can be considered halal as long as it doesn't contain carrion or dead animal, animals killed in a manner that prevents their blood from being fully drained from the body, animals slaughtered without blessing God, carnivorous animals with fangs and canine teeth, birds with sharp and claws, amphibian animal, flowing or congealed blood, swine including all by products, intoxicants of all type including alcohol and drugs. The concept of halal becomes not only as a religious obligation, but a standard for industries such as

food, cosmetic and logistic industry regarding to the cleanliness or the hygiene of the product/service as well as for the environmental aspect from the input until the output process. That is why several countries has adopted this concept as its standard for their food industry (Afendi et al., 2014). As people become more health-conscious, Halal principles are no longer confined to the strictly religious but are becoming an appealingly healthy and hygienic processing style (Rezai, Mohamed, & Shamsudin, 2012).

### Theory of Planned Behaviour

Theory of Planned Behaviour is a psychological concept developed by Icek Ajzen (1985) to analyze human's intention to the extent of their actual behavior in particular context and will be used as the major theoretical approach for this research. According to the author of this theory, consumer's intention are driven by three main factors which are attitude, subjective norm and perceived behavior. *Attitude* refers to someone's appraisal or expectancy toward the behavior. If the person finds the behavior is favourable, it is likely that the intention is higher. *Subjective norms* is the second predictor of an individual intention. It refers to an individual perception about particular behavior that is influenced by people who are considered important such as parents, teacher, friends, spouse etc. The last is *perceived behavior* which refers to an individual perception regarding to the ease or difficulty to perform the behavior (Ajzen, 1991). Francis et al. (2004) defines perceived behavior as people's ability to have control over the behavior and their level of confidence in their ability to perform or not to perform. In relation with this context, the availability of halal product in the Indonesian market may influence non-Muslims decision in buying the halal products. After these three independent factors are measured, a behavioural intention is able to be determined. Intention itself is considered as the direct antecedent to an actual behavior (Ajzen, 1991).

### METHODOLOGY

To achieve the objective of this research, the study collects a primary data in the form of online questionnaires targeted to non-Muslims. The questionnaire consists of three parts including demographic, awareness and behavior related questions. The questionnaires items itself is adapted by the previous study of Factors Influencing Halal Products Purchase Intention in Indonesia by Emira and Lestari (2016) which also adapting Ajzen's Theory of Planned Behaviour (1985) model. The primary data collection is intended to obtain an understanding of non-Muslim's attitude, subjective norms and perceived behavior towards halal products which will lead to halal purchase intention and the actual purchase. Within the questionnaires, the factor attitude is represented by belief and trust. Subjective norm is represented by family, local community and social factors. Perceived behavior is represented by product attribute and self efficacy. The consumer's intention is represented by food product and non-food products. And finally to measure the actual behavior, the factor of actual behavior is represented by four items which are the frequency in buying food, cosmetics, medicine and clothes products. The questionnaires are spread to non-Muslims in Indonesia that are above 17 years old with snowball sampling method through online shares. Indonesian language is used for the questions. The respondents were told to select a number on a scale of 1 "strongly disagree" to 5 "strongly agree" to reveal to what extent they agree with the statements that were included in the questionnaire. The data will then be analyzed using Structure Equation Modelling (SEM) to identify the structural relationship among the the structure and to test the hypothesis.

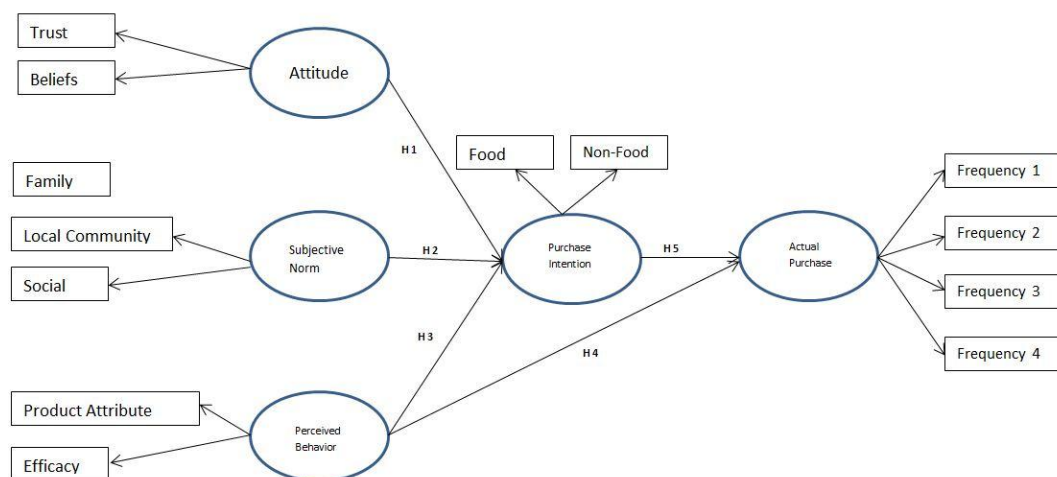


Figure 7 Research hypothesis model

There are five hypotheses that are being tested. Below are the hypotheses:

- H1: There is a significant relationship between attitude and intention in buying halal products.
- H2: There is a significant relationship between subjective norms and intention in buying halal products.
- H3: There is a significant relationship between perceived behavior and intention in buying halal products.
- H4: There is a significant relationship between perceived behavior and intention in buying halal products.
- H5: There is a significant relationship between intention and actual purchase of halal products

## FINDINGS AND ARGUMENT

During the primary data collection from April until the mid of May 2017, 223 data are gathered and 220 of them are usable. Before the hypothesis test is conducted, the reliability of the data obtained from the questionnaires is tested. Cronbach's alpha is used to check the reliability of the data (Hair et al., 2010). According a reference, Cronbach's  $\alpha$  above 0.6 is acceptable (Kline, 2000). And then the validity is tested using convergent and discriminant validity. Convergent validity consist of factor analysis, composite reliability and average variance extracted (AVE). There should be only one factor extracted and the number of explained variance should be greater than 0.5. Additionally, the suggested appropriate level for composite reliability is more than 0.7, while AVE from each construct should exceed the 0.5 thresholds (Fornell and David, 1981). Whereas discriminant validity is assessed through comparing the correlation between constructs to the corresponding square root of AVE of the constructs. The square root of AVE of each construct should more than the correlation each constructs (Zait & Berteau, 2011). Below are the result:

**Table 19 Reliability Test**

CONSTRUCT	INDICATOR	Cronbach's $\alpha$	Variance explained by first factor	Composite Reliability	AVE
Attitude (ATT)	KNWTR	0.634	0.74	0.68	0.53
	KNWBLF				
Subjective Norm (SIN)	FAM	0.857	0.78	0.86	0.67
	LCM				
	SCL				
Perceive Behavioral Control (PBC)	PA	0.897	0.91	0.90	0.81
	EFF				
Purchase Intention (PCI)	PCI1	0.896	0.91	0.90	0.83
	PCI2				
Actual Purchase (AP)	FRQ1	0.813	0.64	0.82	0.55
	FRQ2				
	FRQ3				
	FRQ4				

**Table 20 Validity Test**

Observed Variables	Mean	SD	1	2	3	4	5	Sqrt (AVE)
1. ATT	3.04	0.69	1					0.73
2. SIN	2.09	0.90	0,59**	1				0.82
3. PBC	2.43	1.05	0,59**	0,78**	1			0.90
4. PCI	2.63	1.02	0,60**	0,71**	0,75**	1		0.90
5. AP	2.80	0.92	0,47**	0,50**	0,50**	0,56**	1	0.74

Among all of the indicators, the composite reliability of the factor attitude fall slightly below the recommended acceptable rate mentioned above. However, the rest of the indicator shows a good result and passes the reliability and validity test. Then hypothesis is tested using software SPSS AMOS 22.

Before the research goes to a further discussion, model fitness index is assessed first and the result can be seen in table 4 above. (Wheaton et al, 1977) suggested that chi-square divided by degree of freedom with a result of

5 or less is a reasonably good indicator of model fit. The goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), and the comparative fit index (CFI) must be greater than 0.9 (Bagozzi & Youjae, 1988), the root mean square error of approximation (RMSEA) should be <0.08 (Browne & Cudeck, 1993), while the root mean square residual (RMR) should not exceed 0.1. The result shows that only AGFI and RMSEA of the data falls a little bit below the desired threshold. However, the inadequacy is not significant. While the rest of the index passes the model fit criteria. Therefore, the data collected from primary data collection is considered acceptable for further discussion.

**Table 21 Hypothesis test result of non-Muslims data**

	Constructs	Standardized loadings ( $\beta$ )	t-value	Result
H1	ATT $\rightarrow$ PCI**	0.222	2.361	Significant
H2	SJN $\rightarrow$ PCI	0.165	1.070	Not Significant
H3	PBC $\rightarrow$ PCI***	0.523	3.439	Significant
H4	PBC $\rightarrow$ AP	0.262	1.924	Not Significant
H5	PCI $\rightarrow$ AP**	0.351	2.596	Significant

\*p < 0.05, \*\*p < 0.01, and \*\*\*p < 0.001

**Table 22 Model Fit**

Indices	Score
Chi-square/df	2.80
GFI	0.90
AGFI	0.84
CFI	0.95
RMSEA	0.09
RMR	0.07

As can be seen in table 3, it appears that hypothesis 2 and hypothesis 4 are rejected. Subjective norms doesn't have a significant effect towards non-Muslims purchase intention in buying halal products while perceived behavior does also not have a significant effect towards their actual purchase of halal products. However, the rest of the hypothesis test result are consistent with the hypothesis.

## CONCLUSIONS

This research is adapting the model developed by Ajzen (1985) in the Theory of Planned Behaviour where a behaviour can be predicted by individual's intention to do the behaviour. Whereas the antecedent of intention are attitude, subjective norms and perceived behaviour. Based on the primary data analysis that captures non-Muslim's intention and their actual behaviour towards halal products in Indonesia, the study found that non-Muslim's intention in buying halal product is not influenced by subjective norms, meaning that the social pressure given to non-Muslims in Indonesia does not affect their intention. What really does significantly influence their intention in buying halal products are the factor attitude and perceived behaviour. In terms of attitude, a positive appraisal towards halal products will result to a positive intention in buying the products, and vice versa. As for the perceived behaviour, the level which the non-Muslims have control over the behaviour which in this case buying halal products such as the easiness to find the halal products in the market or the product attribute such as the price, does significantly influence their intention in buying halal products. Consistent to the Theory of Planned Behaviour, intention in buying halal products have a significant effect to actual behavior in buying halal products. Finally, another findings shows that perceived behavior doesn't directly influence non-Muslims behavior in buying halal products. However, it indirectly affects the behavior by influencing intention.

Since non-Muslim's subjective norm have not a significant influence toward halal products, it is recommended for halal business owners to approach non-Muslims market through influencing their attitude by emphasizing the quality of the product and the brand image to gain more trust, and also influencing their perceived behaviour

by making the product attributes as attractive as possible, setting an appropriate price and by increasing the level of product availability so it is more easier for the consumer to get the product.

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# STRATEGIC POSITIONING, COMPETITIVE ADVANTAGE AND FIRM PERFORMANCE: THE IMPACTS OF RIVALRY

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## EXTENDED ABSTRACT

Previous research has catalogued the impacts of industry structure (Porter, 1980) and resources and capabilities (Barney, 1991; Penrose, 1958; Wernerfelt, 1984) on the firm performance. The present study examines the impacts of a firm's strategic position in the industry in terms of its target markets and unique customer value; and their impacts on competitive advantage and firm performance. Thus, this study contributes to the literature by examining the specific industry and firm effects and how they relate together.

**Keywords:** strategic position, competitive advantage, performance

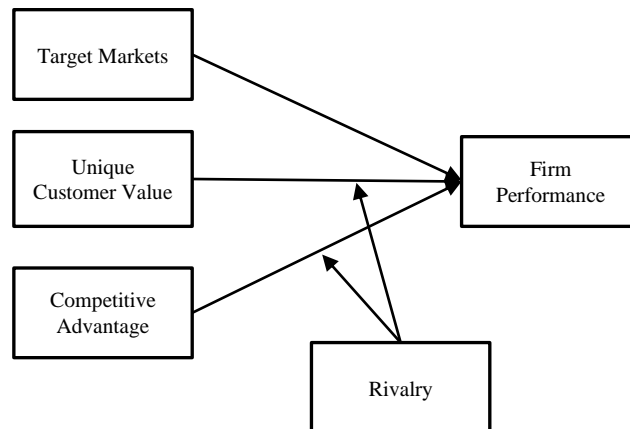
## INTRODUCTION

Previous research has catalogued the impacts of industry structure (Porter, 1980) and resources and capabilities (Barney, 1991; Penrose, 1958; Wernerfelt, 1984) on the firm performance. Based on six previous studies' results, the average variance of interfirm differences in return on asset (ROA) explained by industry effects and firm effects are respectively 11.4% and 32.2% (Hawawini, Subramanian, & Verdin, 2003; McGahan & Porter, 1997; Misangyi, Elms, Greckhamer, & Lepine, 2006; Roquebert, Phillips, & Westfall, 1996; Rumelt, 1991; Schmalensee, 1985).

The present study focuses on the specific factors of industry structure and resources and capabilities. It examines the impacts of a firm's strategic position in the industry in terms of its target markets and unique customer value; and their impacts on competitive advantage and firm performance. Collectively, it examines the interdependent impacts of a firm's target markets, unique customer value, competitive advantage and rivalry on the firm performance. Furthermore, given the much smaller industry effects, this study shows the importance of the industry factors by examining their indirect effects and roles on the firm's competitive advantage. Thus, this study contributes to the literature by examining the specific industry and firm effects and how they relate together.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Below is the research model of the present study.



Porter (1980) contends that the average long run profitability of an industry is a function of the five competitive forces. These are the forces of an industry competition which ultimately erode its profitability. They include rivalry, supplier power, buyer power, substitute and threat of new entry.

The five forces framework can also be applied to examine the competitive forces of market segments. Indeed strategists have used the framework to find attractive target markets that are shielded from competition. For example, Walmart, in general, is in a very competitive industry. However, many of its stores are in locations where it is the only one and competition almost does not exist. Firms can also pursue a non-geographical approach to segmentation. For example, category killers outcompete and take market share from department stores which provide more variety of merchandise. Porter (1996) contends that such a way of positioning is a way to compete strategically. Thus, even though the average interfirm variance of ROA explained by industry effects is 11.4%, the selection of target markets can greatly improve a firm's performance. We hypothesize:

H1: There is a positive association between target markets and firm performance.

Furthermore, the ability of a firm to provide superior customer value to its target markets could further increase the firm's performance. Superior customer value would encourage the customers to pay higher prices and even buy more. Business strategy researchers have emphasized the importance of superior customer value. Kim and Mauborgne (2005) introduce the concept of value curve map to identify unique customer value and create uncontested market space. For Porter (1996), competitive strategy is about being different from the competitors. He contends that strategists must deliberately choosing a different set of activities to create and deliver a unique customer value. Based on the discussion, we hypothesize:

H2: There is a positive association between unique customer value and firm performance.

Competitive advantage is a source of a firm's better performance (Barney, 1991; Cubbin & Geroski, 1987; Porter, 1985). The average interfirm variance of ROA explained by firm effects is 32.2% or almost three times of the industry effects. Indeed, there are many firms that have sustained and potentially all firms could sustain their competitive advantage and high financial performance (Barney, 1991). For Porter (1996), uniqueness allows a product to standout as well as for the firm to commit to, improve and upgrade its process and products. This choice to focus ultimately allows the firm to gain and sustain its competitive advantage. We hypothesize:

H3: There is a positive association between competitive advantage and firm performance.

Unique customer value proposition has competitive advantage. It is superior because it has cost or differentiation or both advantages (Magretta, 2012). Thus, we hypothesize

H4: There is a positive association between competitive advantage and unique customer value.

Since firms are social systems (Ackoff, 1994; Parsons, 1971), their behaviors are influenced by the internal and external changes. For example, a firm's unique customer value and competitive advantage are continuously challenged by the changes and innovations by its competitors. Consequently, the impacts of unique customer value and competitive advantage on the firm's performance are dependent of the rivalry in the industry (Chen, 1996). The relationships are less strong with the presence and strength of rivalry and vice versa. We hypothesize:

H5: Rivalry positively moderates the relationship between unique customer value and firm performance.

H6: Rivalry positively moderates the relationship between competitive advantage and firm performance.

## METHODOLOGY

Data will be collected from Indonesian and if possible American firms. We have developed an instrument to measure the constructs except the firm performance. Firm performance will be measured with a validated scale (Desarbo, Benedetto, Song, & Sinha, 2005). Questionnaires will be distributed to the top managers of the firms. We will use the two step structural equation modelling to analyse the data (Anderson & Gerbing, 1988).

## RESEARCH FINDINGS

Empirical data have shown the importance of industry and firm effects on the firm performance. This study further analyses the effects by examining the impacts of three important and related factors: target markets, unique customer value and competitive advantage. Furthermore, this study shows the importance of the industry factors by examining their indirect effects on the firm's competitive advantage. Thus, even though the industry effects are much smaller, it has greater impacts than what have been traditionally argued that they are more stable and can serve as a baseline and cushion from inter firm performance differences (Grant, 2010).

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## DENGUE EPIDEMIC DETECTION USING DATA MINING TECHNIQUES FOR HEALTHCARE MONITORING INITIATIVE

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### EXTENDED ABSTRACT

In today's environment, every hospital needs to perform at its highest level in giving services to the public. Hospitals need to know how to manage their operational resources, especially when handling epidemics diseases which involve local communities. Dengue outbreak has been one of the major issues in healthcare management. Ministry of Health and local authorities have made various efforts to prevent and control dengue outbreak. However, dengue still remains as one of the serious epidemic health threats in Malaysia. Data mining is an analytic process that is designed to discover patterns in a large amount of data sets which involve various algorithms and methods. Data mining can be used to discover the pattern in dengue epidemic that happens in Malaysia. In this research, Association Rule Mining (ARM) is aiming to extract patterns from annual dengue data in Malaysia that related to dengue outbreak event. The data describe dengue cases and the duration of the cases in all states in Malaysia. The extracted non-trivial patterns, interpret the dengue outbreak patterns which could assist the ministry, hospital and city council in managing operations and resources to contain the dengue outbreak.

**Keywords:** dengue epidemic, data mining, association rule mining, healthcare monitoring

### INTRODUCTION

Healthcare facilities in Malaysia are continuing to grow in providing sufficient service to the public and the government of Malaysia has given high priority to the development of healthcare services. Disease outbreak such as dengue has caused significant challenges to the national healthcare systems and the country's economic growth and development. The government was very committed to the prevention and control of dengue epidemic and one of the actions taken was to conduct Dengue Fever Control Activities Program throughout Malaysia from 2006 to 2010 involving a total budget of 50 million Ringgit (Ministry of Health, 2009).

Uncontrolled dengue outbreak clearly shows the flaws of not just the health system, but also the municipal to act efficiently and effectively when an outbreak occurs. It has always been a challenge to the public healthcare authorities to educate and build awareness among the community about the danger of dengue epidemic and to get their attention in sharing the responsibility to control dengue outbreak. The data shows that dengue cases have been tremendously increased from the year 1995 to 2016. According to the Malaysia Dengue Incidence Rate and Case Fatality Rate for the year 2000 to 2016 statistics (Ministry of Health, 2015), in the year 1995 number of cases reported was only 6543 cases with a total number of 28 deaths and in 2016 the number of cases increases to 101,357 cases and the number of death was 237 cases. Even with all the action taken to sustain the diseases, new cases of dengue outbreak still reported and fatality cases had occurred in areas with dengue epidemic or high breeding rate of Aedes mosquitoes (Dg, 2017). This fact shows that dengue cases keep increasing even with all the awareness activities have been carried out by the hospitals and government.

In addition to raising awareness, healthcare organisation and authorities can apply data mining technique to look at the relationship that exist between the existing data and facilitate them in making preparation for dengue disaster. In this paper, data mining technique will be used to find patterns based on previous cases. We have

also developed the Spatiotemporal Disease Detection Framework (SDDF) technique based on the dengue outbreak problem. The SDDF is used to analyse dengue data from 2014 to 2015 to identify dengue outbreak detection using data mining technique. The dengue outbreak detection could assist the authorities in controlling the disease from spreading and also assist in planning future prevention action plan.

## **BACKGROUND AND RELATED WORK**

Dengue is a disease that can spread easily and quickly, and when an outbreak happens, hospital will be overwhelmed with a number of patients. This will cause the shortage of outpatient and inpatient facilities and medical staff can rapidly become exhausted due to the sudden increase of patients (World Health Organization, 1997). Nowadays, healthcare authorities and hospitals generate large amounts of data, including patients' records, hospital resources records, disease outbreak records, etc. These databases may contain hidden information and knowledge that can produce a significant contribution of knowledge discovery (Oliveira, Portela, Santos, Machado, & Abelha, 2014) which can be used by the healthcare authorities and hospital in managing future epidemic event. Data mining is one of the methods that can be used to analyse and generate patterns in data. The patterns produced by data mining can provide the healthcare professionals and hospital with an additional source of knowledge for making decisions. Data mining can also be beneficial to the healthcare organisations and authorities in detecting fraud among healthcare insurers, making customers relationship management decision and provide knowledge in planning to improve the healthcare services (Desikan, Hsu, & Srivastava, 2011).

Data mining is a process of extracting useful information from huge amount of structured and unstructured data. This process also can be defined as an effective means of discovering interesting patterns of knowledge. The pattern of knowledge can be in the form of a set of rules, a graph or network and even one or several equations. Data mining consists of several techniques that can be used in extracting patterns from the datasets. Some of the common techniques that usually applied in data mining are classification, clustering and association rules. Classification is the procedure of assigning labels to each series of sets by generalizing know structure and classes will be defined before the algorithm starts (Kamsu-Foguem, Rigal, & Mauget, 2013). Meanwhile, clustering is a task of dividing data into groups of similar object. Clustering is a process of finding groups in a dataset based on their nature (Esling & Agon, 2012). The differences between classification and clustering is that clusters are defined after the patterns of data is identified.

ARM is used to discover the association and relationship among a group of datasets. A number of experiments have been done on detecting temporal pattern in the disease outbreak event. A research by (Ordonez, Ezquerra, & Santana, 2006) showed interesting association rules predicting absence or existence of disease in four specific heart arteries, with high confidence and high lift. Other research by (Wright, Chen, & Maloney, 2010) used association rules to identify clinically accurate associations between medications, laboratory results and problems and has several important advantages over alternative knowledge-based approaches.

Previous work based on dengue analysis using data mining shows that several techniques has been used to analyse dengue data and several solutions has been proposed to predict the dengue outbreak. Research by (Diana et al., 2013) and (Bakar, Kefli, Abdullah, & Sahani, 2011) used classification method to do a prediction on dengue outbreak meanwhile another study by (Mathur, Asirvadam, Dass, & Gill, 2016) used clustering method using dengue data. A review by (Tomar & Agarwal, 2013) showed a summary of data mining approach that can be used in healthcare monitoring and in that review most study used classification and clustering method in analysing the data. From the previous research, it shows that ARM is less used in analysing healthcare data and in this study we will show what ARM can produce using dengue data.

In this research, ARM will be used to produce the pattern using time series data to do a prediction on dengue outbreak in Malaysia. Data of dengue cases from 2014 to 2015 will be used to find the pattern based on the number of days the dengue outbreak occurs and the locality of the outbreak happen. The produced pattern by ARM will be used to extract the information from the previous dengue outbreak cases.

## **METHODOLOGY**

The method that we are using in this research is based on the process of knowledge discovery in database. We state the problem of identifying new and interesting pattern in previous disease outbreak data. In this process, number of cases will support the number of days the disease outbreak happens. The SDDF consists of data analysis modules that we develop to identify patterns in disease outbreak based on the previous dengue data.

In this framework (see Figure 1), the data from previous years will be processed which include two (2) main steps: (i) data cleaning and (ii) data normalization. During data cleaning, data scheme and cleaned data will be produced and applied in the normalization process. The output data from the normalization phase will be used as the input in the analysis stage.

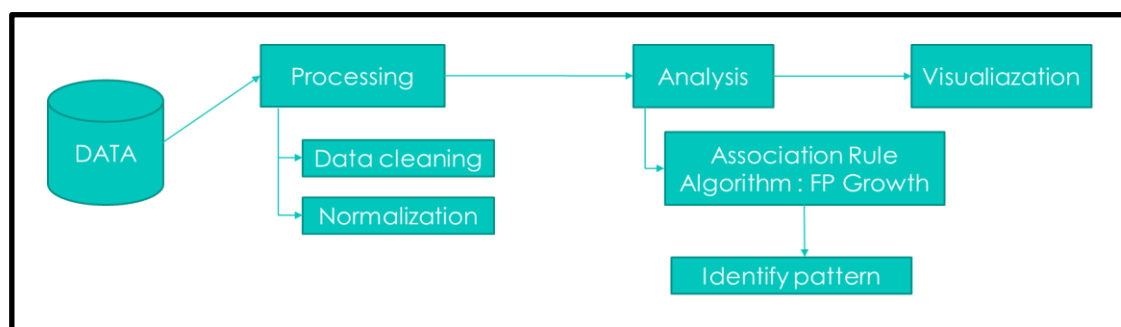


Figure 1: Spatiotemporal Disease Detection Framework (SDDF)

One of the fastest and popular association rule algorithms for frequent item set mining is called FP-growth algorithm. Based on the research (Kumar & Rukmani, 2010), the major advantages of FP-Growth algorithm are uses compact data structure and eliminates repeated database scan. This algorithm can save enormous amounts of memory. In the analysis stage, FP-Growth will be used to identify patterns using the output data and output scheme from the data processing stage. The generated pattern will be visualized using graphs to show the relationship between the variables. In this method the output will be set as  $\{I\} = S$  where  $I$  is the itemset and  $S$  is the support. The output for both years will be compared and the pattern will be analysed to find the significant relationship in the dengue epidemic event.

## EXPERIMENT AND EXPECTED OUTCOME

The data used for this research is the dengue outbreak cases that comprises of all states in Malaysia covering the years 2014 and 2015. It composes of 24 months of data from January 2014 to December 2015. The dataset has five (5) attributes, such as weeks, states, locations, the total number of cases for each location and the duration of the outbreak. For the year 2014, the total number of records is 5555 including 758 columns of data. Meanwhile, for the year 2015, the total number of records is 3363 including 1175 columns of data. In this experiment, a few support values were set to observe the differences between the patterns produced by the algorithm. Findings from the experiment conducted clearly shows that 1% support value had produced more significant and meaningful patterns that can be used in this analysis.

Figure 2 presents the number of affected locations based on the total number of cases reported for each location and we can clearly see the similarities in the pattern in both years. From the graph, it shows that the number of total cases that is often reported in locations that involved in the outbreak of dengue is between 6 to 14 cases. This information can be useful to the healthcare operation that can assist them in decision making. For instance, the authorities can make a plan for controlling action when the total cases of dengue reported at the location has reached a level that requires immediate action. The quick action taken by the authorities in controlling the number of cases increased can reduce the number of dengue cases and controlling the disease from spreading to other locations.

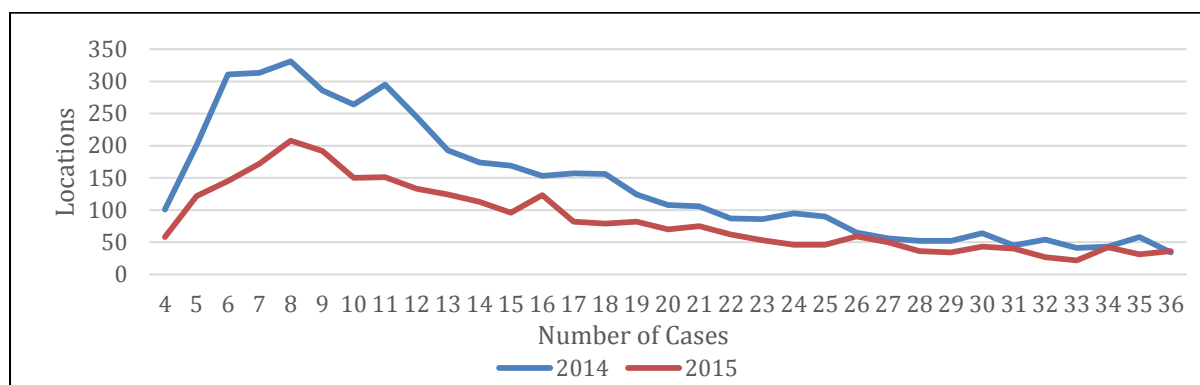


Figure 2: Number of Locations Involved In Dengue Outbreaks According To the Number of Cases Reported  
One of the major problems in handling outbreaks of dengue is the long epidemic period. A long period of epidemic will have an adverse effect on healthcare enforcement, especially, in terms of providing medical service and facilities, and also will add extra workload to the health officers. In Figure 3, it shows that the most frequent period of epidemic event is between 31 to 67 days for the locations reported with dengue cases. This information can be useful to the healthcare authorities to plan and insure that medical supplies and manpower is sufficient to face the epidemic period on the basis of information obtained from 2014 and 2015.

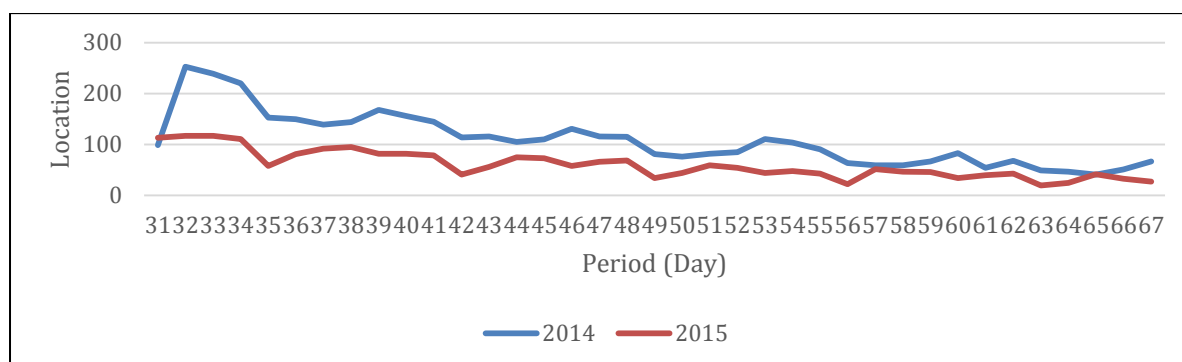


Figure 3: Number of Locations Involved In Dengue Outbreaks According To Epidemic Period Reported  
For both years, Selangor has recorded the highest number of locations reported with outbreaks of dengue. For the same period measured, in the year 2014 there were 1403 locations reported while in 2015, the number of locations affected was increased to 2665 locations. This figure shows that there are increased cases of 53% on the number of locations affected by dengue disease. The trends indicated that preventive action carried out by the healthcare authorities and hospitals are less effective.

From the analysis made on the dengue data, we can conclude that dengue disease is contagious and take a long time to control it from spreading. The advantages in having reliable information allow all parties involved in healthcare management to take early action in sustaining the diseases from spreading. This action can have a positive impact especially in the healthcare management, reducing expenses in providing medical facilities to patients and health officer workload. In this regard, the authority may adopt this analysis to look at factors that cause dengue outbreak cases continued to increase and create a more suitable alternative plan in addressing the problem of dengue outbreak. Information on disease control can also help the Ministry in drafting the action plan more effectively in addressing this epidemic.

## CONCLUSION AND FUTURE WORKS

In this study, FP-Growth Algorithm in Association Rule Mining technique was used to generate sets to produce patterns in disease outbreak that happen in Malaysia. The data involved number of cases reported and the period of outbreak happen in each zone for the year 2014 and 2015. The generated sets show the pattern of location affected by the epidemic based on the week and number of cases. Given data for a longer period,

pattern over time could be generated and important deviations which show changes in the disease outbreak pattern can be identified. Future work will be focusing on the visualization of the disease detection patterns.

The pattern produced by this technique can be used to see dengue epidemic trends in a more systematic manner. This work shows that data mining is important to the healthcare sector because it will assist the hospitals and local authorities with more information on the basis of existing data in planning future disease detection.

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# A STUDY OF AFFECTIVE COMMITMENT, JOB SATISFACTION AND CUSTOMER-ORIENTED BEHAVIOR AMONG MALAYSIAN NURSES

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## EXTENDED ABSTRACT

The purpose of this study is to examine the moderating effect of affective commitment on the relationship between job satisfaction and customer-oriented behavior of the Malaysian nurses. Nurses were selected as the respondents in this study because they represent the largest workforce in the hospitals and have longest interaction time with the patients. The findings of hierarchical regression analysis revealed that job satisfaction is significantly and positively related to customer-oriented behavior. Affective commitment was found to be a quasi moderator which had dual role of direct and interactive effects on customer-oriented behavior.

**Keywords:** Customer-oriented behavior, job satisfaction, affective commitment, nurses.

## INTRODUCTION

The expectation on the nursing care services from the patients towards healthcare organizations has been increasing nowadays. The healthcare providers compete with one another to provide the best healthcare services to the patients (Suki, Chiam, Suki, 2011). The Ministry of Health had launched a “KONSEP 7S (CONCEPT 7S)” which is a soft skill and behavioral change program to improve the standard of care and nurses image many years ago. Basically, the aims of this “KONSEP 7S” program is to create a group of nurses with caring image, moral values and customer-friendly. The former Deputy Health Minister Abdul Rashid (2011) urged nurses in Malaysia to perform their duties in a more professional, efficient, competent and accompanied by elements of soft skills in providing nursing care to the patients. Several programs were carried out by the government in order to improve the standard of nursing care. Unfortunately, the level of nurses’ customer-oriented behavior to resolve patients issue and provide better patient nursing care was still unclear. Therefore, there is a need to study nurses’ customer-oriented behavior to bridge the gap in understanding how it can improve the nurses’ job performance.

There were few studies suggested that there is a positive relationship between job satisfaction and customer-oriented behavior among the frontline employees (Hoffman, Ingram, 1992; MacKenzie, Podsakoff & Ahearne, 1998; Donovan, Brown, Mowen, 2004; Rehman, 2009, Mechinda & Patterson, 2011). However, one of the research findings by Hoffman & Ingram (1991) claimed that job satisfaction is an emotional, affective or attitudinal response that has the ability to influence the level of customer-oriented behaviour with the condition that the moderating variables must be accounted in order to adequately explain the relationship. Thus, the researcher of this study would like to focus on the moderating effect of affective commitment as individuals may start to develop affective commitment during their initial entry to the organization (Lund, 2003; Huang & Hsiao, 2007; Lim & Ahmad, 2015). According to Gelade and Young (2005), affective commitment represents mental state that truly reflects the capability of an individual in handling extra role behaviors. Hence, in order to fill the knowledge gap, the below research questions were established:

RQ1: Is there any significant relationship between job satisfaction and customer-oriented behavior?

RQ2: Does affective commitment moderate the relationship between job satisfaction and customer-oriented behavior?

## METHODS

This study attempts to examine the relationship between job satisfaction and customer-oriented behavior among the nurses in Malaysia. In addition, this study also seeks to examine the moderating effect of affective commitment on the relationship between job satisfaction and customer-oriented behavior. The relevant unit of analysis in this study is nurses who work in the General Hospitals in Peninsular Malaysia. A quantitative cross sectional survey method will be used in this study.

### *Sample*

Data was collected through the survey questionnaires. The questionnaires were distributed to the nurses in the public hospitals in Peninsular Malaysia. A total of 361 responses were obtained from 700 questionnaires sent. The response rate of this study was 51.57%. The samples were generated through stratified random sampling technique.

### *Instrument and Procedures*

Administered on-site survey method was used for data collection. According to Miller, Kets & Toulouse (1982) and Snow & Thomas (1994), administered on-site method is very efficient in generating large amount of data especially when the survey is conducted after a meeting with the respondents. In addition, it will have a better response rate by using this method. The instrument used to measure customer-oriented behavior was adapted from Selling Orientation Customer Orientation Scale (SOCO Scale), developed by Saxe and Weitz (1982). The questionnaire contains 12 positively phrased customer orientation items. Meanwhile, the instrument used to measure job satisfaction was adapted from the Warr's Job Satisfaction Scale developed by Warr, Cook and Wall (1979). The questionnaire contains 15 items of job satisfaction. The affective commitment measures were adapted from one of the sub-scales of organizational commitment developed by Meyer and Allen (1991). The questionnaire contains 8 items of affective commitment. The items were measured based on a 5-point Likert scale, anchored by 1 (Strongly disagree), 2 (Disagree), 3 (Neither agree nor disagree), 4 (Agree) and 5 (Strongly agree).

### *Data Analysis*

The results in the present study were analyzed using Statistical Package for Social Science (SPSS). Hierarchical regression analysis was employed to examine whether there is any significant relationship between job satisfaction and customer-oriented behavior, and the moderating role of affective commitment.

## FINDINGS

### *Hierarchical Regression Analysis*

The results of the analysis were shown in Table 1. The relationship between job satisfaction and customer-oriented behavior was based on the results from Model 1 of the hierarchical regression analysis. Based on the results displayed in Table 1, it indicates that Model 1 was significant with F value of 72.671,  $p < 0.001$ , the R square value was 0.168 which explained 16.8% of the variance in nurses' customer-oriented behavior. After examining the model fit, the relationship between the independent variable toward the dependent variable was analyzed. The standard coefficient ( $\beta$ ) shows a positive relationship between job satisfaction and customer-oriented behavior ( $\beta = 0.410$ ,  $p < 0.001$ ). This implies that individuals who satisfied with their job have the tendency to exhibit customer-oriented behavior.

Model 2 and Model 3 in Table 1 show the results of the moderating effects of affective commitment. Based on the results displayed in Table 1, it indicates that Model 2 was significant with F value = 77.919,  $p < 0.001$ , the R square value has increased to 0.303 and explained 30.3% of the variance in nurses' customer-oriented behavior. It shows that upon inclusion of affective commitment as moderator, the R square value has increased 13.5% from 16.8% to 30.3%. This implies that affective commitment is able to add the explanatory power of the model with an improved R square value. Apart from that, Model 3 with the inclusion of interaction variables was significant with F value = 53.834,  $p < 0.001$ . The R square value was 0.311 and increased 0.8% from Model 2. This explains that affective commitment when interacting with job satisfaction is able to explain an additional 0.8% of the variance in nurses' customer-oriented behavior.

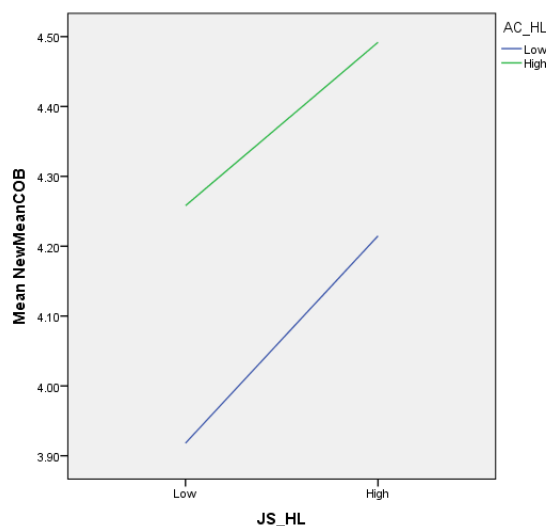


**Table 1:** Hierarchical Regression Analysis - Independent, Moderating, Interaction and Dependent Variables

Independent Variables	Dependent Variable Customer-Oriented Behavior		
	Model 1	Model 2	Model 3
<b>Independent Variables</b>			
Job Satisfaction (JS)	0.410***	0.310***	0.328***
<b>Moderating Variable</b>			
Affective Commitment		0.381***	0.371***
<b>Interaction Variables</b>			
AC_c x JS_c			-0.92*
F value	72.671***	77.919***	53.834***
R square	0.168	0.303	0.311
Adjusted R square	0.166	0.299	0.306
R square change	0.168	0.135	0.008

\*\*\* significant at the 0.001 level \*\* significant at the 0.01 level \* significant at the 0.05 level

To better understanding the moderating effect of affective commitment, a graphical illustration was used as depicted in Figure 1. Figure 1 explains the influence of affective commitment on the relationship between job satisfaction and customer-oriented behavior. The interaction demonstrated that the effect of job satisfaction on customer-oriented behavior is positive regardless of whether the affective commitment is high or low. The graph also explained that whether the nurses possess high or low affective commitment, those who have high job satisfaction gain higher level of customer-oriented behavior than those who have low job satisfaction. Thus, affective commitment is demonstrating both the role of predictor and moderator. It is a quasi moderator.

**Figure 1:** Interaction between Job Satisfaction and Affective Commitment in predicting Customer-Oriented Behavior

## DISCUSSION

The hierarchical regression analysis shows that there was a significant positive relationship between job satisfaction and customer-oriented behavior. This means that the higher the nurses' job satisfaction, the higher the level of customer-oriented behavior. The finding of this study is consistent with previous studies conducted by Hoffman and Ingram (1991) and Chih, Huang, Yang & Hsu, (2009). Hoffman and Ingram (1991) found that job satisfaction was positively related to customer-oriented behavior among the service providers in home healthcare industry. On the other hand, Chih *et. al.* (2009) discovered that job satisfaction was positively

influenced customer-oriented behaviour of the frontline employees in life insurance companies in Taiwan. Additionally, the current finding was partially consistent with previous study conducted by Mechinda and Patterson (2011) where they revealed that job satisfaction influences technical dimension of the customer-oriented behavior but not interpersonal behavior. In summary, the results indicate that when nurses are happy with their jobs, they are willing to focus and pay more attention to the patients by understanding the patients' needs and offer the best nursing care solutions to the patients.

Further inspection of the hierarchical regression model revealed that affective commitment moderates the relationship between job satisfaction and customer-oriented behavior. Affective commitment had both direct and moderating effect on customer-oriented behavior. The direct effect explains that the higher the level of affective commitment, the higher the level of customer-oriented behavior. Meanwhile, the graph also displays that regardless of whether the nurses' affective commitment is low or high, if they possess high job satisfaction, their customer-oriented behavior will be higher in the organization. However, with the presence of affective commitment as moderator, it will further enhance the relationship between job satisfaction and customer-oriented behavior. The underpinning theory which can explain this scenario is self-determination theory. It states that individuals will engage in behaviors they perceived as satisfying, enjoyable and fulfilling when they experience higher affective commitment. Nurses who possess high affective commitment, will gain higher job satisfaction level which in turn creates positive impact on their customer-oriented behavior. This finding is consistent with the works of Donavan *et. al.* (2004) and Hsu *et. al.* (2011). Additionally, it also supports Hoffman & Ingram (1991) findings that job satisfaction has the ability to influence customer-oriented behaviour with the presence of moderating variables. It is concluded that examining affective commitment as a potential moderator between job satisfaction and customer-oriented behavior is firmly grounded in the self-determination theory by Ryan and Deci (1982).

## CONCLUSION

This study provides empirical evidence on the relationship between affective commitment, job satisfaction and customer-oriented behavior. The research findings reveal that there is a positive significant relationship between job satisfaction and customer-oriented behavior. It also reports that the moderating effect of affective commitment exists between job satisfaction and customer-oriented behavior. The results of this study provide better understandings of the relationship between affective commitment, job satisfaction and customer-oriented behavior. It is believed that the findings of this research will assist hospitals in enhancing nurses' performance towards healthcare and service excellence.

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# PATIENT SATISFACTION ANALYSIS USING THE THREE FACTOR THEORY CLASSIFICATION AND REVISED IMPORTANCE PERFORMANCE ANALYSIS: A RESEARCH STUDY OF GENERAL PRACTITIONER OF KLINIK PRATAMA MEDIKA ANTAPANI BANDUNG

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## EXTENDED ABSTRACT

Improving the quality of health services by Healthcare providers means improving the health status of the community and also enhancing the company's competitiveness. General practitioner of Klinik Pratama Medika Antapani (KPMA) wants to provide the best service quality to patients. This study wants provides knowledge for the clinic's management of the classification of service attributes they provide to patients, based on clinic's performance when low and high, and also gives clinic's general practitioner insight of which service attributes should be the focus of the clinic. Also, this study can be repeated and applied by clinic's management in other service field. This study uses Three-Factor Theory Classification, the result of simplifying Kano's Model so it is easier to understand, in classifying service attribute into Basic Factor, Performance Factor, and Excitement Factor. In addition, this study also uses Revised Importance-Performance Analysis (IPA), the development of the conventional IPA, to prioritize the service attribute quality improvement. The result shows that all service attributes of General Practitioner of KPMA are classified into Basic and Performance Factor. None of them is classified into excitement factor. Also, five out of eighteen attributes are considered as top priority for improvement and development by General Practitioner of KPMA.

**Keywords:** Service Quality, Three-Factor Theory Classification, Revised Importance-Performance Analysis, SERVQUAL, General Practice.

## INTRODUCTION

Health care is actually a global problem faced by every people in the world. Health issues experienced by poor countries, developing countries, and even developed countries. World Health Organization (WHO) working to make health care provider can provide a good health service to improve the health status of people around the world.

Improving the Indonesia healthcare service quality is important in order to improve the health status of Indonesia people. Besides, in viewpoint of business, company with high service quality will gain a competitive advantage.

The success of delivery a service is determined by the level of satisfaction of the customer, in this case is satisfaction of the patient. Satisfaction of the patient is achieved when the patient receive the service as their required and expected. To deliver the best to the patient, the clinic should know what its patient expect to get from the service. What are they expect more and what they actually expect less, and also how well the current performance of the clinic services.

Klinik Pratama Medika Antapani Management wants to know what patients expect and get from the health services provided by them. This is in accordance with the vision of Klinik Pratama Medika Antapani, "To be the best family choice of healthcare provider in West Java". This is done as a first step for the clinic to improve the quality of the health care they provide. Which service attributes should be the focus of the clinic and need to be improved, and which service attributes adequately to be maintained.

Klinik Pratama Medika Antapani has three health poly, but this research focuses only on service attributes on general poly (General Practitioner). This research objective is to classify the service attribute of General Practitioner of Klinik Pratama Medika Antapani into basic factor, performance factor, and excitement factor. This objective can be achieved by performing the Three Factor Theory Classification analysis on all service attributes provided by the clinic. This theory considers and take into account the performance of the General Practitioner of Klinik Pratama Medika Antapani and the overall customer satisfaction toward Klinik Pratama Medika Antapani. Same performance level on different factor may result a different customer satisfaction.

Another objective of this research is to prioritize the improvement and development of service attributes by General Practitioner of Klinik Pratama Medika Antapani. This objective is obtained by conducting Revised Importance-Performance Analysis (IPA). Revised IPA is used as a tool to determine the critical service attribute, based on performance and importance of all attributes. "Top priority" service attribute later should be prioritized by Klinik Pratama Medika Antapani to significantly improve their overall customer satisfaction.

## **LITERATURE REVIEW**

### **Three-Factor of Customer Classification**

Three-Factor of Customer Classification classify the service attributes into three classes. The classes are basic factor, performance factor, and excitement factor. In a basic factor class, if the factor is performed well, it will not significantly generate a customer satisfaction, otherwise the customer satisfaction will decrease. The excitement factor is the opposite, the better the factor is performed and executed, the higher the customer satisfaction. The last is if the performance is low, the satisfaction is also low, and when the performance is high, the satisfaction is also high, then it classified into performance factor (Deng, 2008). Using three classes, this theory is easier to be understood compared to Kano's model (Deng, 2008).

### **Revised Importance-Performance Analysis (IPA)**

Importance-Performance Analysis (IPA) has been introduced by Martilla and James (1977) to determine which service attribute should be the company's focus in its development to improve customer satisfaction (Matzler, Fuchs, & Schubert, 2004). This tool has been applied by many researchers also to evaluate the company's position in the market, identify opportunities for improvement, and assist companies in strategic planning (Hawes & Rao, 1985). But this tool is deemed not feasible because the importance of service attribute may change as performance changes (Deng, 2008). This tool need to be revised. This "Revised" Importance-Performance Analysis is more using implicit derived importance which has included in the structure of customer satisfaction attribute. Implicit derived importance comes from the correlation between service attribute performance and customer satisfaction toward overall service attribute (Deng, 2008).

## **METHODOLOGY**

Customer satisfaction data is gathered by using questionnaire. The questionnaire ask respondents to assess the Klinik Pratama Medika Antapani performance on all service attributes (to figure out the current performance) by using the Likert Scale (1: Very dissatisfied, 2: Dissatisfied, 3: Moderate, 4: Satisfied, 5: Very Satisfied). The Service attributes, which will be assessed and rated, were obtained based on and derived from SERVQUAL tool and end-up with "over-all satisfaction" question (There is 19 closed questions).

The number of patients of General Practitioner of Klinik Pratama Medika Antapani per month is 11% of capitation rate, or 5170 patients per month. With known and given number of population, the number of research samples can be determined using Slovin formula. The sample size of this research is 99 respondents with an accuracy level of 90% (error: 10%).

For Three-Theory Factor Classification, Normality, Validity, and Reliability test will be performed on the collected data. This test is needed before Linear Regression performed. After the tests performed, Linear Regression Analysis with Dummy Variable process begin by re-recoding the satisfaction ratings for each performance attribute, from collected data, as Table 1.

**Table 23. Dummy Variable Re-recording Guideline**

High Performance		Low Performance	
Satisfaction Ratings	Dummy Variable Code	Satisfaction Ratings	Dummy Variable Code
1,2	1	4,5	1
3,4,5	0	1,2,3	0

After all data re-recorded into dummy variable, both when high and low performance, linear regression can be performed. Regression is conducted twice (for high and low performance) by using Statistical Package for the Social Sciences (SPSS) software. The service attributes classified by looking at the B value from the regression result. Only significant variable, on high OR low performance, can be classified. Service attribute goes to Basic factor if the negative impact is higher when the performance is low and positive impact is low when the performance is high, goes to Performance factor is when the impact is slightly higher when the performance is low. While Excitement factor is if the performance is high, the positive impact is also high, and when the performance is low, the negative impact is also low.

For the Revised IPA, there are three major steps. First determining the implicitly derived importance (Since the importance not explicitly stated by respondent as in the conventional IPA). This step can be done using Excel, to convert all service attribute rating into its LN value, and also using SPSS, to get the partial correlation between all variable LN value and overall customer satisfaction rate. Second step is determining the performance of clinic, simply by averaging the service attribute rating for each service attribute. Third step is generating the scatter plot. Implicitly Derived Importance on X axis, while performance on Y axis. Reference line also added on performance mean value and importance mean value, to divide graph into four quadrants.

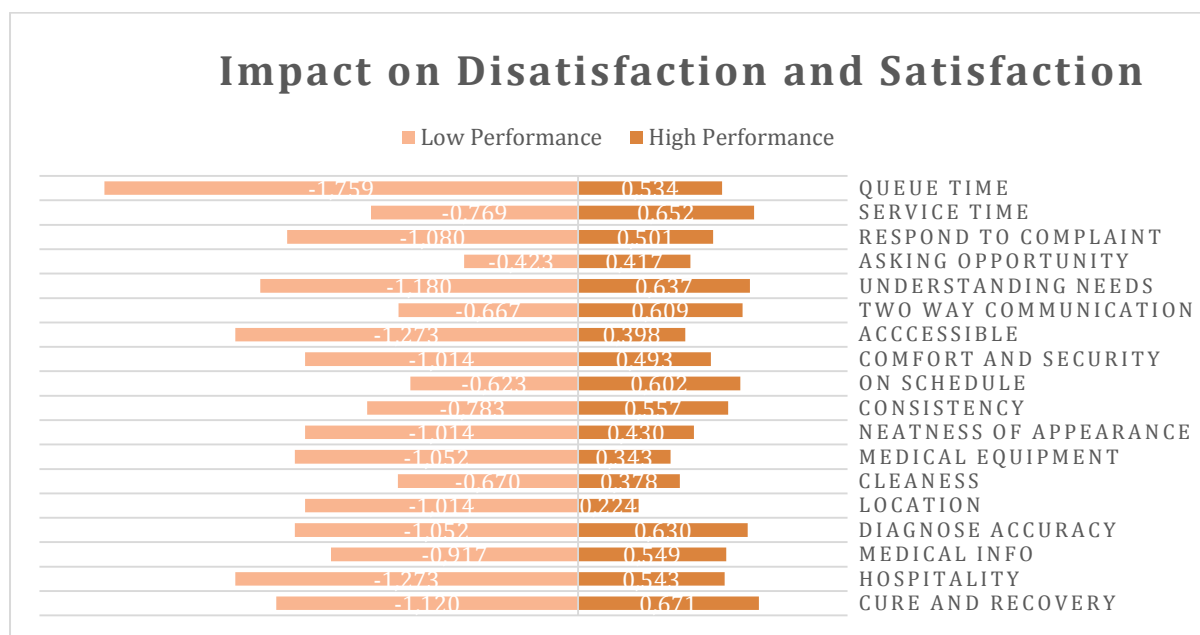
## FINDINGS AND ARGUMENT

The number of respondents was 113 patients. 80 respondents' data were taken by interview technique, and 33 respondents the rest through questionnaires spread for those who want and willing to fill the questionnaire. Analysis was performed on all the data obtained from the respondents. All data is normally distributed (Kolmogorov-Smirnov: 0,056), valid (all Corrected Item-Total Correlations: >1,155), and reliable (Cronbach's Alpha: 0,944).

By using the Three-Factor Theory Classification analysis method, obtained a result from dummy variable regression process. This result used in developing a bar chart as Figure 1.

**Table 24. Dummy Variable Regression Result**

Attribute	Low Performance	High Performance	Attribute	Low Performance	High Performance
Queue Time	-1,759	0,534	Consistency	-0,783	0,557
Service Time	-0,769	0,652	Neatness of Appearance	-1,014	0,430
Respond to Complaint	-1,080	0,501	Medical Equipment	-1,052	0,343
Asking Opportunity	-0,423	0,417	Cleanness	-0,670	0,378
Understanding Needs	-1,180	0,637	Location	-1,014	0,224
Two way communication	-0,667	0,609	Diagnose Accuracy	-1,052	0,630
Accessible	-1,273	0,398	Medical Info	-0,917	0,549
Comfort and Security	-1,014	0,493	Hospitality	-1,273	0,543
On Schedule	-0,623	0,602	Cure and Recovery	-1,120	0,671



**Figure 8. Dummy Variable Regression Result**

From Figure 1, attributes can be classified into the basic, performance, or excitement factor

For revised IPA, data is processed to obtain implicitly derived performance values and average performance of each service attribute. The results of data processing (Table 25) are then used to create scatter plot diagrams that divide the service attributes into four quadrants based on their importance and performance as Figure 2.

**Table 25. Service Attribute Importance and Performance Value**

Attribute	Importance	Performance	Attribute	Importance	Performance
Queue Time	0,168	3,690	Consistency	-0,028	3,611
Service Time	0,028	3,699	Neatness of Appearance	-0,085	3,805
Respond to Complaint	0,043	3,699	Medical Equipment	0,111	3,522
Asking Opportunity	-0,140	3,575	Cleanness	0,145	3,637
Understanding Needs	-0,010	3,788	Location	-0,130	3,947
Two way communication	0,047	3,637	Diagnose Accuracy	0,041	3,655
Accessible	0,150	3,372	Medical Info	0,102	3,735
Comfort and Security	0,002	3,850	Hospitality	0,003	3,885
On Schedule	0,171	3,540	Cure and Recovery	0,136	3,655

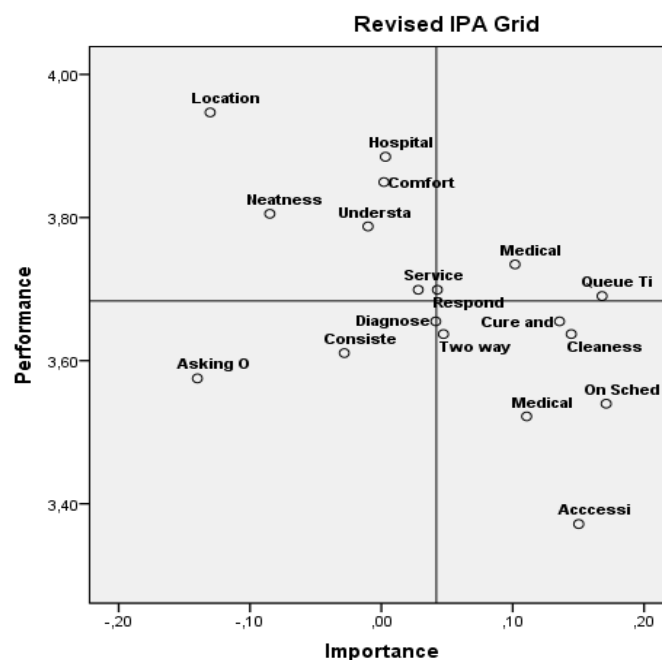


Figure 9. Revised IPA Grid/Scatter Plot

## CONCLUSIONS

Service attributes which are classified into basic factor are Queue Time, Respond, Understanding Needs, Accessible, Comfort & Security, Neatness, Medical Equip., Cleanness, Location, Diagnose Accuracy, Med. Info, Hospitality, and Cure Recovery. These attributes need to be executed as minimum requirement. Service attributes which are classified into performance factor are Service time, Ask. Opportunity, Two-way communication, On Schedule, and Consistency. Performance of Attributes on these factors need to be considered and enhanced. In addition, no attribute belongs to the excitement factor. This indicates the clinic should be able to create new service attributes that give more satisfaction to the customer. It was also concluded that Medical Equipment, Accessible, On Schedule, Two-way communication, and Cure and Recovery attributes should be the focus of Klinik Pratama Medika Antapani in the improvement and development.

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# BUSINESS RISK MAPPING AND MITIGATION FOR THE APPLICATION OF SHARING LOGISTIC IN SMALL MEDIUM ENTERPRISES

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## EXTENDED ABSTRACT

Limitations experienced by SMEs in the distribution of logistics goods become one of the appearances of sharing logistic concept. This concept can minimize transportation costs of delivery, streamline travel time and facilitate consumers in transacting because of technology that used. Through sharing logistic, collaboration among SMEs creates a competitive advantage in the transportation of goods by optimizing the volume of goods transport vehicles between producers and consumers. However, before this concept is implemented, there is a need for determining the potential risks to simplify the mitigation. Literature review and observation are conducted in order to identify possible risk in sharing logistic. This research also uses AHP method for risk mapping and mitigation by interviewing logistic company in Bandung. From these steps, the concept of sharing logistic will be applied well in West Java, especially in Bandung, in order to be able to encourage the growth of SMEs and increase competitiveness. Expected result of this study will be the priority of risk in sharing logistic using AHP and risk mitigation strategy based on that priority.

**Keywords:** *sharing logistic, SME, risk mapping, risk mitigation*

### 1. Introduction

Logistics plays an important role in maintaining the satisfaction of the parties involved in a supply chain, including a supply chain that involves SMEs. However, the bargaining power of SMEs in using logistics services is usually smaller compared to large industrial companies whom able to perform mass production capacity, to deliver large-scale goods delivery, and to create a warehousing system that helps transport goods (Holter et al. 2008). This causes SMEs to have a relatively weak position to obtain the best service from logistics providers. SMEs are often difficult to get the best prices that can be provided by the logistic companies. Hence, the cost for logistics distribution can be much greater when compared with large industrial companies. Sharing logistic is one concept to facilitate while reducing costs in logistics distribution. Through sharing logistic, collaboration among SMEs can occur to create a competitive advantage in the transportation of goods, by optimizing the volume of goods transport vehicles when forwarding (delivery of goods from producer to consumer in the supply chain) and reverse logistics (delivery of goods from consumer to producer in the supply chain). This sharing logistic helps SMEs in distributing logistics to consumers or suppliers and competing with large companies

Moreover, the inefficiency of logistic distribution by SMEs due to small business scope, limited funds, and lack of competitiveness to large companies, creates problems lead to high costs. Whereas, large hauling capacity, distant travel routes leads to many risks; Logistics are only taken for one trip while the return journey does not carry goods or logistics. These are some of the possible inefficiencies in logistics transport that must be reduced or even eliminated in the SME business process. Logistic-sharing appears as an interesting possibility as an alternative way of using logistic carriers since it may result in significant effects without large investments. In consumer's perspective, it has the potential to provide an all-in-one and on-demand platform at a lower cost while the company who own the carrier gets the advantage of his empty vehicle payload.

In order for sharing logistic to be able to run well, the research must related to the risks that can be found in sustainability of SME business, so as to be able to mitigate the risks that could harm the parties involved in the application of the concept of logistics sharing in the SME sector. This research aims to answer several research questions and objectives. First, this study aims to identify possible risk that will be occurred in sharing logistic implementation in SMEs. Many previous studies already explained about risk of supply chain, logistic, and sharing economy separately. Meanwhile the study about risk of the combination from logistic and economy sharing (in terms of sharing logistic) is difficult to be found. Second, possible mitigation strategy to each risk which already identified will be proposed in this research. Through risk mitigation, this study aims to examine whether the idea of sharing logistic is appropriate in SMEs or not. There may be some possibilities through risk mitigation, there will be a new risk occurred or more important risk improved (importance level of each risk will be evaluated by proposed methodology such as AHP) in terms of sharing logistic implementation in SMEs. Last, contextualization of all possible risk into business model of sharing logistic implementation in SMEs. This step will generate appropriate and applicable risk identification and risk mitigation in the sharing logistic business model. There will be risks which are will be categorized based on business process, stakeholders, or channels of sharing logistic implementation in SMEs.

## **2. Literature Review**

### **2.1. Mapping and mitigating risk in a business process innovation**

Once the risk is identified, then the next step is risk mapping. In a broad sense, risk mapping is in principle a risk-making based on certain groups so management can identify the character of each risk and establish appropriate action against each risk. To illustrate the character of each risk there are two dimensions used in risk mapping namely the probability of occurrence of risk and impact if the risk occurs (Djohanputro, 2008).

The next step after risk mapping is quantification of each risk. One common method to quantifying the risk measure is by converting the probability and impact values of each risk to a scale from 1 to 10. The lower the probability of the risk event, the lower the scale. The closer to the certainty that a risk will occur, the risks involved get a 10th scale, likewise with the impact. The analysis will be done by set the scale from 1 to 10. The smaller the impact that covered when a risk occurs, the impact scale is closer to 1, otherwise the higher the impact, the risk getting a scale close to 10. With the use of the scale, the difficulty of the size difference can be avoided.

The scale of probability and impact scale is derived from the previous research stages, namely the analysis of historical data, observation and survey, benchmarking and expert opinion. In identifying risks, knowledge of the circumstances of each risk category and more specific risk forms that can be grouped into those risk categories. This is done so that risk identification process can assist risk mitigation process (Chopra and Sodhi, 2004). This stage actually includes into the stage of risk identification as well as risk mapping. The specific form of a risk can build a broader knowledge of the identified risk categories. Therefore this process is more supportive stage of risk mapping because it provides a form of risk characteristics more detailed and clear. It also makes it easy to determine the effect of a risk mitigation strategy on each possible risk category.

### **2.2. Methodology in Risk Mapping and Mitigation**

One of the methods used in mapping and risk mitigation is AHP (Analytic Hierarchy Process). In the previous researches conducted by Gaudenzi et al. (2006) and Hui et al. (2003) AHP become one proposed methodology related to risk mapping and mitigation. Gaudenzi et al. (2006) had been used AHP to find the most critical supply chain risks by combined it with cause-effect relationships. Meanwhile, Hui et al. (2003) had been used AHP along with Analytical Network Process (ANP) in their study to identify and organize the major attributes of benefits, costs, and risks from implementation of 4<sup>th</sup> party e-commerce logistics to the government, investor, and user. To make a comparison in AHP, we need a numerical scale that shows several times the more important or dominant elements are above other elements with other criteria being compared (Saaty, 2008). That's why risk identification will come as precedence activity in this research before this study use AHP to make viable risk mitigation.

The last stage in dealing with risk is risk mitigation. The importance of risk mitigation is the same as good corporate governance. Essentially, corporate governance is a rule, regulation, principle, and practices that set the company's direction. Every company has a vision and mission, even if sometimes not written. Every company also has long-term goals and corporate strategy.

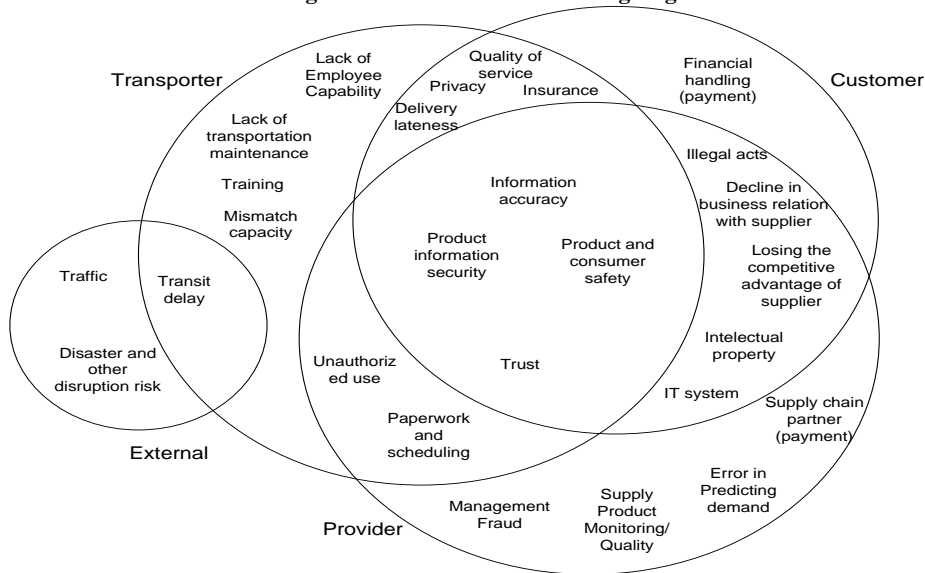
In doing risk mitigation, it is also necessary to consider that implementation of one strategy may affect performance at other risk. This also applies to supply chain risk management. In addition to paying attention to the effect of changing a risk on other risks, in supply chain risk management, the implementation of strategies to address risks to one party in the supply chain may affect performance on the other side of the supply chain.

The process of risk mitigation also done by modeling such as research conducted by Faisal et al. (2006) using Interpretive Structural Model (ISM) method. ISM is a modeling method that puts forward proposals from some of the opinions of experts in their fields through several management techniques such as brainstorming, nominal technique, and others. These techniques focus on finding information about the contextual relationship of each variable (in which case the risks are likely to occur). Other research constructed by Nyoman et al. (2009) had been mapped supply chain risk using house of risk method. Previous research conducted by Zhang et al. (2016) also had been talked about risk in sharing economy and its relationship to customer intention to participate in sharing economy. In the end, this research aims to develop risk identification through several analyses on previous research and observation in several logistic companies. Risk mitigation and mapping also will be done through AHP using Expert Choice.

### 2.3. Risk in Sharing Logistic

The result of synthesizing from several literatures in this table had been differentiated and allocated to four parts in sharing logistic. Those four parts are customers, transporter, provider, and external factors. Customers are participating part in sharing logistic who give their trust to use sharing logistic as a company or individual (as a producers or end consumers). In this research they will be SMEs who rent or buy empty space in the truck of sharing logistic. Transporters are resources that involved in the transportation process of product in sharing logistic. It includes trucks or carriers, transported product, and drivers. Providers are participating part in sharing logistic who give their assets to be used by consumers in sharing logistic. It can be companies or individuals, in this research they will be SMEs who own truck and provide them to others by rent or buy empty space in their truck. External factors means by other participants who involved or influenced the condition of sharing logistic business such as environment, infrastructure, and government.

**Figure 1. Possible Risk in Sharing Logistic**



Source: Multiple sources

Several possible risks and its allocation to transporters, providers, customers, and external can be seen in Figure 1. There is several risks that allocated to transporter such as lack of employee capability including employee fraud (Tirana, 2012; Tuncel and Alpan, 2010); lack of transportation maintenance including risk of vehicle breakdowns (Tuncel and Alpan, 2010; Tummala and Schoenherr, 2010); training (Tirana, 2012; Walter, 2010); and mismatch capacity (Tang and Musa, 2011; Tummala and Schoenherr, 2010). There is several risks that allocated to provider such as management fraud (Tirana, 2012); supply product monitoring/quality; and supply chain partner (payment) (Tang and Musa, 2011). There is risk of financial handling (risk of fail to pay/fulfill the payment) (Tang and Musa, 2011) that is allocated to customer. Risk of natural disaster (Tuncel and Alpan, 2010; Tummala and Schoenherr, 2010) and traffic (Tuncel and Alpan, 2010) is associated and allocated to external part of sharing logistic such as government.

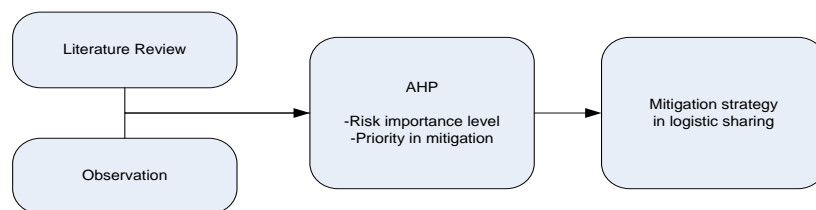
Some possible risks of sharing logistic also might be allocated or shared into two or more participating parts in sharing logistic. There are risks that will be shared into transporter and customer such as privacy including photo, personal/company information, tracking user location; insurance (Feeney, 2015); quality (of service) (Manuj and Mentzer, 2008); and delivery lateness (Tuncel and Alpan, 2010; Tummala and Schoenherr, 2010). Other risks can be shared among transporter, customer, and provider such as product and consumer safety (Feeney, 2015; Manuj and Mentzer, 2008); product information security (Tirana, 2012; Tang and Musa, 2011); information accuracy (Walter, 2010; Tang and Musa, 2011); and trust (GBTA Risk Committees, 2017). There are also risks that will be shared between customer and provider such as decline in business relations with supplier; losing the competitive advantage of supplier (Tuncel and Alpan, 2010); illegal acts (Tirana, 2012); intellectual property (Tummala and Schoenherr, 2010); and IT system (Walter, 2010). Meanwhile risk of unauthorized use (Tirana, 2012) and scheduling (Tummala and Schoenherr, 2010) will be shared to transporter and provider. Risk of transit delay (Manuj and Mentzer, 2008; Tummala and Schoenherr, 2010) will be shared to transporter and external.

### 3. Methodology

This research uses Analytical Hierarchy Process (AHP) to develop importance level of risk in accordance to fulfill the information about possibility of occurrence and impact from risk that should be identified in the previous step. In risk identification, observation and literature review will be used in this research. Overall step of methodology used in this research can be seen in Figure 3. Importance level from AHP will give the priority among risk that possible to be happened in the implementation of sharing logistic. In terms of sharing logistic can avoid several risk, it will be evaluated if the risk that can be reduced by using sharing logistic will not give bad impact to more important risk. Sharing logistic will be less applicable if the more important risk will increase when the solved risk from sharing logistic was decreased. This research limitation, it will be only used the limited knowledge of researcher using their experience from observing business model of car sharing, logistic companies, and SMEs to determine the priority in AHP. There is such probability that the priority is not quite fit in the risk that identified from literature review and through field observation. Further research, the respondent who is appropriate to contribute in the data collection using AHP should be from academician, logistic provider, and SMEs' owner.

To make an organized decision to generate priority through AHP, we need to decipher the decision into the following steps.

1. Define the problem and determine the kind of knowledge sought.
2. Structure the decision hierarchy from the top with the goal of the decision, then the objectives from a broad perspective, through the intermediate levels (criteria on which subsequent elements depend) to the lowest level (which usually is a set of the alternatives).
3. Construct a set of pairwise comparison matrices. Each element in an upper level is used to compare the elements in the level immediately below with respect to it.
4. Use the priorities obtained from the comparisons to weigh the priorities in the level immediately below. Do this for every element. Then for each element in the level below add its weighed values and obtain its overall or global priority. Continue this process of weighing and adding until the final priorities of the alternatives in the bottom most level are obtained.



**Figure 3. Research Methodology**

#### 4. Findings

There will be a pilot test result from AHP based on risk that already identified through literature review and observation. The result will talk about the importance level from each risk compared to other risks. After the result of AHP had been gathered using Expert Choice then this research will makes some strategy relevant to idea of sharing logistic to mitigate several possible risk with the most priority will be precedence. If the strategy is mitigate one risk but it will implicate more important risk in the priority based on AHP result then it will be considered as inappropriate strategy to be developed. It will take more attention to avoid risk mitigation that affiliate with new riskier complication.

#### 5. Concluding Remarks and Discussions

This research concludes several risks that may be occurred from the application of logistics sharing in SMEs business and strategies to deal with these risks and their implication to other risk. Further research can be conducted to seek more comprehensive AHP result based on more experience expertise and practitioners. There are also several suggestions to maintain risk in logistic business from current logistic companies in Indonesia especially Jakarta, Bandung, and several area in Java islands.

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# PRICING STRATEGY & PRICING DETERMINANT FACTORS IN SHARING LOGISTICS

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## EXTENDED ABSTRACT

There is a major change in our many current business practices, where the changes lead the mainstream business practice into a new concept of business practice; Sharing Economy. Within this research, the sharing economy will be narrowed down into a specific topic, which often be called as sharing logistics. The expected output of the research is to describe the determinants that construct the pricing structure along with the pricing strategy for sharing logistics' company. The main intention of this research is to help parties that involved in sharing logistics business to develop their own pricing structure and strategy. To arrive at the expected output, number of existing papers are being reviewed related to the matter of pricing components and pricing strategies in logistic service industry and sharing economy. Primary data is also gathered through interview. By exploring the components of price along with the pricing strategy, the SMEs and start-up company that run their business in sharing logistics will have a proper pricing formulation guideline and strategy to begin with.

**Keywords:** sharing economy, sharing logistics, logistics, pricing, component of price, pricing structure, small medium enterprise

## INTRODUCTION

Sharing economy practices help to lower the costs, they are also aggressively seizing the market, and offering inarguable price. Many terms have been cited to refer the activity of sharing economy, such as collaborative consumption, collaborative economy or peer economy. Referring to the common practices, sharing economy allows individuals and groups to make money from underused assets. Still, Yudoko et al. (2016) argued that up to this time there is no rigid definition about sharing economy.

The characteristics of sharing economy in Indonesia, for instance, are fulfilled by GOJEK, Uber and GrabBike in the form of "ride-sharing" services. Within the ride-sharing sectors, they adapt a shared mobility system to overcome underused resources and reduce congestion. In this way, physical assets are shared as services with the use of intermediary platforms, the convenient and instantaneous information exchange by apps, it mitigates the previously information barriers caused by spatial deviation between customers and drivers (Wang et al., 2016). Ride-sharing also can be considered as a two-sided market as platform operators cater to two inter-dependent customer groups – drivers and riders (Eisenmann et al, 2006; Teubner & Flath, 2015).

Within this research, the sharing economy will be focused on sharing logistics. A keyword that can be summarized for sharing logistics is "collaboration" (Thiengburanathum et al., 2010). By using platform with advanced technology, the on-demand service sharing logistics will be on the market filling space of drivers and fulfill the needs of customer to deliver their goods, two distinct group of users that so called two-sided market.

According to Kung & Zhong (2017), two-sided platforms can take advantage on positive cross-side externality, when a great number of service provider in the platforms can attract more consumer and vice versa. Hence, it is really crucial to design pricing system to provide sufficient incentives. As part of sharing economy, the important features of this two-sided markets are that prices optimally take into account the externalities between the two sides of the market (Vasconcelos, 2015). The pricing design system must be win-win for both consumers and service providers.

This research is being conducted as a follow-up research for previous logistics sharing research (Yudoko et al., 2016). One of expected research output within the area of sharing logistics is the description of components that construct the pricing structure. Related to this research, the objective of the research is to describe the determinants that construct the pricing structure along with the pricing strategy for logistics sharing company. The intention of this research is to help parties that involved in logistics sharing practice to develop their own pricing structure and strategy. The literature review, methodology, findings and conclusion will be presented below.

## LITERATURE REVIEW

### Sharing Economy

Hamari et al. (2013) explains that sharing economy concept is built on the concept of collaborative consumption, which is a peer-to-peer-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services. However, the origin concept of collaborative consumption which was explained by Felson

and Spaeth (1978) have a different meaning from today's perspective. For instance, the acts of collaborative consumption at the time were "drinking with friends and eating meals with relatives". It is quite different from the definition of collaborative consumption developed by Botsman and Rogers (2010) who have redefined collaborative consumption as an activity which "is enabling people to realize the enormous benefits of access to products and services over ownership, and at the same time save money, space, and time; make new friends; and become active citizens again".

Henten and Windekilde (2015) summarized that Belk (2007; 2010; 2014) had an extensive research in collaboration consumption within the context of sharing or renting goods. Belk (2014) conclude that sharing makes a great deal of practical and economic sense for the consumer, the environment, and the community. As he said, the old phrases of "you are what you own" today have been changed into a new "you are what you share". Therefore, today's terminology of sharing economy that fits to the real practices are aligned with these researches (Hamari et al., 2013; Botsman and Rogers, 2010; Belk, 2014).

### **Pricing Method**

To obtain targeted revenue, there are some strategies needed to generate pricing. According to Avlonitis and Indounas (2005), pricing methods as the explicit steps or procedures by which firms arrive at pricing decisions. There are twelve pricing methods falling into three large categories namely cost based, competition based and demand based. Those methods are Cost-based methods (Cost-plus-method, target return pricing, break-even analysis, contribution analysis, marginal pricing), Competition-based methods (Pricing similar to competitors or according to the market's average prices, Pricing above competitors, Pricing below competitors, Pricing according to the dominant price in the market) and Demand-based pricing (Perceived-value pricing, Value pricing and Pricing according to the customers' needs)

### **Determinants of Pricing in Logistics Company**

In general, a company's price structure consists of costs and margin that they want to get. According to Zeng and Rossetti (2013), determinants or components of logistics cost are related to transportation, inventory holding, administration, customs, risk and damages, and handling and packaging. The components are divided into subcomponents within each component.

### **Pricing Strategy in Logistics Company**

Related to the pricing strategy, Biermann and Wengler (2017) presented a survey resulted that profit is not the key focus of pricing strategy in logistic companies. There are ways to successfully increase their profit margin conducted by this survey. First, a stronger focus on a profit-oriented pricing strategy. Second, systematically tracking and understanding the Net Promoter Score (NPS). Thirdly, include customer and deal specifics (and thereby willingness to pay) along with the cost in their price setting. Last, the price information transparency is also important to close the deal with big customers. Overall, it seems that the parcel/express has the leading position in terms of pricing power and most profitable within the industry.

### **Pricing Strategy in Sharing Economy**

Related to the pricing strategies that are based on sharing economy concept, few literatures are describing some pricing strategies used by the ride-sharing services. Horpedahl (2015) explained that Uber and Lyft use a form of dynamic pricing called "surge pricing" in contrast to the fixed pricing in traditional taxicab based only on mileage and time. Prices can adjust upward from the base rate when quantity demanded exceeds quantity supplied sometimes several multiples of the base rate. It is argued also that dynamic pricing provides an incentive for more drivers to get on the road, or to go to specific areas, and an incentive for consumers to wait until busy times pass (Hall, Kendrick, and Nosko, 2015).

Meanwhile, Kung and Zhong (2017) determine there are three pricing strategy that usually employ in platform delivery on sharing economy. Those are membership-based pricing strategy, transaction-based pricing strategy and cross-subsidization strategy. In membership-based pricing strategy, platform in sharing economy losses in every transaction but they will charge every consumer a fixed membership fee at the beginning of each membership period. Within this strategy, the platform will only obtain profits from membership fees (Kung and Zhong, 2017). The scheme works if users pay a set of membership fee up front and utilize the platform in certain time of membership period.

On the other hand, there is transaction-based pricing strategy that charge a per-transaction fee but no fixed fee (Wang 2016). Consumer will be sign up the platform for free and platform will generate the profit from every transaction consumer make with platform. This also means that fees are charge based on usage, the users or service providers will pay the platform each time they use the platform service, but only for successful transaction. The third strategy in sharing economy is cross-subsidization strategy. This means that platform will subsidizes the service provider or driver exactly the amount collected from the consumer in each transaction and earns revenues only from membership fees. (Kung and Zhong, 2017). This applies for both customer and driver, particularly to the group whose demand is more price-sensitive (Vasconcelos, 2015).

## **METHODOLOGY**

To obtain the optimum result of research, we conducted literature review and interview to find the pricing strategy and pricing determinants of sharing logistic. In the literature review, we reviewed the academic literatures to generate the main concept on pricing strategy in similar business, for instance, sharing economy in ride sharing sectors. Also, the literatures from logistic company and its components to determine costs and margins in sharing logistic business. Next, using interview, we gathered the primary data to find out the components and pricing strategy in practice from existing sharing

economy company that play a big role in logistic mobility such as PT Go-Box Indonesia. Finally, we analyze all the data and information using desk study analysis to propose the component factor of price structure and generate pricing strategy for sharing logistics platform.

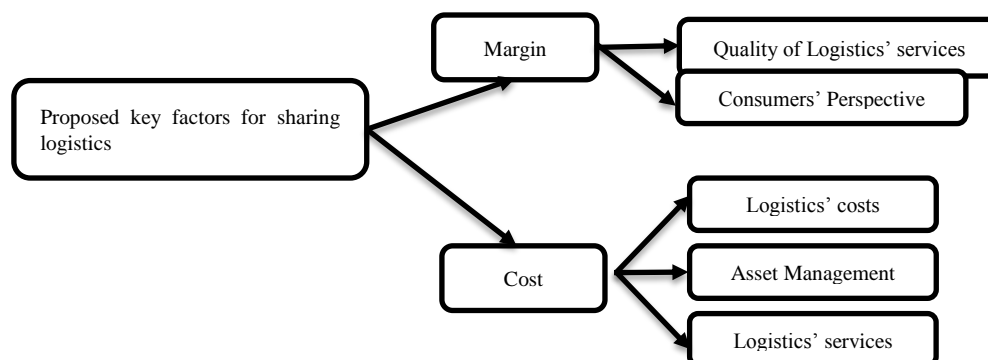
## FINDINGS AND ARGUMENT

### Pricing in Sharing Logistics

Two-sided market in sharing logistic contains two essential parties such as drivers and consumer. Inherently, advance network-based platforms supported this business model activity to attract each other and increase the usage of platforms. Pricing of this particular parties are interdependent yet it has its own scenario to design the most profitable pricing strategy for each party.

#### 1. Pricing Determinant Factors on Sharing Logistics' Company

Based on the literatures, we found that there are five factors that will influence the sharing logistics companies (Figure 2). As logistics' company and sharing logistics company have a common core of business, which is logistics, the pricing determinant between both companies will be similar. They are logistics' cost, services to the customers, quality of services, and the asset management or maintenance. Therefore, we built the proposed pricing structure based on these four factors since they create value that will be appreciated by the customers. We also categorized the four components into the section of costs and margin. The components that is directly incur cost will be categorized as cost section, otherwise as a margin section.



**Figure 2. Key factors in logistics price**

The detail explanation of proposed components in logistic as shown on Figure 3 is described below:

#### Basis of Costs:

- Logistics cost**  
 According to Zeng and Rossetti (2003), cost that incurs in logistics are (a) transportation costs such as freight charge, consolidation fee, transfer fee, and pickup and delivery cost; (b) inventory holding costs, such as pipeline holding cost which are cost during the transfer and safety stock cost; (c) administration cost, such as ordering cost to process the inventory, communication cost such as the use of telephone, fax, and other information transfer related cost, and overhead cost; (d) customs related costs, such as custom clearance, brokerage fee, and allocation fee; (e) risk and damage related cost, such as damage/loss/delay and insurance cost; (f) handling and packaging cost, such as terminal handling, material handling, in/out handling, disposal charge, packaging/supplies materials, and storage related cost.
- Logistics' services**  
 The logistics company can incur their bill to the client based on the services that they will perform, such as: (a) how many network/how long the distance they will served; (b) the volume/ the size of the goods that they will transport or carry.
- Asset management**  
 According to Bowersox, Closs, and Cooper (2002), the concern of asset management are utilization of capital investment in facilities and equipment. Therefore, those investment need to be maintained to ensure their performance. Both of the investments can be included in the price structure to guarantee that they will perform well when needed in daily operations.



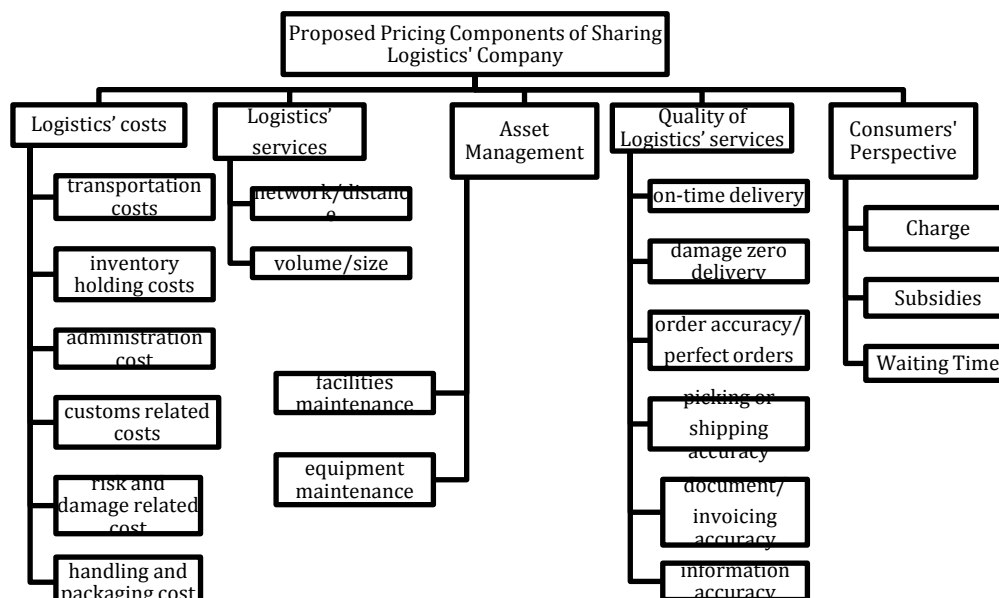


Figure 3. Proposed components in logistics' price

#### Basis of Margin:

- **Quality of logistics services**  
Quality of services that the logistics sharing companies offered to the customer is also important to be considered as the key factor in the pricing structure since it is related with the customer satisfaction, such as: (a) on-time delivery; (b) damage zero delivery; (c) order accuracy/perfect orders; (d) picking or shipping accuracy; (e) document/invoicing accuracy; (f) information accuracy (Bowersox et al., 2002). Those key factors are proposed to be the basis of margin formulation.
- **Consumers' perspective**  
Consumer considers several factors when moving on platform based sharing economy application from the traditional one. Charges and subsidies are most crucial factors that consumer considerate when using the platform. But besides of that factors, consumer also consider waiting times. According to Kung & Zhong (2017) in the research of taxi-hailing, waiting times become so important because even the app has provided subsidies to customers and completely sacrificed its profit, the transaction volume through app would not be high due to long customer waiting time.

## 2. Pricing Strategy for Sharing Logistics Platforms

By adapting the pricing strategy on sharing economy, there are three types of strategies that are available to apply in sharing logistics. With the several types of target market, membership-based strategy will be appropriate to be implemented in business-to-business market with some kind of specified time contract. The interview result with Go-Box (company) as the intermediary platforms mentioned that they manage the orders for both truck drivers and b2b consumer using contract. Applying this strategy will be beneficial for b2b consumer and platforms can maintain the supply and demand between consumer and truck drivers, this will reduce the cost for consumer such as waiting time. Membership-based pricing also the most profitable strategy due to its capability of earning money immediately and maximizing the price-sensitive order frequency (Kung & Zhong, 2017).

On the other hand, for end-consumer market, sharing logistics platforms can employ both transaction-based strategy and cross-subsidize strategy simultaneously. This strategy intended to gather a great number of new consumer and to promote the apps. Wang et al. (2016) stated that a platform may even subsidize users on one side to attract users on the other side and to expand the user pool at the beginning stage, more and more platforms choose to subsidize both side of users. Both of these strategies have been applied by Go-Jek, ride-sharing platform. Go-Jek provide subsidize for consumer if they are using digital money in Go-Jek apps known as Go-Pay. They also offer bonus for drivers if they achieve certain level of performance or order frequency. This will work on price-sensitive consumer when consumer will compare the most profitable platform for them.

## CONCLUSIONS

To conclude, the research proposed the pricing strategy and pricing determinant factors in sharing logistic. We generate the finding from two-sided market, logistic company and consumer. The result obtained from literature review and interview shows that pricing structure in sharing logistics' consist of five key factors, i.e., logistics' costs, services, asset management, quality of services, and consumer's perspective. In consumers' perspective side, there are several factors become

consideration, such as charges, subsidies and waiting times. Putting together the result from literature review and interview, the pricing strategies for sharing logistics platform can be adapted from sharing economy strategies, such as membership-based pricing that appropriate for b2b market, transaction-based pricing and cross-subsidize pricing strategy that can be applied together to attract new consumer. However, further research is needed to be done to ensure that the price structure is robust and able to be applied in the sharing logistics companies.

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# THE SENSITIVITY ANALYSIS OF ORDERING AND HOLDING COST TO AVERAGE INVENTORY LEVEL (AIL) CASE STUDY: AN “A” SPECIALIZED HOSPITAL.

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## EXTENDED ABSTRACT

Inventory management play a significant role in hospital's performance. This research is focusing on an “A” specialized hospital's pharmaceutical and medical equipment inventory management. Previous research has suggested to use EOQ method to save 56.93% from overstock items. In calculating EOQ, ordering and holding cost data are needed. However, calculating the real ordering and holding cost is another problem. This research examined the changes of Average Inventory Level which will affect amount of overstock and understock because of the changing ordering and holding cost. This research shows that changes of ordering cost will not significantly affect the changes of percentage overstock and understock. While the changes of holding cost shows more significant impact on the changes of overstock and understock.

**Keywords:** inventory management, economic order quantity, average inventory level, sensitivity analysis

## INTRODUCTION

This research is observing a class “A” specialized hospital which mean that this hospital able to provide medical treatment by specialists and subspecialists. Currently this hospital is having an excess inventory level, especially in pharmaceutical items and medical equipment. Previous research has suggest this hospital to use Economic Order Quantity as tools in managing inventory of this pharmaceutical items (Hafnika, Farmaciawaty, Adhiutama, & Basri, 2016). The objective of inventory control is to make inventory decisions that minimize total cost of inventory not to minimize total inventory (Hughes, 1984). Hafnika mentioned that using EOQ as inventory control method can help this hospital to save 56.93% from overstock of pharmacy items (Hafnika et al., 2016). This number of quantity ordered will affect the amount of annual ordering and holding cost. Simchi mentioned that 100% changes of optimal order quantity will result on no more than 25% changes on total annual inventory cost (Simchi-Levi, Simchi-Levi, & Kaminsky, 2008). As part of calculating optimal quantity ordered, amount of ordering cost per order and holding cost must be determined first. However, in reality there's difficulty in determining the actual cost of ordering and holding cost. This difficulty is due to in reality these costs are not calculated separately. For example, the cost of placing an order by phone cannot be calculated accurately and also this phone cost is usually for several items not for one item, while ordering cost in economic order quantity is for each product per order placed. It is also the same with calculating holding cost. This lead to research question: if it was impossible to determine the right ordering and holding cost, how will the optimal order quantity be affected? This research is calculating the sensitivity of changes in ordering and holding cost to the changes of average inventory level. Using quantitative method for calculating optimal order quantity and qualitative method for understanding the problem, this research's aim to find the sensitivity of changes in ordering and holding cost to Average Inventory Level (AIL) in pharmaceutical items. Kelle (2012) mentioned that pharmaceutical items represent a great percentage of costs in healthcare industry due to the significant cost of these products and their storage and controls. The excess inventory will lead to space problems increasing storage cost, and also increasing inventory cost, which can be used to invest in other things or on understock items (Hafnika, 2016).

## LITERATURE REVIEW

Inventory management is a very crucial decision. Inventory is one of the most expensive assets of many companies, representing as much as 50% of total invested capital (Heizer and Render, 2014). Low level of inventory will result in low inventory cost but might result in disappointed customers because of stock-out. Meanwhile high inventory levels will result in increased holding costs but lower the possibility of lost sales because of stock-out and slowing production, which can result from inadequate inventory management (Bowersox, Closs, & Helferich, 1996). Therefore, a good proportion of inventory is needed so company can satisfy his customer meanwhile decrease inventory cost. Moreover, in a hospital, lack of medicine and improper use of pharmaceuticals items will have a major impact on patients, thus, providing a high level of service for medical supplies and effective inventory policies are important for all health care industries (Uthayakumar & Priyan, 2013). Because of the reason above, sometime hospitals overestimated the quantity of medicine and pharmaceutical inventory to avoid the inventory shortages (Roy, Manna, & Sarker, 2010). Therefore, in healthcare service, applying inventory management tools need to be conducted regularly to be more effective and efficient, along with close supervision on important categories (Wandalkar, Pandit, & Zite, 2013). There are many kind of inventories in healthcare service, such as pharmaceutical items, medical equipment, and obsolesce products. This research is focusing on inventory of pharmaceutical items and medical equipment which by providing the right inventory system will provide a great opportunity to decrease the cost of healthcare (Gebicki, Mooney, Chen, & Mazur, 2014). Ali (2011) also mentioned that efficient inventory management has a great role from the financial point of view, since efficient inventory management increases gross profits and net profits by decreasing the cost of procured pharmaceutical products and related operational expenses.

Economic Order Quantity (EOQ) is a continuous method in managing inventory which widely used in many cases (Chopra & Meindl, 2007). EOQ aim is to calculate economical quantity in every order to minimize total cost. Economic Order Quantity's objective is to make inventory decisions that minimize total inventory cost not to minimizing inventory (Schwarz, 2008). Several assumptions of EOQ are demand for an item is known, constant, and independent from demand of other items; lead time is known and constant; price per unit product is constant, no discount is possible; inventory holding cost is based on average inventory; ordering or setup cost is constant; and no backorder allowed (Jacobs, Chase, & Aquilano, 2011). The only costs parameter is cost of setting up or placing an order and the cost of holding inventory over time.

$Q^*$  is number of units ordered every time company order to supplier, where  $D$  is annual demand of each products,  $S$  is setup cost or ordering cost every time company order, and  $H$  is holding cost per unit product (Heizer & Render, 2011).

$$Q^* = \sqrt{\frac{2DS}{H}}$$

Total inventory cost is insensitive to order quantities, that is, changes in order quantities have a relatively small impact on annual setup costs and inventory holding costs (Simchi-Levi et al., 2008). If decision maker orders 20% more than optimal order quantity, the increase of total inventory cost relative to optimal total cost is no more than 1.6% (Simchi-Levi, 2014).

Holding cost is all cost relevant in keeping inventory, such as cost of capital or opportunity cost of all money that tied up in inventory, rent cost, depreciation, insurance, taxes (Heizer & Render, 2011). Cost of handling items, deterioration, and obsolescence are also considered as holding cost (Chopra & Meindl, 2007). While ordering cost is all cost that occur every time an order placed including cost of transporting, receive, and store the items (Chopra & Meindl, 2007).

Average Inventory Level is amount of inventory that was carried from time to time. The Average Inventory Level was calculated using this formula:

$$AIL = \frac{Q}{2} + ss$$

In this research, actual AIL is compared to calculated AIL using EOQ method. If actual AIL is higher than calculated AIL, that means there's overstock and if actual AIL is lower than calculated AIL that means there's understock.

## METHODOLOGY

The research is using mixed method. The qualitative method is used to gain understanding of the problem and to develop ideas to solve the problem. The pharmacy and medical equipment inventory data was collected from January 2015 until May 2016. The data contains information of 1.164 drugs. Quantitative method is used to calculate hospital's Economic Order Quantity, Average Inventory Level (AIL) for both hospital's current condition and EOQ method, and the overstock and understock status. Next, we did the sensitivity analysis for setup cost and holding cost to the overstock and understock level.

## FINDINGS AND ARGUMENT

This research analyzed historical data of drugs from 17 months (Januari 2015 – May 2016). Previous research has gather data by doing interviews to management and PPIC of the hospital. Based on that interviews, Hafnika make some assumption in order to calculating optimal order quantity.

Lead Time	45 days
Holding cost	25% of unit per year
Ordering cost (S)	Rp 5.000
Service level	95%

Using this data, Hafnika's research conclude that 22% of total item was overstock and 11% was understock items in pharmaceutical and medical equipment unit of the hospital (Hafnika et al., 2016). However, the gap of Average Inventory Level (AIL) based on value of money (Indonesian Rupiah / IDR) for overstock is 43,07% and 14,70% for understock. This means that amount of inventory spent by the hospital is 43,07% higher than if they were using EOQ. 14,7% understock means that result of EOQ calculation were 14,7% higher than actual data which will lead into possibility of stock out.

In calculating EOQ, both ordering cost and holding cost are included. Table 1 represent the calculated level of overstock and understock if ordering cost changed and other assumptions are still the same.

**Table 1. Percentage of Amount Overstock and Understock if Ordering Cost was Altered**

% Changes in S	-90%	-80%	-50%	0	50%	80%	100%
Amount of ordering cost (IDR)	500	1.000	2500	5.000	7500	9000	10.000
% amount overstock	40,86%	41,37%	42,30%	43,07%	43,62%	43,91%	44,09%
% amount understock	14,66%	15,66%	16,75%	14,70%	12,90%	12,16%	11,65%

If there's 50% increase of ordering cost, the amount of overstock will decrease 0,5% from amount of overstock using the original data. Meanwhile if there's 50% decrease in ordering cost the amount of overstock will increase 0,8%. This is because the increase of ordering cost will result on increasing optimal quantity ordered which will increase calculated AIL, and simultaneously decrease the gap between actual and calculated AIL. Table 1 shows amount of overstock if the ordering cost was changed from IDR 500 (or -90% change from the original ordering cost) until IDR 10.000 (or increase 100% from the original ordering cost). However, Figure 1 shows percentage changes of overstock from different ordering cost compare to the original ordering cost. It shows a very small (3.2%) changes between IDR 500 until IDR 10.000 per order. For percentage of understock, as the ordering cost increase, the percentage of understock will rise. Figure 1 shows that the lowest point of changes in understock is -2.1% (for ordering cost IDR 2.500) while the highest changes is 3% (for ordering cost IDR 10.000).

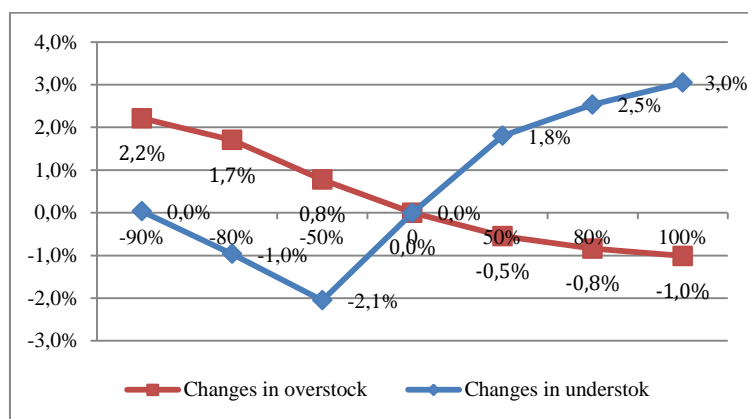


Figure 1. Changes in percentage of Overstock and Understock if Ordering Cost was changed

Table 2 shows percentage changes of amount overstock and understock if holding cost was altered and others are still the same. For percentage amount of overstock, as holding cost increasing, percentage amount of overstock decreasing. This is because as holding cost increasing, quantity ordered will decreasing, which led to lower AIL and simultaneously lower overstock.

Meanwhile for percentage amount of understock, as holding cost increasing, percentage amount of understock increase.

Table 2. Percentage amount of overstock and understock if holding cost was altered

Holding cost (in %)	5%	10%	15%	20%	25%	30%	50%
% amount overstock	45,90%	44,56%	43,87%	43,44%	43,07%	43,03%	42,30%
% amount understock	6,63%	11,51%	13,41%	14,66%	14,70%	17,67%	16,75%

The changes of percentage amount of overstock is not too significant. From 5% holding cost to 50% holding cost, the changes is only 4,88%. Different with the changes of percentage amount of understock which is more than 8%. However, figure 2 shows that the smaller holding cost will led into higher changes in percentage of amount understock.

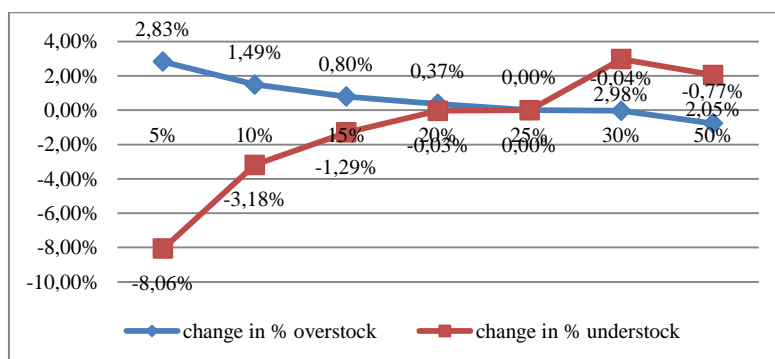


Figure 2. Changes in percentage of Overstock and Understock if holding Cost was changed

## CONCLUSIONS

This research concludes that similar with Simchi-Levi's research about 100% changes in quantity ordered will only affect no more than 25% changes in total cost. If ordering cost increase 4 times (or increase 300%), the changes of ordering cost will only result in no more than 3% changes in percentage of amount overstock. While with the same condition, it will result in around 5% changes in percentage of amount understock. This show that difficulty in determining amount of ordering cost will not significantly affect the result of EOQ calculation. However, this result is based on data of this "A" specialized hospital. Further research in this area using other

hospital data are needed to support this generalization. Meanwhile the changes of holding cost shows more significant impact on the changes of percentage of understock than changes in overstock. The rise of 5 times of holding cost will lead to 5% change in percentage of overstock and more than 8% change in percentage of understock. From this result we can conclude that determining more accurate holding cost have more crucial effect on amount of overstock and understock.

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## FACTORS AFFECTING THE INHIBITION OF EXPORT BUSINESS ACTIVITIES IN THE CIBADUYUT CLUSTER THROUGH THE CAUSE-EFFECT DIAGRAM APPROACH

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### EXTENDED ABSTRACT

Behind the huge potential of Cibaduyut products for export, there is a decrease in production in Cibaduyut as well as with the number of craftsmen. There are other factors as well that make export activities in Cibaduyut hampered. It is important to note when SMEs entering the international trade will face more difficult obstacles than the domestic market. The aim of this study is to formulate any factors (root cause) that affect the inhibition of export activities in the Cibaduyut cluster and what recommendations or suggestions can be put forward to help SMEs in the Cibaduyut cluster to export. Analysis and discussion of this research using the approach of fishbone diagram or cause-effect diagram. The categories used in fishbone analysis is 6 P's marketing mix include people, place, process, price, promotion, and product. Data obtained from 10 respondents or SMEs who ever do export, combined with other secondary data that support this research. From the analysis and discussion, location factors have no significant obstacles because Cibaduyut itself is located in a very strategic area and a complete cluster that has business activities from upstream to downstream.

**Keywords:** export barriers, fishbone diagram, Cibaduyut cluster, marketing mix



## Inventory Level Improvement in Pharmacy Company Using EOQ Method and Multi Echelon Inventory Case Study: Al Maso'em Pharmacy

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### EXTENDED ABSTRACT

In a pharmacy company, inventory represent a significant value since usually they stock pharmaceutical product to anticipate demand from customer. The high stock reflect that the company spent large portion of their investment in the inventory, thus to make the inventory efficient, they need to prevent the optimum inventory level. This research was aimed to maintain the inventory level in Al Ma'soem pharmacy which eventually will reduce the inventory cost. Al Ma'soem is a pharmacy's company which has 16 branches that operate in Bandung and surrounding area. At the moment, Al Ma'soem has a problem with their high inventory cost. Therefore, the company determines to obtain an appropriate method to keep their inventory level as low as possible while maintaining their service level in order to have low inventory cost. To solve the problem, the authors compare two methods that are suit to the Al Ma'soem condition, i.e., the decentralized system using EOQ method and the centralization system using the multi echelon inventory technique. To perform the study, we limit the scope into the class A items only. We also make assumption in the lead time, setup cost, and holding cost used in this study with the consent of the company's owner. To conclude, using the decentralized system the company will able to save 31% of their inventory cost, meanwhile using the centralization system with the multi echelon technique the company will be able to save 47% of their inventory cost.

**Keywords:** Economic Order Quantity (EOQ); Multi Echelon Inventory; Decentralization; Centralization; Pharmacy

### INTRODUCTION

According to Ali (2011), efficient inventory management plays a great role in pharmacy practice since they give impact to the financial and the operation function. In the financial function, inventory represent the large assets since they hold high value thus consuming large portion of pharmacy capital, thus efficient inventory management will increase gross and net profit. Meanwhile in the operation field, inventory need to be hold to retain future demand and maintain the service level. One of the components that make a major contribution to the operation costs is the inventory cost (Heizer & Render, 2011). In pharmacy industry, high level of inventory means high level of service for medical supplies. Therefore, to have high level of inventory is important due to medicine shortages and inappropriate use of pharmaceuticals can not only lead to financial losses but also have a major impact on patients (Uthayakumar & Priyan, 2013). In addition, Ali (2011) also mention that the unavailability of pharmaceutical product may cause them to lose a customer and give inconvenience to the prescribing physician, as well as affect patient's wellbeing. Many health care provider experience difficulties in achieving the balance between stock level and service level, since they have not addressed how medicines are managed, supplied, and used to save lives and improve health (Uthayakumar & Priyan, 2013).

Al Ma'soem is a pharmacy company located in Bandung area, which has 16 branches located in 1. Cibiru, 2. Rancaekek, 3. Cikalang, 4. Ciburaleng, 5. Dangdeur, 6. Samoja, 7. Jatiwangi, 8. Cikancung, 9. Majalaya, 10. Cipacing, 11. Kopo, 12. Ciwidey, 13. Patenggang, 14. Rajamandala, 15. Bojong, and 16. Arcamanik. At present, Al Ma'soem has already implemented a simple system to manage their inventory. Related to the ordering process, the existing mechanism required each branch to order to the warehouse which located in Arcamanik, next to their Arcamanik branch. The order guideline for each branch is batmax, which is the maximum

allowable inventory level, and batmin, which is the minimum inventory level. When the stock in each branch touch the batmin then they must reorder the respective item to the warehouse. The amount to be ordered is batmax minus batmin. Batmax and batmin are changeable and determined based on the estimation of the demand. Currently, Al Ma'soem pharmacy has already implemented IT system so that the owner is able to know the real time inventory level. Therefore, by system, Al Ma'soem pharmacy is able to implement continuous review policy because the process has already been supported by IT system. However, Al Ma'soem pharmacy does not record the inventory level status periodically. The absent of periodic written record of inventory level becomes the weakness of the system in Al Ma'soem pharmacy which leads to the shortage of research data. Furthermore, even though they have implemented their own system, the management still think that they have very high operation cost. The high operation cost is related with their high inventory. The pharmacy also did not have the exact number that indicates the excess inventory because they have no criteria to determine whether an inventory level is too high or too low. Furthermore, the company does not have method to find out the appropriate amount of order, since currently Al Ma'soem pharmacy does not have any model of inventory. Having the appropriate order amount will help Al Ma'soem pharmacy to obtain the right inventory level and reduce their inventory cost. In addition, to guarantee constant availability of drugs and medical supplies, it is very importance that pharmacy stores are organized efficiently using appropriate inventory management techniques (Roy, Manna, & Sarker, 2010).

Regarding the problem faced by Al Ma'soem, thus the objective of this research is to evaluate the company current inventory level and give the recommendation related to their inventory management. To do that, we performed the qualitative method by means of desk study analysis of literature reviews as well as interviewing the pharmacies management and staff to gather data and information. To solve the problem, we compare two methods which are suit to the Al Ma'soem condition, which are the decentralized system and the centralization system using the multi echelon inventory technique. To perform the study, we limit the scope into the class A items only, which have the highest value among other items. We also make assumption in the lead time, setup cost, and holding cost used in this study with the consent of the owner. We then compared the decentralized system and centralized system result to find the best solution

## LITERATURE REVIEW

In pharmacy operation, inventory is defined as the stock of pharmaceutical products reserved to meet upcoming demand (Ali, 2011). In pharmacy industry, inventory is the largest asset in pharmacy practice, and its value continues to increase because of the growth in variety and cost of pharmaceutical products (Ali, 2011). Kelle (2012), also mentions that pharmaceutical items represent a significant percentage of costs in healthcare industry. According to Simchi-Levi, Simchi-Levi, and Kaminsky (2008), inventory is one of the dominant cost. Hughes (1984) mentioned that the costs associated with pharmacy inventory are carrying costs, shortage costs, and replenishment costs. All costs are related with the inventory level, thus, if we want to excel in effective operation then we need to reduce the inventory level. The inventory management's objective is to maintain a balance between inventory investment and customer service (Heizer & Render, 2011). Therefore, reducing cost simply by reducing the inventory level is not the optimal solution, since the availability of certain item become an issue and the customers will not satisfied if the service level did not accommodate their need of the items (Bowersox, Closs, & Helferich, 1996). Consequently, optimizing the inventory level by keeping the low inventory level while at the same time meeting the requirement is a must if one want to stay in the business. However, in the pharmacy business there is a perceived need to supply very high levels of service by keeping lots of stock in their inventory, since the healthcare product can save lives (Beier, 1995).

In inventory control, one methods that is proven robust is the EOQ method (Heizer & Render, 2011). This method is used to gain information regarding how much (economic order quantity/EOQ) and when to order goods (reorder point/ROP) that will keep the setup cost and holding cost the lowest. The objective of EOQ's method is to make inventory decisions that minimize total inventory cost not to minimizing inventory (Schwarz, 2008). To calculate the EOQ and ROP, we need information of demand, lead time, setup cost and holding cost. This method can be used in a firm with single facility or multi-facility. In multi-facility company, usually a firm or company must consider the application of decentralized distribution system or centralized distribution system.

The Economic Order Quantity was calculated using:

$$EOQ = \sqrt{\frac{2DS}{H}}$$

Equation 1. EOQ Calculation of Continuous Review Policy

Whereas;

$EOQ$  = Economic Order Quantity

$D$  = Annual demand

$S$  = Setup cost

$H$  = Holding cost

In decentralized system, lead time and service level of each facility considerate separately meanwhile in centralized system we need to consider the information of each facility to achieve optimum result (Chopra & Meindl, 2007). In Decentralized system, usually a firm have local inventories in each region, and in centralized system, all inventories is aggregated into one centralized facility (Chopra & Meindl, 2007). Therefore, in the decentralized system the total safety stock would be the sum of the safety stock in each facility, meanwhile in the centralized system the safety stock will be pooled in the central facility. Two major disadvantages of aggregating all inventories in one locations are it will lead to the increase to response time to customer order and also increase in transportation cost to customer since the average distance bet the inventory and the customer increases with aggregation. However, the aggregation will reduce the inventory cost in a great amount since the firm does not need to keep inventory in their branch facility (Chopra & Meindl, 2007).

In centralized system, to optimize the inventory level we can use the multi echelon inventory technique (Simchi-Levi et al., 2008). The objective in a multi echelon system is to decrease total costs by coordination orders across the supply chain (Chopra & Meindl, 2007). In a distribution system, each stage or level (in this case i.e., the pharmacy branch and the warehouse) often is denoted as an echelon, thus the echelon inventory at any stage of the system is equal to the inventory on hand at the echelon and all downstream inventory which position closer to the customer.

In a multi echelon setting, reorder points and order-up-to levels at any stage should be based on echelon inventory and not local inventory (Simchi-Levi et al., 2008). Thus, a distributor (in this case is the pharmacy's warehouse) should decide its safety inventory levels based on the level of safety inventory carried by all retailers (in this case is the pharmacy's outlet branch) supplied by it. The more safety inventory the outlet branch carry, the less safety inventory the warehouse needs to carry. As retailers decrease the level of safety inventory they carry, the distributor has to increase its safety inventory to ensure regular replenishment at the retailers (Chopra & Meindl, 2007). For the multi-stage supply chain where a warehouse supplies a set of retailers, we need to calculate the reorder point using the formula below:

$$R = (L^e \times d) + (z \times \sigma \times \sqrt{L^e})$$

Where

$L^e$  = echelon lead time, defined as the lead time between the retailers and the warehouse plus the lead time between the warehouse and its supplier

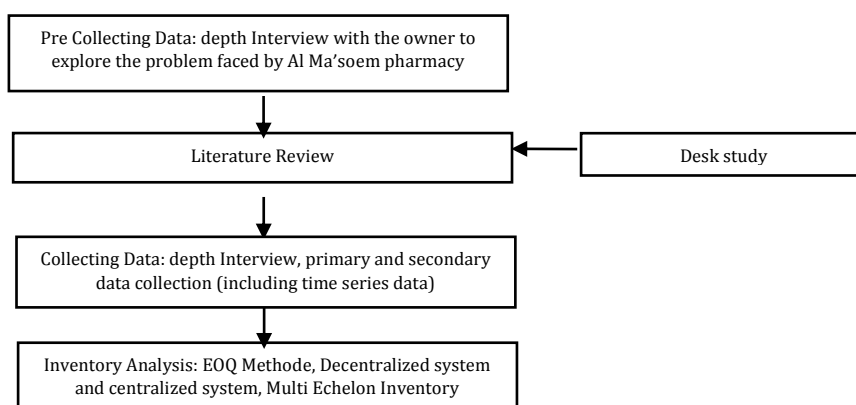
$d$  = average demand across all retailers

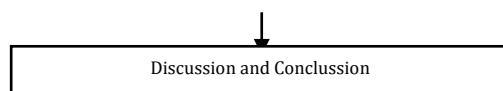
$z$  = safety factor which associated with the service level

$\sigma$  = standard deviation of aggregate demands accross all retailers

## METHODOLOGY

The methodology used in this research is shown by the picture below.





**Figure 1. Research Methodology**

To carry out the study, first we interviewed the owner of the pharmacy to find out the business problem that they faced. Next, we implemented desk study to do the literature review. The literature review was performed to find out the right method to solve the inventory problem faced by Al Ma'soem. The research was achieved using qualitative and quantitative method. The qualitative method was used to collect the data. Meanwhile the quantitative method was used to process and analyze the data. Since the data is very vast, we use Tableau software and Microsoft Excel program to process them, and then to analyze the data we conduct the EOQ method and multi echelon inventory technique to produce the needed information by Al Ma'soem in reducing their inventory cost.

### FINDINGS AND ARGUMENT

This research analyzed historical data of medical inventory in Al Ma'soem from Januari 2015 until May 2016 (17 months). Al Ma'soem currently has 16 outlet branch, and consist of 4.471 pharmacy's items in general, and for class A items the total is 1.400 items. To obtain categorization of the class, we perform the ABC classification technique. The distribution network in Al Ma'soem is following the two stage supply chain with one party supply many retailers. To generate the optimal solution for Al Ma'soem inventory problem, this study compares 3 inventory model, which are the existing policy in Al Ma'soem, the decentralized model using EOQ method and the centralized system using multi echelon inventory technique. In the existing condition, Al Ma'soem has a policy to have no stock in their warehouse. Thus stock is kept in each of their outlet branch and the warehouse become a temporary transit. The information to order comes from the *batmin* and *batmax* which are sent from each branch outlet. In decentralized system, the warehouse also did not keep the inventory and the purchasing information comes from the EOQ and ROP that the authors calculate using the EOQ method. Meanwhile, in the centralization system, safety inventory will be kept in the warehouse, we also use echelon lead time to calculate reorder point and the purchasing information comes from the centralized EOQ and ROP which we calculate using the multi echelon technique. To calculate the EOQ and ROP for each option, we use assumption that setup cost is Rp 5.000,- per unit per year, holding cost is 26 percent of the unit cost, service level is 95%, and lead time to order goods from outlet branch to the warehouse in decentralization system is one day, and for the centralization system the echelon lead time is four days, which is the addition of lead time from outlet branch to the warehouse (one day) and lead time of ordering goods from warehouse to supplier (three days).

After we evaluate the existing condition in Al Ma'soem we found out that in general their inventory level is in understock condition. However, if we look into the Class A items only then the inventory level condition is in overstock state. In the class A items, the gap is very high which is Rp 482.429.922,-. The situation shows that Al Ma'soem tend to invest more in items with high value. Even though, most of the top demand items are in the B and C class.

**Table 1. Overstock and Understock Condition in Al Ma'soem**

in Rupiah

Branch	TOTAL ITEMS		CLASS A ITEMS	
	overstock	understock	overstock	understock
1. Cibiru	71,320,180	- 410,240,491	62,123,313	- 103,616,351
2. Rancaekek	67,613,172	- 88,507,436	59,649,739	- 6,715,670
3. Cikalang	59,290,176	- 84,463,818	52,355,729	- 6,288,481
4. Ciburaleng	35,174,403	- 117,451,229	30,323,435	- 10,153,396
5. Dangdeur	62,104,336	- 64,932,069	98,753,879	- 4,718,976
6. Samoja	22,570,178	- 43,890,608	17,940,144	- 2,822,514
7. Jatiwangi	47,393,356	- 75,372,523	41,096,205	- 4,398,688
8. Cikancung	35,266,778	- 63,320,172	28,542,194	- 3,171,822

9. Majalaya	38,364,680	- 75,467,235	33,591,369	- 5,771,435
10. Cipacing	26,654,931	- 27,659,904	20,327,432	- 1,509,065
11. Kopo	53,570,217	- 80,015,728	44,249,687	- 4,631,115
12. Ciwidey	33,053,575	- 74,943,740	26,724,091	- 5,502,732
13. Patenggang	27,365,734	- 58,202,783	22,214,947	- 4,349,652
14. Rajamandala	21,127,356	- 31,078,023	15,980,559	- 2,861,714
15. Bojong	29,799,067	- 25,305,784	22,313,230	- 1,901,543
16. Arcamanik	87,453,702	- 86,144,710	82,127,191	- 7,016,773
<b>TOTAL</b>	<b>718,121,839</b>	<b>- 1,406,996,251</b>	<b>658,313,141</b>	<b>- 175,429,922</b>
<b>GAP</b>	<b>-</b>	<b>688,874,412</b>	<b>482,883,219</b>	

Regarding the inventory level, we compare the 3 options for items in class A only. The average inventory level (AIL) in the existing policy is Rp 1.224.224.046,-, meanwhile in the decentralized system using the EOQ method in each branch the AIL value is only Rp 843.060.725. If Al Ma'soem implement this option, then they are able to save 31% (Rp 381.163.321) from their inventory investment. In the centralized system using multi echelon inventory technique, Al Ma'soem will be able to save 47% or Rp 574.991.035. In the decentralized system, each branch will have their own safety stock and the total is 60.316 units, meanwhile in the centralized system, the safety stock is aggregated and keep in the warehouse only. Thus it can reduce the high inventory level in each branch.

**Table 2. Comparison of inventory level**

	Existing policy	Decentralized System	Centralized System with Multi Echelon Inventory Technique
<b>Safety Stock (units)</b>	-	60,316	58,588
<b>AIL (Rupiah)</b>	Rp1,224,224,046	Rp843,060,725	Rp649,233,011
<b>GAP</b>	Rp0	Rp381,163,321	Rp574,991,035

## CONCLUSIONS

To conclude, in general Al Ma'soem tend to invest more in items categorical as high value items which are in class A items, even though in general they are in understock condition. Saving made by reducing the inventory level in the overstock items can be used to invest in the understock items and other operational expenses. Meanwhile, if Al Ma'soem implement the policy in decentralized system, the company will be able to save 31% of their inventory cost, and if they implement the centralized system, the company will be able to save 47% of their inventory cost. The implementation of this option will be depended on Al Ma'soem decision, whether they will maintain the service level in their outlet branch or keeping the low inventory level to save the inventory cost.

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## **The Analysis of Influence Factors in Customer Repurchase Intention of Using C2C Marketplace in Indonesia, especially Java Island.**

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### **EXTENDED ABSTRACT**

The increasing number of smartphone users make company keep developing mobile apps to reach and maintain the consumers. However, there are two general issues for marketplace in mobile apps, trust and satisfaction. The research objective is to determine and to analyze the most important factors that influence consumer repurchase intention in using the C2C marketplace in Indonesia, specially Java. Survey by questionnaires were distributed to 394 respondents who have been used the C2C marketplace. The analysis methods apply descriptive analysis, confirmatory factor analysis and multi linier regression. The findings said that Service quality has influence to satisfaction. Satisfaction has influence to trust, meanwhile trust has influence to repurchase intention.

*Keywords: satisfaction, trust, repurchase intention, Indonesia, mobile shopping applications, C2C*

### **INTRODUCTION**

One of popular types of m-commerce that is boosting now is C2C-Marketplace type. Over the recent years, C2C (Consumer-to-Consumer) electronic market has increased rapidly and has become the most active segment of e-markets today (Rauniar et al. 2009). This type of M-commerce is identified by the availability of buy and sell platform that can be done by all people without any rigid verification (Cosseboom, 2015). Meanwhile, the competition of M-commerce marketplaces has been increasing lately, in order the company can sustain in the competition, they have to manage the customer repurchase intention in a good way. It is said by Cronin (2000) consumer repurchase intention becomes the key to the success of business globally. On the other hand, there are some issues appear in the M-commerce industry: trust and satisfaction. trust becomes an essential component in every study about e-commerce (Lee and Turban, 2001; Huang and Chang, 2004). Trust in sell-buy activity on the internet become consumer triggers willingness to repurchase the products. Meanwhile, there is still dissatisfaction of using shopping mobile apps. According to the official Facebook fan page, there are still a lot of complaint from apps users. The matters are the frequent error and unresponsive of the apps, payment issues, delivery verification, unhelpful customer service, and cancellation. The similar thing can be seen from review in Google Play. The examples complaint for C2C marketplace in google play : Crash, difficult to operate, slow loading, error in payment and log in, no filter for seller, late in delivery. This situation makes the consumer feels inconvenience and dissatisfaction to transaction via shopping mobile apps.

The dynamic condition of the market creates the providers of C2C marketplace mobile apps put much effort in developing the apps and in fixing the apps weaknesses. They want to create the apps which fulfils the customers need. However, there might be some issues since the customers repurchase intention are low which was unexpected by the company. It is essential to determine the factors that influenced the customers repurchase intention regarding of C2C marketplace mobile apps. There are two factors that might be affect the customers' repurchase intention, they are satisfaction and trust. The research aim is to analyse the influence factors in customer repurchase intention of using the C2C marketplace mobile apps in Indonesia. The results can be a good insight for the company in improving the apps quality and in rising the customer repurchase intention. The research applied in Java Island since 65% of internet user in Indonesia live in Java Island.

### **LITERATURE REVIEW**

#### **Mobile application variables**

The lack research of mobile application made this study applied website quality measurement as the indicators. The past research (Egeln, 2015) revealed three dimensions in evaluating the website quality: system quality, information quality, and service quality. Egeln (2015) stated that appearance and interactivity are the dimension of system quality. Information quality variable consists of informativeness and security. Meanwhile, the service quality contents of fulfillment and responsiveness. Delone and McLean (2003) defined system quality as "desired characteristics of an e-commerce sytem". It is found that appearance is an important factor that influence mobile commerce user satisfaction according to Wang and Liao (2007). Liang and Wei (2004) found

that the level of satisfaction during the use of mobile technology is affected by mobile business applications that involve interactivity. The hypothesis are follow: H1a: Appearance positively influence satisfaction and H1b: Interactivity positively influence satisfaction.

Information quality can be defined as the degree to which the user believes that the information at the website possesses the attribute of the content, accuracy, format (Rai et al, 2002). Palmer (2002) suggested a better information affect in more successful websites, or according to his research, it will increase user satisfaction. According to Branscum and Tanaka (2000), security or privacy has a significant influence on customers perception on website as well as their satisfaction with e-commerce. The following hypothesis is proposed H2a: Informativeness positively influence satisfaction and H2b: Security positively influence satisfaction.

Service quality measures the overall support related to the system delivered by online vendor (DeLone and Mc Lean, 2004). Egelin (2015) added responsiveness as a variable in the service quality which is influenced satisfaction. A research conducted by Lee and Lin (2005) found that fulfillment affects customer satisfaction. Hence, the following hypothesis are: H3a: Responsiveness positively influences satisfaction and H3b: Fulfillment positively influences satisfaction.

### **Satisfaction, Trust and Repurchase Intention**

Solomon et. al. (2007) define customer satisfaction as “the overall attitude that customers show during the purchase”. Different customers will show different satisfaction level as well, although they have similar experiences of buying in the same place (Ueltschy et al, 2007). The research conducted by Singh and Sirdeshmukh (2000) found that consumer’s post-trust level is directly influenced by the level of satisfaction. Coming up with the previous idea, (Suki, 2011) also stated that user satisfaction with the vendor positively related to user’s trust towards the vendor in m-commerce. The hypothesis, H4 : Satisfaction positively influence trust.

Trust is a crucial factor for build a relationship between seller and buyer. It help consumer avoid opportunist behavior possibility in the online transaction (Ranganathan & Ganapathy, 2002). Besides that, long-term relationship can be well maintained with the presence of trust (Ribbink et al., 2004). Choi and Park (2015) argued that trust is an important factor in influencing user repurchase intention. Thus, the following hypothesis is formulated: H5 : Trust positively influence repurchase intention

According to Hellier et al. (2003), repurchase intention is described as a person’s willingness to make another purchase after their previous buying experiences in the same company. Online repurchase intentions represent the customer’s self-reported likelihood of engaging in further repurchase behaviour (Seiders et al., 2005). the reasons why repurchase intention is crucial in online shopping is due to economically more advantages towards the marketer than constantly seeking new customers to purchase (Sheth & Parvitiyar, 1995).

## **METHODOLOGY**

This study is an applied research since the study developed to gather information from consumer about the behavior intentions of the C2C - marketplace mobile apps in Indonesia. A questionnaire was distributed through an online survey to collect quantitative data on consumer behavior and intention towards shopping mobile apps. This research uses judgmental sampling method to C2C - marketplace mobile apps user. This questionnaire uses two types of questions. The first is multiple choice questions to identify the demographic and behavior of the respondent. The second is a five-point Likert scale offered by this the neutral point being neither agree or disagree. Ranging by “Level of Agreement” from: (1) “strongly disagree”, (2) “disagree”, (3) “neutral”, (4) “agree”, and (5) “strongly agree”. Likert scale used to measure the relationship of each factor that has been explained in the theoretical framework. The targeted population of this research is Indonesian people who live in Java, male and female, who ever used C2C - Marketplace Mobile Apps, age 15-59 years old. Based on APJII 2016, the user of internet in Java Island is 86,3 million people. This research used non-probability sampling to select respondent to fill in the questionnaire. The criteria of respondents should be people who live in Java, age from 16-59 years old, have experience using C2C-marketplace mobile apps to buy a product. By using non-probability sampling, there were 538 questionnaires filled, but only 394 valid questionnaires that will be processed to statistical analysis. With population numbers above, sample of 394 respondents is enough to conduct a research with 95% level of confidence and 5% margin of error (Sekaran, 2003). The analysis methods were applied in this research : descriptive analysis, confirmatory factor analysis and multi linier regression. This study applied various measurement in purpose to achieve good analysis. Here are at table 1 is all the variables, indicators and authors.

## **DATA ANALYSIS**

### **Demography Profile**

Descriptive analysis was applied in analyzing the demography profile. The result said that 60.4% of the

respondents are female, 59.1% respondents have age in range 20 -24 years old and 27.4% in 15 – 19 years old. Most of the respondents are students (74.6%) with income every month is below IDR 2.5 million. The Indonesia shopping mobile apps that used by respondents are Tokopedia (68.8%), Bukalapak (44.7%), Shopee (28.2%) and Elevania (14.2%). The best three purchase product categories are fashion and accessories; electronic and gadget; beauty and treatment. The shopping frequency said that 74.1% of respondents do online shopping once in a month and 51% of respondents spend in range IDR 250.000 – 500.000.

#### **Validity and Reliability.**

Confirmatory analysis was conducted to tested each indicator. The Kaiser Mayer Oikin (KMO) result said the score exceeded 0,5 which mean the data was adequate. The next, analysis factor is reasonable if in the testing of multivariate correlation with Bartlett, Sig. is less than alpha 0,05, so it can be concluded that there is correlation between multivariate. Value Measure of Sampling Adequacy (MSA) above 0,5 shows that the data can be analyzed further. The reliability test result said that all of the variables can be counted on (alpha Cronbach value  $\geq 0,6$ ). In the other side, the extracted variance value above 50% means indicators can be said valid enough for each variable.

#### **Direct Influence Between Variables and Hypothesis**

In order to get clear view of the influence relationship and test the hypothesis the linier and multi regression analysis were conducted. The significant level must below 0.05 for the variables that have influence to the dependent variable and high beta score shown the great influence between variables. The result can shown in Table 2.

The appearance has not influence to the customer satisfaction, is the opposite of Wang and Liao (2007) finding that stated appearance is the importance factor in generate the customer satisfaction. Similarity with Interactivity and Informativeness which both of them have not influence the customer satisfaction. Liang and Wei (2004) found that “the level of satisfaction is affected by mobile business applications that involve interactivity”, this statement it is not appropriate with Indonesia customers. For interactivity results say the opposite with Palmer (2002) and Egelyn (2015), it means that users believe that mobile application only need to show the basic information of the products. Meanwhile, both fulfillment and responsiveness have the strongest influence to costumer satisfaction. Product becomes the main purpose of shopping through mobile shopping app and it is important to deliver the correct product which match the one showed in mobile shopping apps. In addition, security variable is one of the most importance factor in generate satisfaction. The satisfaction variable is clearly become the important factor for the customer trust, it is support analysis of Singh and Sirdeshmukh (2000). Furthermore, trust has an impact to the customers’ repurchase intention. This result also supports statement saying that trust is the most important aspect for Indonesian before deciding on purchasing again, as stated in exploratory research. This trust is represented in mobile shopping app features which make costumer satisfied, and these features can be developed more by the company.

#### **CONCLUSION AND RECCOMENDATION**

The survey indicates that trust is the variable with the strongest influence towards repurchase intent in mobile shopping app. Trust is deemed as an important aspect which affect someone in making a decision on whether to use the C2C-marketplace mobile apps again or not. Based on that, trust should be the main focus for the app provider. Satisfaction placed second as the factor that affect repurchase intent. Satisfaction is defined as function/feature/benefit which costumer experience when using mobile shopping app. Variable with the most influence for satisfaction is fulfillment. This means the importance to stress on aspects such as deliver order as promised, accuracy, and truthful about product offered. Responsiveness is the second factor that influence the customer satisfaction Respondents believe that mobile shopping app responsiveness is still lacking, and this fact is quite concerning. Based on previous research, responsiveness can be measured from the speed of response from the seller, provider which takes care of the problem promptly, convenient option for returning items to seller, and whether consumer can give feedback to the seller and provider or not. Since fulfilment and responsiveness variables have influence to the satisfaction, it can be said that service quality is the most important factor for customer in generates the customer satisfaction. Security is one of the aspects that affect repurchase intent. Security prioritize the safety of information and make sure it is free from any threats. This means that the developer have to guarantee that any information given by the costumer for any purposes while using the mobile shopping app is not going to be misused. The developer needs to minimize features which could increase risk and causing doubt, such as unnecessary public display of information. As for further research recommendation, there are several things that we recommend:

- Both male and female respondents are included in the study. There might be different results if the respondents are exclusively male or female only.



- The majority of respondents were from big cities in Indonesia. Further exploration in different areas can be held in more rural or combined areas to gain different perspective.

Respondents are using more than one brand of C2C-marketplace mobile apps. The result might be different if the research specified in only one brand mobile shopping apps only.

**Table 1. Research Measurement**

Variable	Label	Indicator	Author
Appearance	AP_Org	Organized appearance	Egelyn (2015)
	AP_Pict	Good Pictures	Yoo and Donthu (2001)
	AP_Attr	Attractive design	Fan et al (2013)
Interactivity	INT_Sear	Search tool	Fan et al (2013)
	INT_Acce	Accessible	
	INT_Anyt	Can be used anywhere and anytime	Suki (2011)
	INT_Fast	Load fast	Aladwani & Palvia (2002)
Informativeness	INF_Adeq	Adequately Information	Egelyn (2015)
	INF_Good	Good source of product information	
	INF_Sell	Seller Information	
Security	SEC_Safe	Safe transaction	Egelyn (2015)
	SEC_Feat	Adequate Security Feature	
	SEC_Priv	Keeps the personal information safe	
Fulfilment	FUL_Deli	Delivered as promised	Parasuraman et al (2005)
	FUL_Trut	Truthful about its offerings	
	FUL_Accu	Accuracy	Egelyn (2015)
Responsiveness	RES_Promp	Take care of problems promptly	Parasuraman et al (2005)
	RES_Retur	Convenient options for returning items	
	RES_Ready	Ready to respond	Egelyn (2015)
	RES_Feedb	Feedback	Suki (2011)
Satisfaction	SA_Choi	Right Choice	Choi and Park (2015)
	SA_Usag	Usage Satisfaction	
	SA_Prod	Product Satisfaction	
Trust	TR_Promi	Keep promises and commitment	Aren et al (2013)
	TR_Succ	Successfully complete the transaction	
	TR_Trus	Feeling trust	
	TR_Reli	Reliability	
Repurchase Intention	RI_Visit	Re-visit	Aren et al (2013)
	RI_Migh	Might buy again	
	RI_Repu	Repurchase	
	RI_Reus	Re-use	

**Table 2. The Hypothesis Testing**

Hypothesis	Path	F	Sig.	Coefficient			Result
				Beta	Sig	R2	
H1a	Appearance → Satisfaction	49.311	0,00	-0.041	0.343	0.506	Rejected
H1b	Interactivity → Satisfaction			0.022	0.657		Rejected
H2a	Informativeness → Satisfaction			0.049	0.296		Rejected
H2b	Security → Satisfaction			0.141	0.002*		Accepted
H3a	Fulfilment → Satisfaction			0.395	0.000*		Accepted
H3b	Responsiveness → Satisfaction			0.142	0.004*		Accepted
H4	Satisfaction → Trust	493.005	0,00	0.746	0.000*	0.557	Accepted
H5	Trust → Repurchase Intention	353.849	0,00	0.689	0.000*	0.474	Accepted

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## DEODORANT PURCHASE INTENTION OF GENERATION Y MALE

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### Abstract

Although male grooming market growth contributed to one of the highest in FMCG industry, deodorant sales growth is not as significant compared to other male grooming products. On the other hand, male Generation Y in Indonesia is a lucrative market as in 2016, it contributes to close to 10 % population of Indonesia with around USD 23.9 millions. This study explores Generation Y's male purchase intention towards deodorant. There are four independent variables which are used in this research to know whether those variables have positive influence towards deodorant purchase intention of Generation Y male. They are packaging, self-image, brand image and celebrity endorsement. This study aims to find out what are the most influencing factors in purchasing male deodorants in Indonesia and to give suggestion for companies on how to promote men's deodorant effectively in the future. A quantitative approach will be used by distributing a survey to male age 17 to 25 years old. A multiple linear regression analysis is conducted to determine which of the packaging, brand-image, self-image or celebrity endorsement has the most significant influence towards intention to purchase deodorant. As the result of the findings, packaging was found to have the most significant influence towards deodorant purchase intention of Generation Y male, followed by self-image, celebrity endorsement and brand image.

**Keywords::** Purchase Intention; Deodorant; Millennial; Generation Y

# **CUSTOMER INSIGHT: CUSTOMER SATISFACTION INDEX (CSI): BUS SERVICES ROUTE JABODETABEK – SOEKARNO HATTA INTERNATIONAL AIRPORT (SHIA)**

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## **EXTENDED ABSTRACT**

Marketing activities through e-marketing and mobile marketing technology phenomenon operated by online taxi players such as Grab and Uber have an impact on transportation sector, especially operators which serve Greater Jakarta / Jabodetabek (Jakarta, Bogor, Depok, Tangerang and Bekasi) area to and from Soekarno Hatta International Airport (SHIA). Operators were worrisome that the advancement of online taxis could ruin their market shares. Thus, finding on customer insight information is needed. Exploratory research which measures customers' perception and focus on Product Quality and ServQual applied in this research. A non-probability, purposive sampling, with 134 loyal bus customers with criteria who have made at least five times travelling in the routes within the last 12 months applied. Importance Performance Analysis (IPA) analysis which measures the relationship between customer perception and priority on increasing product or service quality applied. IPA combines the measurements of importance (degree of care) and performance (degree of satisfaction) in two dimensions which would make it easier to explain and describe practical suggestions. Customer Satisfaction Index (CSI) applied and scored 75.05 which means customers were satisfied, it was derived from the overall weighted score of five ServQual dimensions: tangibles, assurance, reliability, responsiveness, and empathy. This study concluded that even though CSI result was satisfactory, to defend and enhance the market shares new innovative marketing strategies were needed, including introduction of new technology in marketing and operational, a part of the task to increase overall quality of services to customers.

**Key words:** Service Quality, Customer Satisfaction Index, Airport Bus Transportation.

## **1. INTRODUCTION**

Proper implementation of marketing policies have become deterrents to the success of many companies. Customer oriented philosophy which could enhance closeness to customers needed to enhance demands from the targeted market segments for operators serving SHIA – Jabodetabek routes. Effectiveness in implementing marketing policies matters thus policies should be frequently updated following the market dynamics and controlled tightly, and firms should know parameters that could measure results of marketing implementation. The objectives of this research was to analyze insight to customers which focus on customer satisfaction index and to measure the degree of importance and performance analysis based on two variables: quality of service, and Service Quality (ServQual) with its five dimensions: tangibles, assurance, reliability, responsiveness, and empathy applied. Gaps analyses activities applied. The object of the research was individual, customers of operators at SHIA airport – Jabodetabek routes.

The scope of this research focused on effectiveness of marketing policies implementation of the operators obtained by interviewing customers who have travelled at least five times within the last 12 months using one of five operators serving the routes, the operators included: Perum Damri, Hiba Utama, Agra Mas, Sinar Jaya, and X-Trans. Thus this research was a snapshot of reflection of operators as perceived by their customers, and period of research was from January to June 2017.

## **2. LITERATURE REVIEW**

### **2.1 Product Quality**

According to Juran (1998) it is not easy to define the word Quality since it is perceived differently by the different set of individuals. If experts are asked to define quality, they may give varied responses depending on their individual preferences. These may be similar to following listed phrases. The word quality can be defined

either as; Fitness for use or purpose, To do a right thing at first time, To do a right thing at the right-time, Find and know, what consumer wants?, Features that meet consumer needs and give customer satisfaction, Freedom from deficiencies or defects, Conformance to standards, Value or worthiness for money. As for the operators serving the routes product quality matters a lot as it can be used as one of competitive tools in the market.

## **2.2 Service Quality (ServQual)**

Operators might want to know what customers (internal or external) care about. Service quality is one of prominent items, degree product quality also count. But for service providers, customers care most about is service quality. Parasuraman, Zeithaml, and Berry (1995) found five dimensions customers use when evaluating service quality. They named their survey instrument ServQual. In other words, if the bus providers get these dimensions right, customers will hand over the keys to their loyalty and they will have received service excellence. The ServQual items include:

- Tangibles: appearance of physical facilities, equipment, personnel, and communication materials.
- Reliability: ability to perform the promised service dependably and accurately.
- Responsiveness: willingness to help customers and provide prompt service.
- Assurance: knowledge and courtesy of employees and their ability to convey trust and confidence.
- Empathy: caring, individualized attention the firm provides its customers.

## **2.3 Importance Performance Analysis**

Martilla and James (1997) described importance-performance analysis, a method used to determine the effectiveness and consumer acceptance of marketing programs. According to them, marketers must first identify the key features of their marketing mix, using methods such as personal interviews, focus groups and managerial judgment. They noted that importance measures and performance should be kept separate from one another, also the ability to bring marketer's attention to aspects of a marketing program that need improvement.

## **2.4 Customer Satisfaction Index (CSI)**

Adapted from the American Customer Satisfaction Index (ACSI), CSI is a measure of how products and services supplied by a company meet or surpass customer expectation. They focus employees on the importance of fulfilling customers' expectations. Customer satisfaction scores and customer satisfaction indices are an attempt to measure how satisfied customers are with the performance of the company. The assumption being that the more satisfied a customer is the more likely that are to stay as a customer. A customer satisfaction index combines the customer survey scores from different business attributes to create a single customer satisfaction index that indicates the overall customer satisfaction. The main issue with this approach is determining how important each attribute is in driving customer satisfaction. At this research CSI Index was observe to analyze customers' perception towards quality of services provided by the operators during the transactions.

## **3. METHODOLOGY**

Methodology used for this research included qualitative and quantitative research, data obtained from desk research and surveys during the period of January to June 2017, it was a one shoot, cross sectional study, with a non-probability sampling, 134 samples were selected based on the subjective judgments of the researcher, with purposive sampling criteria i.e. customers who have at least five times travelling within the last twelve months using one of the operators. SPSS 22.0 version used for analysis and secondary data derived from textbooks, journals and websites.

## **4. FINDINGS AND ARGUMENT**

### **4.1 Market Environment**

Main target segment of the operators were individuals and families, looking for cheap affordable fares, middle to middle up income classes, frequent travelers as well as workers at SHIA area. The growth of demand during the period of 2009-2016 around 24%, and daily sales at around 30.000 seats. Since 2014 the Ministry of Transportation allowed operators apart from Perum Damri to serve SHIA – Jabodetabek route. A part from existing players: Perum Damri, Hiba Utama, Agra Mas, Sinar Jaya and X-Trans, there are other indirect competitors including online taxi operators such as Grab and Uber. This year SHIA railway link which connects the city center to commence. Range of fares from Rp. 40.000,- to Rp. 75.000,- one way. Other issue has been the increase number of the middle income class and ability in purchasing cars though through credits, environment conditions such as smoke and forest fire determine also demand. Since 2014 the Ministry of

Transportation changed its policy of floor price for low cost carriers, thus, fares for airlines nowadays not as cheap as before the policy was introduced, all these factors affect.

#### 4.2 Perceived Marketing Performance – Customer Satisfaction

Profile respondents: Proportionately distributed with total 134 loyal customers surveyed. 61% surveyed was male with ages range from 17 year young adult to senior citizen of 65 years old, 38% of them live in Jabodetabek areas and the rest from other cities.

##### 4.2.1 Gap Analysis

**Table 1. Gap Analysis Product Quality and ServQual**

Dimension	Performance	Importance	Gap (Performance - Importance)
Product Quality	3.78	3.60	0.18
Tangibles	3.94	4.24	-0.30
Reliability	3.63	4.77	-1.14
Responsiveness	3.77	4.41	-0.64
Empathy	3.86	4.18	-0.33
Assurance	4.15	4.28	-0.13
Average	3.85	4.25	-0.39

Source: Researcher, 2017

*Gap analysis* for dimension Product Quality and ServQual: Tangibles, Assurance, Reliability, Responsiveness, and Empathy, obtained:

1. In average the total average performance of operators was -0.39, below the customers' expectation.
2. The highest negative gaps obtained for dimension Responsiveness with -0.64, then for Empathy and Tangible each with score -0.32 and -0.30.

As for Product Quality indicators. Product quality do matters for the customers, its performance revealed that there were gaps, with the Degree of Advancement in Operation with gap -0.86, followed by Promotion Informative and Routes Vary with gaps -0.74 and -0.70, thus operators need to focus to rectify the situation.

##### 4.2.2 Degree of Importance

For the degree of importance out of the total score of 100 with five selected attributes the customers decided:

1. Knowledge of the crews was the most important point for the customers with score 22.34.
2. Physical appearance, equipment, crew, communication materials being second most important with score 21.77.
3. Ability for the operators to provide services as promised with score 20.36
4. Individual attention to customers 18.45.
5. Availability of the crews to help customers in serving them with the best 17.09.

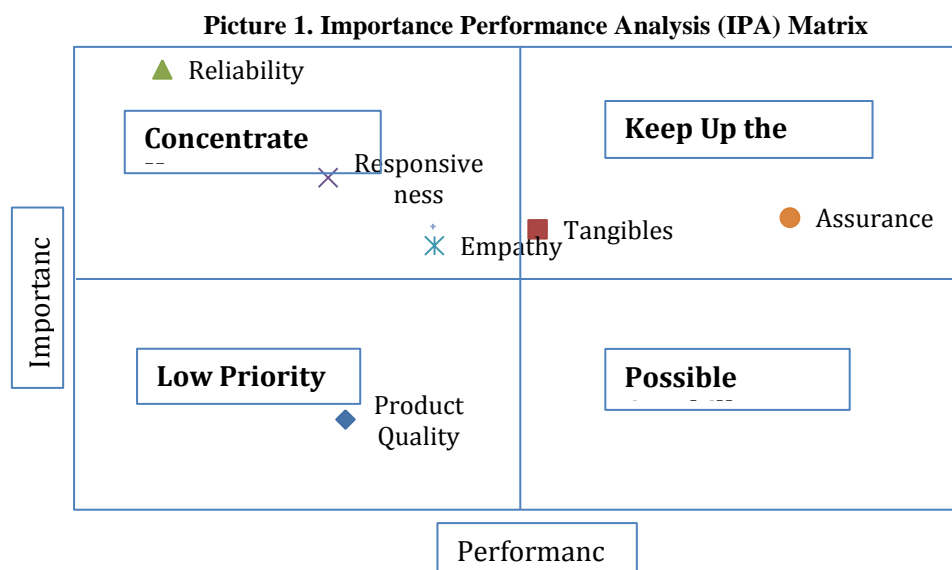
##### 4.2.3 Degree of Customer Loyalty

The measurement of degree of customer loyalty with the scale of maximum 7 (100%) obtained the following results:

1. Refer to other being the highest score with 83.24%
2. Friendliness with 80.11%, and
3. Customer orientation with 79.57%.

This result revealed that the customers tend to be loyal to the operators and they would refer others for purchasing. Other positive results included for friendliness and customer orientation provided by the operators.

#### 4.2.4 Importance Performance Analysis (IPA)



Picture 1 above revealed overall IPA results:

1. Quadrant 1 *Concentrate here* which means actions needed to be focused by the operators with three items *Reliability, Responsiveness and Empathy*. Thus the skills of the crews needed to upgrade.
2. *Tangibles and Assurance* were in Quadrant 1 *Keep up the good work* which reflected that physical evidence and assurance for safety have been in satisfactory performance and must be keep up for the performances.
3. Product quality in Quadrant 3 *low priority* which means it was not the main focus for customers, they felt that it was sufficient, though maintaining and upgrading product and services still important tasks for the operators.
4. No item located at Quadrant 4 *Possibly Overkill* which means strategies implementation of the operators have been sufficient, and no items which could contribute to customer dissatisfaction.

#### 4.2.5 Customer Satisfaction Index (CSI)

Overall score of CSI was 75.05 which means satisfied and reflected the overall actual performance as perceived by. The challenge has been to increase the CSI to minimum score 80.01 thus would satisfy the customers even better.

### 5. Conclusion

#### 5.1 Summary

1. Overall the performance of the operators still below the expectation of the customers. Microenvironments being the most affected. Marketing communication has been limited and system operational run manually social media applied limitedly, operational not yet applied with the IT and e-office advancement.
2. From IPA can be derived that the big gaps obtained for Responsiveness, Empathy and Tangible gaps. Thus strategies directed towards increasing HR skills needed. Nevertheless loyalty score revealed the loyal customers to refer others, and felt staff were friendly. CSI scored 75.05, satisfied, and need to increase the performance.
3. There have been other indirect competitors including Grab and Uber, plus other non-online conventional taxis as well as airport railway services to start soon would increase the threat and market segment. The increase number of the middle income class has increased the ownership of cars thus threatening the market shares.

#### 5.2 Recommendations

1. There is a need to socialization and implementation of ServQual campaign, a part from increasing Product Quality features. The increase on staff's skills which should focus on personal and other softskills can be introduced. Further, replacing old buses with new busses needed and this include on board facilities such as wifi and clean toilet. Quality Assurance which would tightly control bus operation in each operator needed for focusing towards better service establishment at the future, and with safety, timeliness, speed and accuracy philosophies.
2. Key Success Factors (KSFs) for the operators would be: Differentiation strategies on systems, people, product and place. Focus on Operational excellence: safety, comfort, timeliness, effective and cost efficient. Integrated Marketing Communication (IMC). Enhance HR through education / training / skills upgrading for crews.
3. As far as theoretical application concern Juran's Quality focus, IPA and CSI have been three tools most important, and can be widely use in other industries. Future research should focus on other aspects such as pricing sensitivity as there will be introduction of airport railway services by this year, secondly research on dynamic modelling of variant modes of transport, as well as the trending application of e-marketing for transport marketing.

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# A COMPETITIVENESS STRATEGY: INDONESIA TOURISM AS EMERGING MARKETS

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## EXTENDED ABSTRACT

*Competitiveness strategy through the charm of Indonesia tourism to develop travel tour packages especially domestic travel package which offers the beauty of Indonesia. The study aimed to attract and bring in foreign tourists to come and enjoy the charm of domestic tourism so as to contribute foreign exchange and economic growth, improve the welfare of the Indonesian people and improving the competitiveness of Indonesian charm tourism in the global tourism community. The tourism industry can generate enormous economic benefits both for the country, for the tourist spots, and for the country of origin of the visiting tourists. By utilizing the natural resources and human resources of the tourism sector in the territory of Indonesia can attract domestic and foreign tourists to visit and travel to the region. So that revenue from the region can increase and in line with the increasing economy in each region of Indonesia will increase economic growth. Indonesia is an emerging market country, which means that Indonesia is internationally recognized as a country with economic potential to be reckoned with.*

**Keyword:** tourism, competitiveness, economic growth, emerging markets

### 1. Introduction

Travel and tourism sector is expected to continue to grow by 4% per year faster than financial services, transportation and manufacturing. Despite slower economic growth in developed countries and geopolitical tensions in some areas, the travel and tourism sector still accounted for the bulk of the global economy (estimated to be around 9% of global GDP, or \$ 7 trillion) and employment, while the number of international tourists continues to rise. The report analyzes the performance of 141 countries through the Travel & Tourism Competitiveness Index (TTCI) and explore how the travel and tourism sector has to withstand economic shocks, safety and health over the last few decades. Understanding the nature and extent of the travel and tourism sector resilience to shocks is very important, given the importance of job creation, economic growth and development in developing and developed countries. Travel and tourism competitiveness index; Indonesia is in the order of 50 with index 4 with 5 the highest scale of 141 countries in the survey. (economy rankings, 2015) Now, Indonesia's Travel and Tourism Competitiveness Index shot up 8 ranks, from the top 50 in the world to 42. (World Economic Forum, 2017)

The role of tourism in the economy, in addition to contributing to the creation of output, also contributes to the amount of added value generated. For example the role of star hotels sector, trade sector and restaurant sector. (Suhendra, et.all. 2006)

The number of people on the move is unprecedented, with international tourist arrivals increasing from just 25 million in the 1950s to 1.2 billion in 2016. The changing attitudes towards travel, have enabled the travel industry to flourish. Travel is now within the reach of millions, combined with the growth of disposable income, the rise of the middle class in many emerging markets. The global middle class is forecast to grow by a further 3 billion people between 2011 and 2031, the majority of whom will come from emerging markets, with China and India leading the way. While travel is already booming in China, it is estimated that only 4% of Chinese nationals have passports. Similar trends are apparent in other emerging markets. What is clear is that these new travellers, like millennials and baby boomers before them, are looking for experiences. By 2030 most of the growth in international travel will come from Africa, Asia and the Middle East, which will enable further growth and job opportunities in these regions. Developing and emerging markets are not only becoming larger source markets, but are also improving their own travel and tourism offers to position themselves as more attractive destinations, thus helping their industries develop further.

Why should countries continue to enhance their travel and tourism competitiveness? Because the pie continues to get bigger. More people are travelling than ever before, with international arrivals expected to reach 1.8 billion by 2030. 12 of the top 15 most-improved countries are from developing and emerging markets, with at least one country from each geographical region featuring. (Travel and Tourism Competitiveness Report, 2017)

**Table 1. Top 15 Most Improved Countries**

Economy	Global Rank	Performance Change	Change
Japan	4	6.59%	+5
Azerbaijan	71	6.36%	+13

Tajikistan	107	5.27%	+12
Vietnam	67	5.04%	+8
Israel	61	5.03%	+11
Algeria	118	4.91%	+5
Bhutan	78	4.73%	+9
Gabon	119	4.68%	+5
Korea, rep	19	4.53%	+10
Egypt	74	4.51%	+9
Peru	51	4.09%	+7
India	40	4.02%	+12
Mexico	22	4.01%	+8
Chad	135	3.98%	+6
Albania	98	3.97%	+8

Source: world economic forum 2017. The Travel And Tourism Competitiveness Report

Between 2016 and 2026, the top 10 fastest-growing destinations for leisure travel spending are expected to be India, followed by Angola, Uganda, Brunei, Thailand, China, Myanmar, Oman, Mozambique and Vietnam. (World Travel and Tourism Council research, 2017) These shifts suggest that developing and emerging countries are catching up, providing better conditions to make their travel and tourism proposition more competitive and, therefore, becoming better prepared to attract and welcome the millions of new tourists who will travel for the first time in the coming decade. This growth in demand is here to stay. South-to-south tourism is on the rise and will continue to increase as these countries improve their competitiveness and develop their travel and tourism sectors.

**Table 2. Tourist Visits in Indonesia, 2013-2016**

Month	Tourist Arrivals 2013	Tourist Arrivals 2014	Tourist Arrivals 2015	Tourist Arrivals 2016
January	614,328	753,079	723,039	814,303
February	678,415	702,666	786,653	888,309
Maret	725,316	765,607	789,596	915,019
April	646,117	726,332	749,882	901,095
May	700,708	752,363	793,499	915,206
June	789,594	851,475	815,148	857,651
July	717,784	777,210	814,233	1,032,741
August	771,009	826,821	850,542	1,031,986
September	770,878	791,296	869,179	1,006,653
Oktober	719,900	808,767	825,818	1,040,651
November	807,422	764,461	777,976	
December	766,966	915,334	913,828	
<b>Total</b>	<b>8,802,129</b>	<b>9,435,411</b>	<b>9,729,350</b>	

Source: Indonesia-investment, 2017

Indonesia has interesting places for tourism, beautiful inland areas, cultural ruins and fascinating history, beaches, nightlife (Jakarta and Bali), and more. The country failed to attract large numbers of foreign tourists. Indonesia has reached its target of attracting 10 million foreign tourists by 2015, but this figure is much lower than the number of tourists visiting neighboring Singapore (15 million) or Malaysia (27 million), although Indonesia is more beautiful and attractive. So, what is hampering faster growth in Indonesia's tourism sector?

The above conditions lead to the conclusion that the research on A Competitiveness Strategy: Tourism Indonesia Charm is relevant. The purpose of this scientific paper is to analyse a competitiveness strategy of Indonesia's tourism.

## 2. Literature Review

### 2.1 Competitiveness Strategy

Competitiveness is an important factor in determining whether a company prospers, barely gets by, or fails. (Stevenson, 2005) Business organizations compete through some combination of price, delivery time, and product or service differentiation. Strategies are plans for achieving organizational goals. They provide focus for decision making. Strategies must take into account present and future customer wants, as well as the organization's strengths and weaknesses, threats and opportunities. These can run the gamut from what competitors are doing, or are likely to do, to technology, supply chain

management, and e-business. Organizations generally have overall strategies that pertain to the entire organization and strategies that pertain to each of the functional areas.

Government Regulation no. 50 of 2011 on the National Tourism Development Master Plan Year 2010-2025 and Law no. 10 Year 2009 on Tourism has clearly established various forms of tourism business whose management is solely aimed at the public interest and welfare of the community. And Law No. 10 of 2009 on Tourism in article 4 explains that tourism aims to: promote economic growth; Improve the welfare of the people; eradicate poverty; tackling unemployment; conserve nature, environment, and resources; promote culture; lift the image of the nation; foster the love of the homeland; strengthen the identity and unity of the nation; and strengthen friendship among nations.

Moraru (2011) stated that development and diversification of tourism services as strategic approaches are recommended by services intrinsic characteristics and are sustained by a series of considerations related to international context reshaping, influenced by economic instability and uncertainty, the possibility to increase tourism competitiveness, sector dynamics, fierce competition on tourism market, and also consumer behaviour changes.

Tourism as an industry, can be given an example by describing a person who travels. Someone who travels will do the activity; (a) require the services of a Travel Agent or Public Travel Bureau to obtain information on the Tour Package, Reservation, Tourist Destination, Ticket, Passport Arrangement, etc. (b) After completion of the travel document, taxi service is required to go to the Airport/Port, (c) After arriving at the destination, he/she requires transport to get to the hotel, (d) In the hotel he needs to eat and drink in a restaurant, (e) During in the area of destination, require a guide to guide him to tourist attractions, and need souvenir shop, (f) finally he returned to his original place.

Major players in the tourism sector are largely private sectors, as providers of services and controls while governments have an important role to play in making the necessary policy and legal guidelines for environmental conservation, provision of infrastructure and community-based management necessary for both economic and noneconomic purposes. (Sasongko, 2014)

Economic development of a country involves many sectors, tourism is one of the largest and strongest industries in the world that generate income for the people and the state. Tourism activities have become part of the life of the community ranging from the existing community in the city to the community in the village (Adirozal, Zulkarnain Harun, Year IV No. 6 July - December 2002). Many countries in the world that rely on the country's income from the tourism sector. Tourism activities will provide benefits for the community because of the opening of employment and economic equity.

## 2.2 Tourism

In Indonesia, the development and diversification of tourism destination will give a value added for tourism area and also will increase economic growth. The impact of tourism on the socioeconomic conditions of local communities can be categorized into eight major groups (Cohen, 1984), namely: income from foreign exchange, community income, employment opportunities, prices, distribution of benefits, ownership and control, regional development, government revenues.

Tourism is growing because of the human movement in search of something unknown, exploring new territory, seeking a change of atmosphere, or for a new journey. (Robinson, 1976 & Murphy, 1985) Tourism contains some basic features, namely: The existence of elements of human movement from one place to another (travel); The existence of an element of 'temporary residence' in a place that is not a normal residence; And the main purpose of the human movement is not to seek livelihood or work at the destination (Richardson and Fluker, 2004: 5)

Tourism is a social phenomenon, which concerns people, society, groups, organizations, cultures, and so on, which is the object of sociology studies. (Pitana & Gayatri, 2005: 31) Nevertheless, sociology studies have not been done for tourism. This is related to the fact that tourism is initially viewed as an economic activity, and the main purpose of tourism development is to gain economic benefits, both for the community and the region.

Tourism has an impact on the countries visited as well as the local communities. These impacts are positively affected and some are negatively affected. The existence of tourism in a region will bring tourists from within and from outside the region or even will bring in tourists from abroad. With the entry of foreign tourists, it would be very influential on the increase of foreign exchange. In the field of economy, the tourism sector will increase the income to the community so that the welfare of society will increase.

With the tourism sector, people can create new jobs so that the unemployment rate will decrease. But there is a negative side to the impact on employment in this community, ie the type of work is usually the type of seasonal work. So usually this seasonal worker only works at a certain time only and there is no guarantee to work next time. Tourism in a region will increase the prices of goods needs of society which would be detrimental to the community. Such price increases can occur

due to an increase in demand for services and goods from visiting tourists. To attract tourists or to increase the interest of tourists to come to visit places of tourism the government made various efforts. One such effort is the efforts undertaken in the field of development related to tourism, such as the construction of hotels, airports, and so forth. By doing so, the result is that the state must pay a small amount of money so that the cost that should be allocated for other purposes is reduced to carry out the development. Other impacts of tourism are rising air and water pollution, lack of water, traffic hustle and natural damage. Therefore the role of local people to continue to increase the attractiveness of the tourists is to maintain and preserve the natural environment.

Table 2. Indonesian Tourism Industry

	2016	2017	2018	2019
<b>Contribution to Gross Domestic Product (%)</b>	11	13	14	15
<b>Foreign Exchange Receive (Rp trillion)</b>	172.8	182.0	223.0	275.0
<b>Employment (million people)</b>	11.7	12.4	12.7	13.0
<b>Index of competitiveness (WEF)</b>	n.a.	40	n.a.	30
<b>Foreign Tourist Visiting (million)</b>	12	15	17	20
<b>Domestic Traveler (million)</b>	260	265	270	275

Source: Indonesia Investmen, 2016

One of the tourism objects that play a role in the economic development of the community in the local area and even on the economic development of the country is tourism in the area of Bali. The impact of Bali's tourism industry on the economic field of tourism in the area of Bali has created new employment opportunities, increasing the level of income and welfare of Balinese people, and increasing the country's foreign exchange. The impact on social spheres is that tourism that enhances social interaction between local communities and multicultural tourists has had an effect on certain Balinese lifestyles and social norms. The impact of the development of tourism has led to changes in patterns of public behavior towards education in a better direction, better economic life with the creation of opportunities for new jobs. The negative impact is the emergence of prostitution and increased crime in the vicinity of the tourist attraction. Another negative impact of tourism is the change of land use. For example, land originally used for agriculture, converted for the construction of hotels and often the need for land for the construction of tourism facilities and facilities resulted in the evictions of the population.

Tourism has been criticized for its destructive impacts on the local environment, society and culture, such as: abrasion on Jakarta's coastline, the dirty beaches of Bali and Lombok, the destruction of Bunaken and Komodo national parks, and vandalism in historical sites and cities such as temples in Yogyakarta and Java Central. It also appears that luxurious resorts, golf courses and marinas have been developed for the rich at the expense of the marginal and the environment. (Sasongko, 2014)

When developing a tourist area, it is necessary to know the travelers motivation to travel. Motivation to travel according to McIntosh (1977), namely: Physical or physiological motivation, Cultural motivation, Social motivation or interpersonal motivation, Fantasy motivation.

A type of travel decision that receives special attention in tourism research is the choice of a destination, probably due to the high importance for tourists compared to other elements of the travel decision (Fesenmaier and Jeng 2000; Oppewal, Huybers, and Crouch 2015). Choosing a destination is a complex process where only the result is visible in the form of tourist flows from a source market to a destination. Until a destination is finally chosen by a tourist it has to successfully complete several stages of the destination choice process. The reasons it is preferred to other alternative destinations during these steps are manifold, interrelated and depend on external as well as internal factors (Um and Crompton 1990).

### 2.3. Indonesia as Emerging Markets

Khanna and Palepu (2010) stated that emerging markets are not distinctly different from other markets; rather, they are simply starting from a lower base and rapidly catching up. They said the possibility to expand a company's progress in developing economies is to first asses the area's lack of institutional infrastructure—and then to formulate strategies around and call "institutional voids" to the firm's advantage. The primary exploitable characteristic of an emerging market are such voids, and though they create challenges, they also provide major opportunity both for multinationals and local contenders.

One way would be to describe emerging markets as simply "all those countries not considered developed". Developed here meaning essentially the major European countries plus USA, Canada, Japan, Australia and New Zealand. Ciravegna and Fitzgerald (2010) found that emerging markets are generating unprecedented opportunities, but they are far more complex and risky than they may seem. Profiting in these markets entails retooling business models, products, and strategies to exploit these differences, instead of falling victim to them. Too many American, European and Japanese companies continue to operate with a "developed world" mentality that seeks to merely adapt existing products and strategies, while underestimating the unique challenges of managing a business in radically different contexts.

The MSCI Emerging Markets Index is an index created by Morgan Stanley Capital International (MSCI) designed to measure [equity market](#) performance in global emerging markets. It is a float-adjusted market [capitalization](#) index that consists of [indices](#) in 23 emerging economies: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, [Turkey](#) and the United Arab Emirates. (Investopedia, 2017)

So, it can be said that emerging markets are undeveloped or under developed countries but have good economic conditions (have a stable financial system).

### 3. Conclusions

Tourism plays an important role in regional economic development or economic development of the country, because it can increase revenue and create jobs. With the opening of employment the unemployment rate of society can decline and the welfare of society increases. The quality of domestic tourist destinations needs to be improved so that foreign visitors are interested to spend their time in Indonesia. The highly level of competition in either local or global tourism industry motivates them to be responsive to the change in tourism tastes. To provide satisfying service, the tourism industry should be able to create an advantage as the key to win the competition in order to give a meaningful support to the Indonesian economic growth. (Liana, 2004) To develop the Indonesia tourism by understanding the true risks and challenges; identifying and investing the right resources; developing the right strategies, products, and processes; and learning from both the successes and failures that have come before. Indonesia is an emerging market country, which means that Indonesia is internationally recognized as a country with economic potential to be reckoned with.

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# THE IMPACT OF BRAND STORY ON TOZI COZY'S CUSTOMER ENGAGEMENT ON INSTAGRAM

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## EXTENDED ABSTRACT

This research compared the brand before and after implementing the story to their social media content in order to gain more customer engagement. In this case, author use a clothing brand that is Tozi Cozy Clothing. Expectantly, this research will help brands in knowing that brand story can boost customer engagement and help customers know their brand better. The objective of this study is to know whether a brand story influence customer engagement or not, since the customer engagement has all behaviors that lead to transactions, and may be explicitly defined as behavioral manifestations of a customer that have a firm focus or brand and beyond acquisition. The finding uses experimental design to gather data by conducting an experiment implementing brand story to Tozi Cozy brand, the before and after implementation result will compared using a table comparison. Results indicated that brand that has a brand story could boost the customer engagement

**Keywords:** *Marketing Research, Brand Story, Customer Engagament, Social Media, Online customer engagement*

## INTRODUCTION

Nowadays, Social Media and Technology of Internet bring huge impacts on business success (Bennett, 2012). It is one of the major tools to all business because it gives business to speak with, listen to, learn from all customers in specific way that never did before (Grewal & Michael, 2013; Smith & Wollan, 2011). Among the growing social media networks, Instagram has become of the top social media market tool. As of November 2016, Instagram has over 500 million active monthly users with an average of 95 millions and videos uploaded daily. With this growing popularity of this social media, company and it's brand are trying to find the unique way to tap the market in order to be stand out among competing brands. Today, Brands story has come up as a powerful marketing construct to catch the attention (Huang, 2010; Woodside, 2010). It helps to deeply understand about daily life experience and feel the environment emotion. Telling the brand story is really critical for a brand since by delivering the story, the customers can intensely know and understand about the brands, because stories are more easily memorized than facts (Allard, Lundqvist, Lilljander, & Gummerus, 2013). Further, customer engagement is how the brands create a relationship with customers by measuring the connection between the brand and its customers (McEwen, 2004). By managing the impact of a brand story can be the most compelling way to create the connection with consumers (Lin & Chen, 2015), and continuing the previous research, this study defines how engagement rate increase after the story implemented to the brand by conducting the experiment to a brand. The research objective is to measuse the influence of brand story towards engagement by comparing the customer engagement before and after experiment. The scope of this experiment is limited in comparing the engagement on *Tozi Cozy's* instagram and the populations of this study are the likes, comments and followers of *Tozi Cozy's* instagram.

## LITERATURE REVIEW

### Brand Story

Stories are the first form of communication (Cordiner, 2009) that described as one of the narrative information that help to deeply understand about daily life experience and feel the environment emotion. (Shankar, Elliott, & Goulding, 2001). According to (Huang, 2010), it is one of the best tools to engage, impress and entertain people. People are easily engaged and impressed to understand the world with story, therefore it becomes an effective marketing tool by communicating the brand and product meanings with customers (Huang, 2010). According to (Lin & Chen, 2015), Brand story is the communication of the brand and products meaning to customers by conveying the stories elements such as; origination, innovation, development, benefits, values and vision. Brand element defines as a brand's illustrative aspects such as colors, emblems, designs, logos etc. (Verma, 2002). Telling the brand story is really critical for a brand since by delivering the story, the customers can intensely know and understand about the brands, because stories are more easily memorized than facts (Allard, Lundqvist, Lilljander, & Gummerus, 2013). Comparing than the arguments and facts, many marketers mostly do with storytelling to deliver and create relationship with the target considering stories have more impact of inviting customers to use their imagination and used to differ their products with competitors (Lin & Chen, 2015). It's really powerful since it creates the strong relationship between brands and customers (Newstex Global Business Blogs, 2015).

### Customer Engagement

Several researchers have depicted the meaning of "customer engagement" in literature. In marketing literature, customer engagement related to several words such as "Brand Engagement", "Customer brand engagement", and "Consumer engagement" (Wilert & Suchart, 2014). Customer engagement has all behaviors that lead to transactions, and may be explicitly defined as behavioral manifestations of a customer that have a firm focus or brand, beyond acquisition,

motivational drivers result (Jenny, et al., 2010). All definition of customer engagement is being observed further in marketing term. Social media stated engagement see as uncomplicated two ways communicative act in online element (Evans & McKee, 2010; Harden & Heyman, 2009; Solis, 2010). While (Johanna , Veronica, Emil, & Minna, 2012) stated that Customer engagement is one big ideas that has emerged latterly to capture behavioral activities set of customers towards a firm. It lets the customers speak (Wang R. , 2011). While, the best approach to listen all their voices is by provide them chances to engage and have time to speak about the brand (Evans & McKee, 2010). Those opportunities that provided by the social media to create an explosion on interest in customer engagement seem to have excited practitioners in a broad variation of industries globally (C. M., 2012).

### **Instagram as Social Media**

Instagram depicted as a Facebook-owned mobile visual content sharing social network that focused on taking and sharing photos within a mobile application (Hellberg, 2015). This application can easily share the photos with friends. The most special feature is Instagram filter, which is an additional layer that added to the original photo and it gives the beauty and more professional look to the photo appearance. Despite, this apps also can edit the photos by adjust the brightness, enhance the colors and crop the unnecessary part. Established on October 2010, Instagram only needs 19 months to penetrate and grab 50 million users (Chang, 2014). After Instagram bought by facebook for \$1billion in 2012, Instagram users has tremendously increased and passed 500 million users on June 2016. (Rosoff, 2016). Today, this application is quickly becoming one of the fastest growing social media platforms on the Internet. The users have boost until 700 million users and it revealed that it's the fastest Instagram has ever added additional users (Heath, 2017). In Marketing world, Instagram refers to a certain of customers-oriented activities that created to boost the revenue of the brands and gain the competitive advantages through Instagram as a channel to communicate (Gong, 2015). Comparing with others social media, Instagram leads with 68 times more content engagement than twitter and 13 times more engagement than facebook. (PR Newswire, 2014). Today, Brands are using Instagram as one of their Marketing tool since Instagram produced "*Instagram for Business*" that designed for business profiles that differ with the regular profile. This feature gives the data insight towards their posts and helps the brands to deeply know their followers and customers better. (Vignisdóttir, 2017).

### **Brand Story in Social Media**

Every social media has their Unique Selling Point to help brand telling the stories, means each brands should analyze and adapt about the customers behavior that use different kind of social media in order to get deeply know about their characteristics and penetrate the market easily. By understanding which social media to be active in, brands will easily successful to communicate the Brand Story or Communication (Kaplan & Haenlein, 2010). Using cross-platform is also recommended since by using all social media platform can easily reach as many customers as possible, but with the different approaches and it will create a huge impact to the brand awareness of the brand itself. (Kaplan & Haenlein, 2010). Instagram offers a visual content sharing social network that can be shared with friends, and the important thing about instagram is the caption that become the root of user interest on this network (Simply Measured, 2014)). The first thing that brand should do in order to (Kaplan & Haenlein, 2010) be more effective is publish and depict the personality of the brand it self (Solis B. , 2011)). Second, identify the key users (Hellberg, 2015)). Brands should know the characteristics of brand's customers on the social media since it will impact to the customers' understanding. Last, brands have to publish the contents that fit and how much acceptable and wanted by the customers on each social media (Peters et.al 2013)

### **Brand Story and impact towards customer engagement**

Customer engagement represents how the brands create a relationship with customers by measuring the connection between the brand and its customers (McEwen, 2004). According to (Hollebeek, 2011), it leans on the content, brand relation and customer motivation in making decisions but on this study, Engagement depicted as the understanding of customers by liking and commenting also following the brands on Instagram (Hellberg, 2015). Brand story can easily convince more the consumers, generate positive feelings, boost brand trust, awareness and create the brand more unique also giving more engagement to the products (Kaufman, 2003; Kelley & Littman, 2006; Mossberg & Nissen Johansen, 2006), but it also depends on how interesting the content, it needs to contain some interesting story so it can engage more to the customers (Solis B. , 2011) (Walter & Gioglio, 2014). Brands should deeply know and understand about the content that really engage the customers' mind and creates a strong relationship with customers. By understanding the interesting content, it will impact to the positive feelings towards the brand (Kaufman, 2003). Brand story succeed when people's live is changed to be better because of the involvement of brand experience (Evans M. , 2015). The stories start to convey the brand value to the people and then it gives the exclusive voice to the business and finally it creates more engagement and makes the brand stand out compare than the competitors (Newstex Global Business Blogs, 2015)

## **METHODOLOGY**

### **Research Design**

The experiment divided into two parts, those are:

- Experiment without brand story  
Experiment started by creating the experiment without the story, this preliminary analysis is used to compare the

instagram content before implement the brand story and after implement the story. On this step, author will show the product on the photos and describe how to get the products by using the caption on instagram. This experiment will be conducted in 14 days by uploading one photo each day.

- Experiment using brand story  
After the experiment without brand story has been conducted then author implement the brand story to the content of @tozicozy's instagram. The Brand story begins by uploading the photo and video series that tell about the story of the upcoming products, author choose "Back to Nature" and "Forest Edition" as the story that will be delivered as an experiment. This story is chosen because it represents the characteristics of the founder and the brand message that he wants to deliver.  
The brand story and message that wants to deliver by the founder is persuade the customer to take a short break from the daily activities by escaping to the new place to refresh their mind from the hurly-burly city, author tells the brand message by wrapping the message in the form of photos and video series and upload it on Instagram for seven days. It started by uploading the first photo on 13<sup>th</sup> May 2017 and ended on 18<sup>th</sup> May 2017.

### Population

The population of this study is the engagement of the followers in the formed of likes and comments that occurred on the photos that have been uploaded to instagram of @tozicozy. Before implement the experiment, the followers of Tozi Cozy are 1593 and it increased after implement the brand story.

### Data Analysis

- Quantitative Data Analysis
  - Comparative Result  
Author will compare the result of the result after treatment has been implemented in each photo by showing the **table comparison**. The table will consist of likes and comment from preliminary analysis engagement and it will be compared with the result from brand story experiment engagement. From this table comparison, the author will look and analyze the changes from the total engagement from preliminary analysis to brand story experiment by using **growth rate formula**.

$$\text{Growth Rate Formula} = \frac{(\text{After}-\text{Before})}{(\text{Before})} \times 100\%$$

Formula above shows the change from preliminary analysis to brand story experiment in the form of percentage. It will be easier to determine the changes by using Growth Rate Formula since it's directly shows the changes. After calculating the change using growth rate formula, author analyzes the results by comparing how the brand story can impact to the engagement. Afterwards, author will deeply analyze and compare the impact of engagement to the sale of the products by comparing the sale on preliminary analysis and the sale on brand story experiment since it's stated that engagement leads to the transactions.

- Qualitative Data Analysis
  - Sentiment Analysis  
Author will ask their opinion about what they want to get deeply know about what customers want and the result from the followers will be analyzed further in order to deeply understand and proved whether the brand story impacts to the engagement or not. Author proves by interviewing the followers who likes posts the most. This interview leads the customers to give their perspective and opinion on the posts that uploaded by Tozi Cozy in their instagram profile. The result from the interview will be divided into three parts, which are **positive, neutral and negative comments** based on the keywords of how customers answer the question. Besides, this analysis will generate the insight for the brand and it can be used to improve the brand on how they tap the customers.

## FINDINGS AND ARGUMENT

Table 1. Table of The Increasing of Customer Enagagement

ENGAGEMENTS		
Before	After	Differences
53	113	60
74	78	4
52	107	55
74	83	9
85	90	5
85	73	-12
57	77	20



	60	71	11
	54	86	32
	82	82	0
	63	52	-11
	74	105	31
	80	72	-8
	92	63	-29
	91	89	-2
<b>TOTAL</b>	<b>1076</b>	<b>1241</b>	<b>165</b>
<b>Averages</b>	<b>72</b>	<b>83</b>	<b>11</b>

Engagement consists of total number of comments and likes on one individual instagram post or can be all instagram that has been posted at the same time as an established time period. From the table comparison above, we can see that the change of engagement is increased after the implementation of brand story. On the preliminary analysis, the average of engagement on the photos is 72 engagements and it increased after the implementation of the brand story become 83 engagements. The brand story influences 15.33% to the engagement itself. Since the number of likes and comments is sharply increased, the number of engagement is also increased, it also shows that the brand story not only impact to the number of likes and comment but it can influence positively to the engagement of instagram contents.

## CONCLUSIONS

There are six elements that need to be considered from instagram insights. Those are likes, impressions, comments, engagements, reaches and followers added. After comparing the preliminary analysis and brand story experiments, customers are more engage to the instagram content that has brand story.

People are tend to view, play (for video) and likes to the posts that have story on timeline, when they're seeing the posts, they usually open the profile page of the brands and seek also likes from the first post that contains the story.

After proving that brand story has more impact to the engagements, author try develop what story that really wanted by the customers by asking several questions. The results stated that customers are more engaged to the unique story and stronger character from the story itself. Brands should creates stronger and unique story that makes the customer involve and finally engage to the story that posted to instagram.

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# THE EFFECT OF ATTITUDE, SUBJECTIVE NORM, AND PERCEIVED BEHAVIORAL CONTROL TOWARD DIGITAL MUSIC PIRACY IN INDONESIA

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## EXTENDED ABSTRACT

Music piracy has been occupying ninety-five point seven percent of the music industry. Theory of planned behavior proposes that attitude, subjective norm, and perceived behavioral control can predict an individual's intention to perform a given behavioral activity. The objective of this research is to investigate how attitude, subjective norm, and perceived behavioral control affect the intention to digital music piracy. This study used a questionnaire that was distributed to 350 respondents in Bandung with purposive sampling method. Path analysis was used to explain the relationship between the exogenous and the endogenous variable. This study finds that all variables, attitude, subjective norm, and perceived behavioral control are significantly related to the intention to digital music piracy.

**Keywords:** : Customer Intention; Music Piracy; Path Analysis; Theory of Planned Behavior (TPB), Marketing

## INTRODUCTION

According to several researches [Ho & Weinberg, (2011), Sheehan, (2012), Simpson, et.al. (1994), Cesareo & Pastore, (2014)], digital piracy is the illegal copying / acquiring of copyrighted material. Digital piracy permeates all online media, with the greatest impact on the music, movie and software industries. The advance of the Internet makes content sharing easier, included music. Currently, music in Indonesia, the illegal download has taken the majority of the music market. To eradicate illegal download behavior, there is a need for conducting a study to investigate the antecedents of music illegal download behavior. According to the Recording Industry Association of Indonesia, since 2007, pirated music industry has mastered the 95.7% of the market. The number of piracy of music caused the industry losses of Rp4 trillion (US\$279 million) annually based on the Indonesian Association of Artists, Singers, Composers and Recording Businessmen (PAPPRI) in 2013. They are losing materially for the absence of the appreciation of their contribution to Indonesian music industry.

Previous researches have shown that consumer's attitude on piracy affects purchase intention. Theory of Planned Behaviors (TPB) is appropriate to investigate the illegal download intention. TPB proposes that attitudes, subjective norms, and perceived behavioral controls can predict an individual's intention to perform a given behavioral activity. Research in consumers attitude toward intention of online music piracy has been done in Sapienza University of Rome, Rome, Italy using a structural equations model (Cesareo & Pastore, 2014) and conducted to a college student at Illinois State University (Taylor, 2012). The previous research that adopted Theory of Planned Behavior in digital piracy has been done for undergraduate students in China (Yoon, 2010) and college students in Western Australian University (Liang & Lwin, 2014). In Indonesia, a research has been done in a large private university using a convenient sample. The study in Indonesia focuses on the demand side by investigating the impact of moral equity, relativism, and attitude on consumer piracy behavior in Indonesia in Yogyakarta (Porto, 2015). In the research. Theory of Planned Behavior was used to suggest a combination of attitudes, subjective norms, and perceived behavioral controls to understand the intention of the individual to perform a given behavioral activity. The indicator of behaviour target being shown is the behavioral intention (Ajzen, 1985). Therefore, the purpose of this study is to investigate whether consumer attitudes, subjective norm, and perceived behavioral control are significant toward online music piracy.

## **LITERATURE REVIEW**

### **Theory of Planned Behavior**

According to Ajzen (1991), planned behavior theory tells us about how rational one's behavior to always think about the consequences before taking actions. The theory also mentioned three root factors that are relevant to the behavior: the attitude toward the behavior, the subjective norm, and the perceived behavioral control. The planned behavior theory often applied to some studies of dishonest actions for instances a study of lying, cheating, and shoplifting by Beck and Ajzen (1991). The argument was used in the research by the context of socially unacceptable behaviors.

### **Attitude**

Attitude is the standard of favorable or unfavorable over a person's behavior. In other words, if an individual is favorable for a particular behavior, he or she is more likely to be engaged in the behavior and moreover to do it. The person's view whether it is favorable or unfavorable toward the behavior is based his or her belief toward the future consequences of the behavior. For piracy, it is to what extent the person favors or disfavors piracy (Yoon, 2010).

### **Subjective Norm**

Subjective norm come from another person's view that often becomes pressure to the individual in his or her particular behavior. The person is more likely to engage in behavior or do the particular behavior if he/she is given more social pressures. Subjective norm is usually generated by assessment throughout the social pressure received from the individual's social circle for instances parents, friends and other figures (Ajzen, 1985, 1991). About piracy, the subjective norms are the social pressures in which the individual notices that force him/her to involve in piracy in regards to his/her parents, friends, and other people's view.

### **Perceived Behavioral Control**

According to Ajzen (1985), perceived behavioral control is an individual's belief about the person's ability to do a particular behavior. Behavioral control of piracy is to which extent a person sees his/her capability to do piracy.

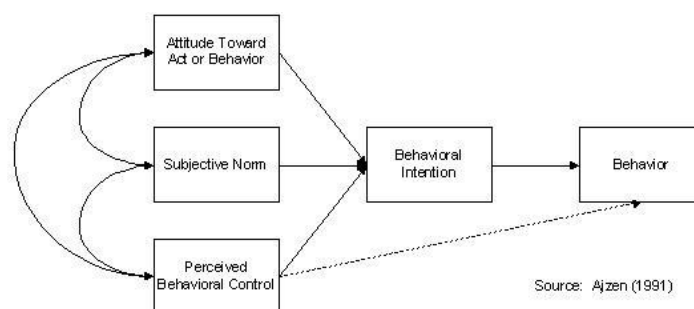
### **Digital Music Piracy**

Weijters, et.al. (2014) defines that online music piracy as the act of getting any music document that people do not have a legitimate appropriate to have. Online music piracy comes in two forms those are illegal acquiring music through decentralized Peer to Peer administrations like Lime Wire and confined document sharing to other people through distributing of music material. Relativism influences when purchasing illegal software, yet its impact on buys illegal duplicates of CD is insignificant. Relativism just fundamentally influences the purchase of pirated programming, however, the other way while it has failed to achieve significance for illegal music CD.

### **Intention to Download Music Illegally**

As stated in planned behavior theory by Ajzen (1985), an individual's real control of a certain behavior is when he or she is given an opportunity to do so. The particular intention is defined as the direct reason that will affect the real action. This research will focus on illegal music download behavior that was impulse by the intention towards digital music piracy.

This research focuses on the behavioral intention to pirate digital music that affected by factors, such as attitude, subjective norms, perceived behavior control. The three elements will be tested whether they have an impact on behavioral intention to digital music piracy.



**Figure 1 Theoretical Framework**

#### Hypotheses :

H1: There is a significant relationship between one's attitude toward digital music piracy and the intention towards music piracy.

H2: There is a significant relationship between subjective norm toward digital music piracy and the intention towards music piracy.

H3: There is a significant relationship between perceived behavioral control toward digital music piracy and the intention towards music piracy.

### METHODOLOGY

The number of samples in this research is based on Maximum Likelihood. Hair, et al. (2006) stated sample size in the range of 150-400. This study used 350 data to measure the constructed model. For the sampling method, this study used the purposive sampling method and targeted people who are familiar with digital music piracy from their mobile phone, laptop, or computer. The methodology used in this research is a quantitative method. To gather the data this study used online and offline data. Google Form platform was used to gather online data while to collect offline data the questionnaire will be distributed to internet users since April 2017.

The questionnaire in this research is divided into 5 sections: digital music piracy knowledge, attitude, subjective norm, perceived behavioral control, and behavioral intention. The digital music piracy knowledge was measured by seven questions. The attitude was measured by four questions. The subjective norm was measured by seven questions. The perceived behavioral control was measured by four questions. The Behavioral Intention to acquire music illegally was measured by four questions. The total questions are 32 questions.

For the data validation method, this research used Validity, Reliability, and Critical Path Analysis. For the validity, researcher used Spearman rank-order correlation coefficient as the data was classified as ordinal to measure validity. For the Path Analysis, the exogenous variable is Attitude (X1), Subjective Norm (X2), Perceived Behavioral Control (X3). The endogenous variable is a behavioral intention towards digital music piracy (Y1). The value of Y1 is stated with regression in this equation:

$$Y1 = b0 + b_1X_1 + b_2X_2 + b_3X_3 \quad (\text{Equation 1})$$

### FINDINGS AND ARGUMENT

After gathering data from 353 respondents, researcher found out that 13 of them never performed digital music piracy while 340 respondents had performed digital music piracy before. From the respondents profile, most of the respondents are female, 18-24 years old, they were getting music from downloading on the internet from Youtube Downloader because it is the easiest way. The total mean of digital music piracy knowledge is 2.99 in a moderate level. For the validity and reliability, one of the attribute in attitude (A1) variable is not valid (0.316), so the attribute is eliminated from the variable. Variable attitude (A) is not reliable since the value of 0.397 is unacceptable. The validity result for the attitude variable is also increasing since one of the attributes eliminated. Other variables are valid and reliable.

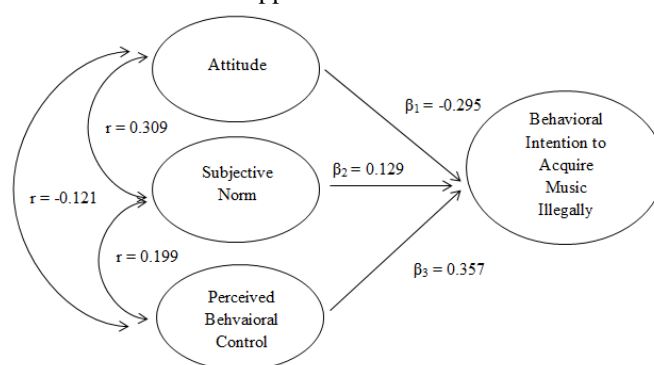
For the descriptive analysis, the total of attitude with 3.20 indicated that respondents' current attitude towards digital music piracy was in moderate level. The mean of the subjective norm with 2.96 indicated that the social

pressure for pirating digital music with high involvement was in moderate level. The mean of perceived behavioral control with 3.59 indicated that the perceived of ease or difficulty or reflection of the experience of people toward the participation to pirated music digitally was in favorable level. The mean of behavioral intention with 2.69 indicated that the behavioral intention towards piracy was in moderate level.

In the multiple regression analysis, it indicates that attitude, subjective norm, and perceived behavioral control is simultaneously contributing to a value of 24.8 percent.  $\beta$ -values for each variables has standardized coefficient that will be explained are: attitude with  $\beta = -0.295$ ; subjective norm with  $\beta = 0.129$ ; perceived behavioral control with  $\beta = 0.357$ . The structural equation after the calculation will be explained below:

$$Y1 = 7.097 - 0.295X1 + 0.129X2 + 0.357X3 + \varepsilon \quad (\text{Equation 2})$$

The Equation 2 show that the constant depicts in the regression model. It resulted in positive and negative number, representing that not at all of the exogenous variables contribute to the value of Y1 or behavioral intention as the endogenous variables. The beta value is a measure of how strongly each predictor variable influences the criterion (dependent) variable. For attitude, the beta values is negative that means the lower someone's attitude the greater the behavioral intention to pirated digital music for 0.295 with assumption all of other variables are constant. For subjective norm and perceived behavioral control mean that; for every 1 value increase in subjective norm and perceived behavioral control, the intention will increase for 0.129 and 0.357. For correlation variable, the correlation between attitude and subjective norm is in moderate level; subjective norm and perceived behavioral control is in weak level; attitude and perceived behavioral control are minus which indicates that both variables move in the opposite direction.



**Figure 2 Adjusted Path Model**

For the path model, it indicates the direct impact of attitude, subjective norm, and perceived behavioral control are bigger than the indirect impact. The total effect of three exogenous variables toward behavioral intention is 0.251 or 25.10 percent. For the impact of attitude toward behavioral intention, it can be seen from the result that the impact of attitude towards behavioral intention is higher when it occurs directly. It is better to formulate a strategy from the attitude towards behavioral intention without subjective norm and perceived behavioral control as mediating variables. For the impact of Subjective Norm towards Intention, it can be seen from the result that the impact of subjective norm towards behavioral intention is higher when it occurs directly. It is better to formulate a strategy from subjective norm towards behavioral intention without the attitude and perceived behavioral control as mediating variables. For the Impact of Perceived Behavioral Control towards Intention, it can be seen that the direct impact of perceived behavioral control towards intention is higher than its indirect impact. It indicates that perceived behavioral control works better when it affects the intention directly. As can be seen that between Attitude and Subjective Norm has moderate correlation, between Subjective Norm and Perceived Behavioral Control has weak correlation and between Attitude and Perceived Behavioral Control has negative correlation with weak level. The effect of the variables attitude to behavioral intention has negative with moderate level, while subjective norm to behavioral intention has weak level, and perceived behavioral control to intention has moderate level. The strong correlation in this study is attitude and subjective norm, where a person's attitudes have a strong correlation to social perceptions that pressure a person to do or not to engage in a behavior in a statement. The strong effect shown by perceived behavioral control and behavioral intention, how a perception of the ability of self to supervise and supervise individual behavior to download online music illegally.

Based on these results, the less attitude an individual has towards digital music piracy, the more likely he or she to engage in illegal music download. While subjective norm is proven that it has significant relationship with intention as the social pressure, value and norms that are developed around an individual whether they are favorable or unfavorable towards digital music piracy will affect an individual's decision to download music illegally. Lastly, perceived behavioral control also shows that an individual's capability to control and supervise himself to do piracy will affect one's act to do music piracy or not.

For attitude, subjective norm, and perceived behavioral control this condition supported the research in digital music piracy in several countries such as Italy (Cesareo & Pastore, 2014)), Indonesia (Yuniarsih, 2010)), United States and Korea (Sang, et.al., 2014), China (Yoon, 2011), Australia (Ian, et.al., 2014). The attitude's value of preceding research has negative value, except the study from Korea (Sang, et.al., 2014). The other variables supported the research with positive value.

## CONCLUSIONS

The positive score in the relationship shows in variable attitude to the subjective norm and subjective norm to perceived behavioral control, while variable attitude to perceived behavioral control has a negative score but still significant. It can be concluded that all hypotheses of this research are supported. Perceived behavioral control is a more influential factor in pirating digital materials. It means that individuals who have the skills and resources to pirate digital music have a higher intention of pirate digital music.

For practitioners, this study has the advantage to give information about the perception of ease or difficulty in pirating digital music and assumed to reflect on experience and factors that facilitate or complicate the implementation of a behavior and perception of the strength of these factors that called perceived behavioral control towards digital music piracy. It is recommended for practitioners to strengthen the level of attitude and subjective norm of society toward digital music piracy. Digital music piracy is affecting music industry, government, and musician. The music industry can make a strategy to increase people behavioral control to reduce digital music piracy. For practitioners in government, it is recommended to rebuilding strong regulation toward digital music piracy. Other than that, the government should make anti-piracy campaign and give punishment for internet user who pirates digital music.

For further research, this study can be analyzed for a larger scope of the study. Further research should be tested with samples from a wider range of populations. This study opens a new opportunity for research to carry out different or larger number of independent variables which are potentially affecting the behavioral intention toward digital music piracy. Other than that further research may examine the differences between music piracy for end user purposes and commercial uses. This study will help government and music industry in developing more detail strategy in facing the digital music piracy in the world, especially in Indonesia. It is recommended to use mix method (quantitative and qualitative method) to gain more information from respondents and to get more accurate result.

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## THE EFFECT OF SERVICE MARKETING MIX TO INTENTION TO VISIT SHELTER CAFE & BAR BANDUNG

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### EXTENDED ABSTRACT

While the number of nightclubs keep on increasing, Shelter Cafe & Bar is currently having a decreasing visitor number for the last six months which causing decline of their sales and profit. The purpose of this study is understand the customer intention toward visiting Shelter Cafe & Bar Cafe & Bar and its relationship with service marketing mix. Using quantitative method, researcher used questionnaire to collect data that will be spread to 365 respondents. After the data gathered, researcher will check the validity and reliability using Pearson and Cronbach Alpha, after the data are valid and reliable, the data will be analyzed by Multiple Linear Regression. The outcome of research will be proposed to Shelter Cafe & Bar to improve their service marketing mix in order to increase the visitor number.

**Keywords:** : Service marketing mix, visiting intention, Shelter Cafe and Bar, Bandung

### INTRODUCTION

Being a young people facing many problems and boredom, these young people often go to a nightclub to relieve their stress and boredom. Nightclub become a destination for people who have nothing to do and want to find some new friends to express their self. Thus, nightclub become a potential business in Bandung. In 2014, there are over 40 nightclubs in Bandung and the number is increasing. Nightclubs in Bandung have become a nightlife destination for students and professional, with approximately 500 visitors every night from Monday to Thursday and Sunday, and 800 visitors every night on Friday to Saturday.

Shelter Cafe & Bar become popular among young. Based on interview with the owner, although Shelter Cafe & Bar is popular among young people, it is found that the total visitors in this top nightclub has been declined for the last 6 months, causing sales and profit to be declined as well. In the middle of growing number of nightclubs in Bandung and young people lifestyle choice towards nightlife, it is important to analyze the cause of visitor declination toward Shelter Cafe & Bar Bandung, the customer intention toward visiting Shelter Cafe & Bar, and its relationship with service marketing mix to propose a recommendation marketing strategy that could be implemented in Shelter Cafe & Bar to increase their visitor rate and numbers. There are many factors affecting the visiting intention, service marketing mix also become one of the factor that influence the visiting intention. It was proven from Dang (2014); Chung (2011); Hao (2011); Lin (2011); Ryu (2011); Kukanja (2017); Ha (2011) said that service marketing mix influence visiting intention. Therefore, researcher use 7P's for this study.

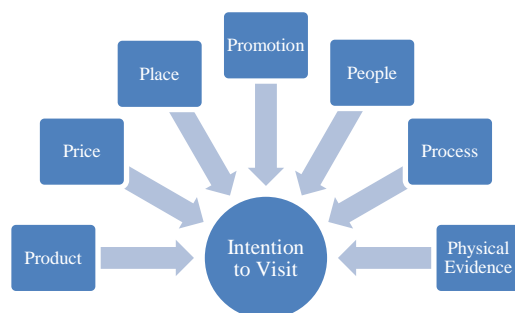
### LITERATURE REVIEW

Marketing mix is a tool to transforming the marketing strategy into action. The 7P's approach are talked about an extended 4P's which are Price, Product, Promotion, Place, Process, People and Physical Evidence (Ivy, 2008). Marketing mix is about putting the right product in the place at the right time and at the right price. If the 4P's being modifies become 7P's, it means that it's focused on the service industries (Acutt, 2015).

Product is divided into three levels, those are core product, actual product, and augmented product. While price element of the service marketing is amount of money that a customer had to pay to enjoy the service or product. Place refers either to the physical location where a business carries out business or the distribution channels used to reach market. Promotion are commonly divided into three parts, those are public relation, advertising and sales promotion. Having all those four marketing mix is not enough, for service business the key role is on the people or the employee of the company. It was also supported with the process that refers to a set of activities to deliver the product benefit. While physical evidence pertains also to how a business and its products are perceived in the marketplace. Having known all the aspects in 7P's is important since 7P's might be the factors that affecting customer visiting intention.



Customer visiting intention is a part of behavioral intention. Behavioral intention is a user's readiness to carry out a particular behavior. Behavioral intention reflected the individual's like hood of engaging in the behavior of interest. Intentions are produced when beliefs about the behavioral consequence of the action and social normative beliefs are considered and integrated to evaluate alternative behaviors and select among them. So visiting intention is a particular behavior that trigger customer to do particular things like visiting the place.



*Figure 1 Relationship between Service Marketing Mix and Intention to Visit*

Figure 1 shows the relationship between Service Marketing Mix and Intention to Visit. Thus, there are seven hypotheses for this research, such as:

- H<sub>1</sub>: There is a significant relationship between product and intention to visit.
- H<sub>2</sub>: There is a significant relationship between price and intention to visit.
- H<sub>3</sub>: There is a significant relationship between place and intention to visit.
- H<sub>4</sub>: There is a significant relationship between promotion and intention to visit.
- H<sub>5</sub>: There is a significant relationship between people and intention to visit.
- H<sub>6</sub>: There is a significant relationship between process and intention to visit.
- H<sub>7</sub>: There is a significant relationship between physical evidence and intention to visit.

## METHODOLOGY

We use a cross-sectional survey to visitor of Shelter Café & Bar. The data are collected in May 2017. Overall, there were 365 visitors participated in the survey. The sampling method employed was non random sampling, which is convenience sampling.

The questionnaire contain of two parts. The first part is respondent characteristic which consist of several information of the respondent that include gender, age, geographic (Bandung or Non-Bandung), and social media that the respondent use in daily life. While the second part is focusing on the visiting intention and marketing mix which are product, price, promotion, place, people, process and physical evidence that influence behavioral intention to visit shelter. The questionnaire will be distributed in Bahasa Indonesia and 7-point Likert scale (ranging from (1) "strongly disagree", (2) "disagree", (3) "likely disagree", (4) "neutral", (5) "likely agree", and (6) "agree", (7) "strongly agree") will be used as an assessment by the respondents to rate the variables for each question.

For the first section, there will be 3 questions about customer visiting intention that were adopted from Tung, 2014; Chang, 2013. Then continue with product section, there will be 6 question that was adopted from Kukanja, 2017; Ryu, 2011; researcher observation, price section with 4 question that was adopted from Kukanja, 2017; Lin, 2011; researcher observation, place section with 5 question that was adopted from Kukanja, 2017; Lin, 2011; researcher observation, promotion section with 11 question that was adopted from Kukanja, 2017; Lin, 2011; researcher observation, people with 6 question that was adopted from Kukanja, 2017; Ryu, 2011; Lin, 2011, process section with 4 question that was adopted from Lin, 2011; researcher observation, and the last is physical evidence section with 15 question that was adopted from Kukanja, 2017; Ryu, 2011, Lin, 2011, researcher observation.

Data analysis will be use a correlation analysis for the data that have been gathered from the questionnaire. First the data should be valid and reliable using Pearson Correlation test and Cronbach Alpha test, then compiled into Microsoft Excel then analyze the Multiple Linear Regression that calculated by IBM SPSS Statistic.

## FINDINGS AND ARGUMENT

After spread 365 questionnaires, the questionnaire was divided into 2 part which is respondent's profile, customer visiting intention and 7P's Marketing Mix. The findings from respondent's profile is from 365 respondents, the majority that visit Shelter are Male. 200 respondents (54.79%) were male and 165 respondents (45.21%) female. The age of respondents are diverse. On average, the respondent's age is 20.64 or between 20 - 21 years old. While for the geographical, 321 respondents (87.95%) claimed that they currently live in Bandung, and 44 respondents from Jakarta (12.05%). While respondents social media use also diverse. All respondents use more than one social media, those social media used are Path, Instagram, Facebook, Line, and BBM for daily usage.

For the next section is about customer visiting intention. The average score of customer visiting intention is 4.24 which is favorable. After this section, the questioner more focus on 7P's Marketing Mix which are breakdown into several question. The average score of Product variable is 4.83 which is also favorable. While the average score of Price variable is 5.81 which is favorable. The next variable is Place, the average score of Place variable is 4.91 which is favorable. While the Promotion variable average score is 3.21 which is unfavorable. The next variable is People, the average score is 5.52 which is favorable. While Process variable had average score of 4.70 which is favorable and the last variable is Physical Evidence variable with average score of 4.63 which is also favorable among these variable, the most favorable is Price variable and the least favorable or the unfavorable variable is Promotion.

After finding the average score of each variable, the next step is validity test using Pearson Correlation and reliability using Cronbach Alpha. For visiting intention validity, all variables are valid which is above 0.3 so the variable of visiting intention are deemed valid, while for the reliability score using Cronbach Alpha is 0.838 which is above 0.700 which is passed the reliability test. 7P's Marketing Mix also analyze using those test and the result of Product is there are only 3 attribute that valid which are PRO6, PRO7, and PRO8 while for the reliability test the score is 0.696 which is not reliable. In Price variable, only 3 out of 4 was succeed during validity test which are PRI1, PRI3, and PRI4 but Product variable also did not succeed on reliability test with score of 0.567 or categorized poor. For Place variable, variables which are valid are PLA1 and PLA2, while the reliability score is 0.739 which is reliable. For Promotion variable, there are only 3 attribute out of 11 which deemed valid which are PROMO1, PROMO2, and PROMO3, and those attributes also deemed reliable since the score is 0.797. For People variable, the attribute that deemed valid are PEO1, PEO4, PEO5, and PEO6, but those attributes did not succeed on reliability test with score of 0.629. For Process variable all attributes deemed valid but not reliable since the score of Cronbach Alpha is 0.560. The last is Physical Evidence, from 15 attributes, there only 5 attributes that succeed during validity test which are PE11, PE12, PE13, PE14, and PE15 and those attributes are deemed reliable. So based on validity and reliability test, variables that succeed passed those test are Visiting Intention, Place, Promotion, and Physical Evidence. Therefore only Place, Promotion and Physical Evidence variables are used for further analysis.

**Table 1. Coefficient Correlation  
Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.203 <sup>a</sup>	<b>.041</b>	.033	.98330503

a. Predictors: (Constant), PHY\_EV, PLACE, PROMO

b. Dependent Variable: VISIT\_INT

**Table 2. ANOVA Result  
ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.953	3	<b>4.984</b>	5.155	<b>.002<sup>b</sup></b>
	Residual	349.047	361	.967		
	Total	364.000	364			

a. Dependent Variable: VISIT\_INT

b. Predictors: (Constant), PHY\_EV, PLACE, PROMO

**Table 3. Multiple Linear Regression Result**

Coefficients <sup>a</sup>								
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.785E-16	.051		.000	1.000	-.101	.101
	PLACE	.023	.052	.023	.441	.660	-.079	.125
	PROMO	.189	.053	.189	3.584	.000	.085	.293
	PHY_EV	.038	.053	.038	.719	.473	-.066	.143

a. Dependent Variable: VISIT\_INT

After done validity and reliability test, those variables that succeed will be analyzed using Multiple Regression. Table 1 it shows that  $R^2$  0.041 which means that all independent variables (Place, Promotion, and Physical Evidence) give 4.1% variation of explain customer visiting intention. While in Table 2 it shows that this model is significantly represented visiting intention with sig <0.050 which is 0.002 and the F score is 4.984. It means that together the independent variables have significance relationship with visiting intention as dependent variable. While regression coefficient are used to know the significance of independent variables partially. Variables that has sig < 0.050 are significantly affecting customer visiting intention. Table 4.18 shows that Promotion has sig <0.050 while Place and Physical Evidence have sig >0.050 which is not significantly affecting customer visiting intention.

There are 7 hypothesis in this research, after doing validity and reliability test only 3 variables that succeed during those test therefore these variables will be used for further analysis, those variables are Place, Promotion and Physical Evidence. Therefore among 7 hypotheses, only hypothesis 3, 4 and 7 that will be used for further analyze in this research.

Hypothesis 3 statement: Place is significantly related to intention to visit. (Contradict)

Result from regression analysis shows that Place is not significantly related to Visiting Intention. Thus H3 is rejected. Therefore this study contradict previous research by Kukanja (2017) and Lin (2011), which state that Place is highly significantly related with customer visiting intention. This discrepancy may occur because Shelter's target market mostly young people and young people's mobilization is relatively high, therefore Place are not considered to their target market.

Hypothesis 4 statement: Promotion is significantly related to intention to visit. (Supported)

Result from regression analysis shows that Promotion is significantly related to Visiting Intention. Thus H4 is accepted. Therefore this study support previous research by Kukanja, 2017; Dang, 2014; Hao, 2011; Lin, 2011, which state that promotion is highly significantly related with customer visiting intention.

Hypothesis 7: Physical evidence is significantly related to intention to visit. (Contradict)

Result from regression analysis shows that Physical Evidence is not significantly related to Visiting Intention. Thus H7 is rejected. Therefore this study contradict previous research by Kukanja (2017) and Lin (2011), which state that Physical Evidence had a strong relationship with behavioral intention to visit restaurant. This discrepancy may occur because the implementation from previous research at restaurant cannot be applied in nightclub situation since restaurant and nightclub has a different target

## CONCLUSIONS

There are limitation in this study, SERVQUAL will not discussed in this paper. Conclusion of this research is the most significant variable that influenced customer visiting intention to Shelter is Promotion variable. Knowing the factor of service marketing mix that influenced intention to visit Shelter Cafe & Bar in order to solve Shelter Cafe & Bar problem and also give a recommendation to Shelter Cafe & Bar to improve their performance. Shelter has to improve their Prpromotion in order to attract more customer. The promotion has to be interactive that suitable for their target market, based on the questionnaires that has been spread to 365 found that mostly Shelter has male visitor with age range 19 to 22 years old that live in Bandung. Therefore the promotion has to suitable with the information gathered and for addition. Promotion may be in many platform, for online platform Shelter has to consider promoting Shelter toward Line messenger since mostly young people use Line as their online communication so the promotion at Line messenger can reach the customer not only using Instagram as their current online promotion. Shelter has to promote in offline promotion platform such as baliho, spanduk or pamphlet so people can easily read the information if Shelter hold up some events. Shelter has to create an interactive event that diverse from competitor, for big event Shelter should invite a great international DJ to attract customer.

To improve further research, there are some recommendation that could be done in order to create a better research, which are:

1. This research are not discuss SERVQUAL therefore future research may consider discuss the impact of SERVQUAL on visiting intention
2. The research only obtained in Shelter due the time and limitation. Therefore, it is better to do at all nightclub not only in Bandung to get deeper knowledge about nightclub customer's perception as a whole.
3. To get more accurate result to solve the core problem, it is recommended to do it in mix method by combining qualitative and quantitative study to gain more information to solve the core problem.
4. Based on the fourth chapter, it is known that only Promotion variable has high significance toward visiting intention, therefore it is better to analyze more about other variables that may attract customer visiting intention.

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# FACTORS AFFECTING WOMEN TO VOLUNTARILY FOLLOW FASHION BRAND ON INSTAGRAM

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## EXTENDED ABSTRACT

As a social media platform in which the majority of its users are mostly women, Instagram is now also broadly utilized for commercial purpose, especially in fashion industry. It is the commodity on Instagram that dominates the market the most. Therefore, competition in fashion industry is inevitable. Followers are deemed to be one of the criteria to measure the success of a brand. It is important to have an active customer pool by having people who voluntarily follow the brand since active followers are the key to brand's survival on social media. This research aims to identify factors affecting women's intention to voluntarily follow fashion brands on Instagram and to disclose what channels drive women to fashion brands on Instagram the most. A preliminary study was conducted to complement the quantitative results. Multi-linear regression and descriptive analysis were performed to analyze the data. The findings indicated that "Entertainment", "Visual", "Investigation, and "Social Proof" as the predominant factors. User's frequency of fashion brand exposure has a risignificant impact on user's follow intention. Endorsement is the channel that drives women to fashion brands on Instagram the most. Channels that show significant difference towards user's follow intention were further analyzed in this research.

**Keywords:** social media marketing, Instagram, followers, fashion brand, brand following factor

## INTRODUCTION

Out of the three most sought-after social media worldwide (Kallas, 2017), Instagram has the higher average order value compared to the most popular social media, Facebook (Macdonald, 2014). This implies that Instagram as one of the social media with rapid growth (Chang, 2014) is a tempting platform for people to establish a business on Instagram. Fashion is found out to be the commodity on Instagram that dominates the market the most (Jakpat, 2015). It is predicted to be the result of its majority of users who are predominantly women (Wijaya, 2016) between 18-24 years old (Mailanto, 2016) that most of them unsurprisingly use Instagram for online shopping (Jakpat, 2015). However, the thriving growth of fashion industry also creates a fiercer competition among its competitor. One of the aspects needed to be concerned of to create a brand exposure is the followers. Followers are deemed to be one of the criteria to measure the success of a brand (DeMers, 2014). It is important to have an active customer pool by having people who voluntarily follow the brand since active followers are the key to a brand's survival on social media (Kwon & Sung, 2011). In spite of that, users are more likely to purchase from the brand page they follow on social media (Lehr, 2015) and it may lead to brand loyalty as well (Ul Islam & Rahman, 2017).

The purpose of this study is to identify factors that significantly influence women to voluntarily follow a fashion brand account on Instagram and to disclose the channels that drive women to fashion brands on Instagram the most as well as its difference towards user's follow intention. Preliminary study was conducted by performing focus discussion group and interview to complement the quantitative results from 408 respondents that were assessed through multi-linear regression test in SPSS. The findings indicated "Entertainment", "Visual", "Investigation, and "Social Proof" as the predominant factors affecting follow intention. User's frequency of fashion brand exposure has a significant impact on user's follow intention. Endorsement from public figures is the channel that drives women to fashion brands on Instagram the most.

## LITERATURE REVIEW

### *Social Media Persuasive Psychological Forces*

There are three out of six factors encapsulated in social media usage (Meyerson, 2010) which are retrieved from Cialdini's principles of persuasion; social proof, liking, and scarcity (Cialdini, 2007).

- Social Proof** is a principle which expresses that people have a tendency to adjust their thoughts to majority sentiment. People tend to acknowledge something on the off chance that others have officially acknowledged it and they tend to dismiss it in the event that others have rejected it. People see a conduct as more legitimate when they see others doing it.
- Liking** principle states that people will be more likely to be impacted by individuals they like. As indicated by the "halo effect", people have a tendency to assume that someone is likewise great in some other viewpoints just by seeing his or her one positive quality.
- Scarcity**. Fundamentally, people discern something to be more valuable when there is a limited amount of it or it is something hard to get. The drive to obtain something is bigger when there is a possibility of something to become unavailable than by the

prospect of expanding something with the same value. Something looks more appealing when people realized that it would soon get to be inaccessible. The possibility of losing something assumes a huge part in making a decision.

### ***Consumers' Motivation and Attitudes Factors to Follow Brands on Social Media***

Previous research conducted by (Yilmaz & Enginkaya, 2015) revealed five type of motives that drive people to follow brands on social media which are brand affiliation, opportunity seeking, investigation, conversation, and entertainment. Those motives form a user's attitude in which attitude in this context is comprised of the user's belief, feelings, and behavioral intention towards the brand (Perner, 2010).

- Brand Affiliation** manifests a customer's encouragement to follow a particular brand on social media because the users feel that the brand fits their lifestyle, shares preference similarities, and fulfills their both explicit and unconscious needs & desires.
- Investigation** reflects the web-based social networking's part on delivering trustworthy and dependable information of the brand and items to customers.
- Opportunity Seeking** is a customer's way of thinking that they can gain valuable benefits, which lean more on financial incentives, by following a certain brand on social media.
- Entertainment** motive shows customer's interest towards a brand because they found out that the brand delivers a sense of fun and excitement through its posts.
- Conversation** motive is customers' necessity to interact with the brand and different customers because when they do so, they feel like they have the privilege to use their space in social media to speak up their opinion and thoughts towards the brand and between other users resulting in a higher transparency of information exchange.

### ***Visual Impact on User's Intention to Follow Fashion Brand on Instagram***

Visual experience is the most overpowering sensorial experience in online shopping (Im et al., 2010). Fashion brand as one of many commodities in online shopping industry is highly visual since its environment is encapsulated in the characteristics of design, product display, and online atmospheric (Kawaf & Tagg, 2012). Design on Instagram, in particular, which has several components such as profile page's feeds or visual layout affects how the users perceive the quality of product (Ladhari et al., 2017). Colors which are able to stimulate aesthetic experience (Kauppinen-Räsänen & Loumala, 2010) were usually utilized to influence user's state of mind, purchase decision, and shopping time (Soars, 2009). Visual stimuli which is interrelated with aesthetics and pleasure is able to have an impact on consumption behavior of the user (Guido et al., 2007).

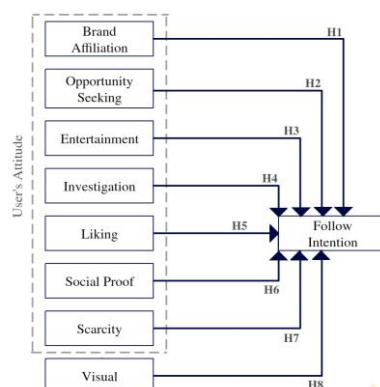
## **METHODOLOGY**

Preliminary study by conducting structured interview with social media experts from 7 experienced fashion brands on Instagram and 1 digital marketing agency was conducted to gain insight pertaining what are the possible factors that affect women to follow fashion brand on Instagram by verifying whether factors from previous studies existed in current Indonesia's market condition and also to identify unrevealed attributes that trigger people to follow a fashion brand on Instagram. Subsequently, focus group discussion was conducted with 7 female college students that follow fashion brand on Instagram. Answer saturation from focus group discussion and interviews was performed and attributes which were agreed upon by more than half of the participants and interviewees were subsequently put into questionnaire construction and pilot test was conducted to assess its validity and reliability. To test the validity, researcher used Pearson correlation method and Cronbach alpha for reliability. Every attribute indicated in Pearson Correlation has to score higher than 0.3 to be considered valid (McCabe, 1956) and each attribute assessed by Cronbach Alpha must exceed 0.6 in order to be deemed as reliable (Loewenthal, 2004). Questionnaires were distributed via online to 408 female Instagram users between 18-24 years old who have followed at least one fashion brand on Instagram. The results were analyzed using Microsoft Excel and SPSS by performing descriptive analysis, and multiple linear regression (MLR). MLR is used to denote the relationship between the independent variables and dependent variables as well as to identify how strong is the influence between two or more independent variables and dependent variables (Laerd, 2013). The results of the test in this analysis are used to test the hypothesis that has been generated.

### ***Conceptual Framework***

The following modified conceptual framework below is adapted from structural model by Yilmaz and Enginkaya (2015) with additional attributes from Muntinga, Moorman, & Smit (2011) and the result of preliminary study.

**Figure 1. Conceptual Framework**



Hypotheses were consecutively formed from the framework above:

- H1 : Brand affiliation has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.061>0.05. Thus, hypothesis is not supported)
- H2 : Opportunity seeking has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.112>0.05. Thus, hypothesis is not supported)
- H3 : Entertainment has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.000<0.05. Thus, hypothesis is supported)
- H4 : Investigation has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.011<0.05. Thus, hypothesis is supported)
- H5 : Liking has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.596>0.05. Thus, hypothesis is not supported)
- H6 : Social proof has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.036<0.05. Thus, hypothesis is supported)
- H7 : Scarcity has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.628>0.05. Thus, hypothesis is not supported)
- H8 : Visual has positive significant influence towards female users' intention to follow fashion brands on Instagram (Sig.=0.007<0.05. Thus, hypothesis is supported)

### **Quantitative Measure**

The table below shows the content of questionnaire after passing validity and reliability test:

**Table 1, Quantitative Measure After Validity & Reliability Test**

Variable	Var. Type	Source	No	Questionnaire Indicator	Scale
Brand Affiliation (BRAFF)	Independent	(Yilmaz & Enginkaya, 2015)	1	Congruent with customer lifestyle	Likert scale
Investigation (INV)	Independent	(Muntinga et al., 2011)	2	Keep an eye on the latest fashion trend	Likert scale
			3	Pre-purchase information gathering to determine a settled purchase decision	
			4	Looking for inspiration	
Opportunity Seeking (OPP)	Independent	(Yilmaz & Enginkaya, 2015)	5	Promotion and discount	Likert scale
Entertainment (ENT)	Independent	(Yilmaz & Enginkaya, 2015)	6	Liking influential and creative contents from brand	Likert scale
		(Muntinga et al., 2011)	7	Filling in idle time	
Liking (LIKE)	Independent	(Cialdini, 2007)	8	Worn by favored public figures or celebrities	Likert scale
Scarcity (SCAR)	Independent	(Cialdini, 2007)	9	Rare or hard to find sold products	Likert scale
Social Proof (SPROF)	Independent	(Cialdini, 2007)	10	Having lots of followers (more than 10.000)	Likert scale
			11	Being talked about by people	
Visual (VIS)	Independent	Based on discussion	12	Consistency of Instagram feeds which is aligned with the brand's concept	Likert scale
			13	Photo of product worn by model	
			14	Model suitability with the brand	
			15	Neat and orderly Instagram feeds	
Follow Intention (FLLW)	Dependent	(Davis, 1989)	16	Willingness to follow fashion brand on Instagram in the future	Likert scale
			17	Plan to follow fashion brand on Instagram in the future	

## **FINDINGS AND ARGUMENT**

### **Preliminary Study**

After answer saturation from the results of preliminary study, 8 out of 25 items were excluded because the majority of participants did not acknowledge the statements. New variable was also generated, which is "Visual". Questionnaires were carried out to pilot test to 45 respondents. It was conducted to be further checked on its validity and reliability by using Pearson's Correlation method and Cronbach's Alpha respectively. Invalid statements which correlation coefficient is below 0.3 (McCabe, 1956) were excluded from the questionnaire. Final questionnaire construct was deemed to be reliable with Cronbach's Alpha = 0.834 which is higher than 0.6 (Loewenthal, 2004) and also valid by having a Pearson's Correlation Coefficient which is greater than 0.3.

### **User's Demography and Behavior**

Out of 408 respondents, all respondents were female and between 18-24 years old. The majority of the respondents were students/college students (95.6%) whose income generally between Rp1.000.000-Rp3.000.000 (68.2%). They mostly spend less than Rp500.000 for fashion items per month (52.9%) but 40.9% of them spend between Rp500.000-Rp1000.000 for fashion items per month. After demography attributes were assessed to know its impact on follow intention by F-test, all attributes turned out to be insignificant due to its Sig values which are all above 0.05. Half of the respondents do access Instagram between 2-4 hours on daily basis. Meanwhile, 52.9% of them checked out fashion brands on Instagram between 3-7 times a week. The majority of respondents buy fashion items on Instagram less than two times a month (71.8%). After behavior attributes were assessed to know its influence on follow intention by F-test, only one attribute found out to significantly influence user's follow intention which is the user's weekly frequency to check out fashion brands on Instagram (Sig value=0.01).

### **Multiple Linear Regression**

Multiple linear regression was conducted to determine the significance level and influence between independent variables (Brand Affiliation [BRAFF], Entertainment [ENT], Opportunity Seeking [OPP], Investigation [INV], Scarcity [SCAR], Social Proof [SPROF], Liking [LIKE], Visual [VIS]) and dependent variable (Follow Intention [FLLW])

**Table 2. Multiple Linear Regression Result**

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	1.585	.486			3.259	.001
BRAFF	.180	.096	.088		1.882	.061
OPP	.132	.083	.077		1.592	.112
ENT	.204	.048	.213		4.288	.000
INV	.106	.041	.134		2.556	.011
SPROF	.091	.043	.102		2.103	.036
SCAR	.037	.077	.022		.485	.628
LIKE	.040	.075	.026		.531	.596
VIS	.070	.026	.139		2.713	.007

From the table above, there are four variables which are positively significant towards follow intention (ENT, VIS, INV, SPROF) due to its Sig level that scored below 0.05. It can be referred that “Entertainment” has the most significant impact on affecting women’s intention to follow fashion brand on Instagram. Followed by “Visual”, “Investigation”, and “Social Proof” respectively. “Entertainment” was adjacently placed before “Visual” because humans are visual creatures and aesthetic pleasure which is recognized to influence user’s social media engagement was part of entertainment motivation as well (Kaye, 2007). Moreover, Instagram is also a highly visual social media platform that focuses on visual contents, therefore it is important for brands to create a visual layout that sparks user’s feeling of enjoyment. “Investigation” was placed on the third place because based on FGD which was previously conducted, users prefer brands that provide detail information about the product and the brand-related information such as the contact person, measurement and material of the product, and so forth. “Social proof” is also influential because it acts as a builder of credibility of the brand and people tend to avoid errors by selecting brand which is widely acknowledged by society (Cialdini, 2007).

#### **R-square**

R-square test is conducted as a guide in the making of the best research model because it can predict to what extent the dependent variable’s variation of changes can be explained by the independent variables’ variation of changes. The result of R-square test was provided in the table below:

**Table 3. R-square Test**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523 <sup>a</sup>	.274	.259	1.27736

In social science research, any R square value higher than 0.2 is still considered acceptable (Pyzdek, 2012). Based on the result that indicates R-square score = 0.274, it implies that this research model still predicts a good estimate (27.4%) between independent variables and user’s follow intention to follow fashion brands on Instagram.

#### **Channel**

Channel, in this context, acts as a mediating route which could potentially direct users to a particular fashion brand on Instagram. Five channels that are found to drive women to fashion brands on Instagram the most are endorsement by public figure (78.4%), friend’s recommendation (65.4%), multibrand store (41.9%), explore page (40.2%), and creative market event (39.2%). Consecutively, t-Test was performed to examine the channels which recognize a significant difference between users who find fashion brands on Instagram through these channels and those who do not. Channels that significantly indicate a follow intention difference among users who utilize it as a mediating route to find fashion brands on Instagram are friend’s recommendation, explore page, creative market event, suggested profile page, and following list of public figure. So, even endorsement is the most sought after channel, there is no significant difference on follow intention between users who find fashion brands on Instagram through endorsement from public figure and users who find fashion brands on Instagram through channels other than endorsement from public figure. Friend’s recommendation, explore page, and following list of public figure which encompasses a form of word-of-mouth are the ones that give a significant difference instead. Therefore, it can be concluded that the use of public figure to endorse products from brands is great to gain brand exposure (Jatto, 2014). However, strategies to encourage word of mouth from user’s acquaintance are much acknowledged to generate more organic followers that truly show an interest to the brand.

## **CONCLUSIONS**

There are four factors that positively significant in influencing women’s intention to follow brands on Instagram which are “Entertainment”, “Visual”, “Investigation”, and “Social Proof”. Entertainment is the most significant factor in influencing user’s follow intention. User’s frequency of fashion brand exposure have a significant impact on user’s follow intention. Endorsement from public figure is the channel that drives women to fashion brands on Instagram the most. Channels which indicate a significant follow intention difference between users who find fashion brands on Instagram through these channels and those who do not are friend’s recommendation, explore page, creative market event, suggested profile page, and following list of public figure. The result



of this research could be utilized by fashion brands to consider strategies to attract more active followers on Instagram, especially those brands which are still in early stage and just started from scratch. This research is limited to its demographical scope since it only covers Bandung region and female Instagram user between 18-24 years old only. Future research is acknowledged to encompass broader age range and different commodity on different social media platform in different area or region. It is also suggested to emphasize more on how to retain followers on social media.

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## DESIGNING CROWDFUNDING CAMPAIGNS TO GAIN VISIBILITY AND PERSUADE FUNDERS

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### EXTENDED ABSTRACT

Crowdfunding is innovative and popular with industry, academia and the investment community which operates online. The design of crowdfunding campaigns on crowdfunding platforms can be a factor ensuring success of crowdfunding campaigns. The paper aims to examine how the design of the crowdfunding campaign ensures its success. The findings enable seekers of funds and crowdfunding platforms, decide on what best can be done to prepare for success. This is a review paper based on the analysis of the design of campaign literature. It can be inferred that several factors could be considered in the design of crowdfunding campaign. The target market preferences' have to be identified and the business could increase the level of engagement on social network platforms. Among them is that the crowdfunding campaign should serve as a constant reminder. Furthermore language used is a powerful tool. The paper links a significant body of literature within the theory of communicative visibility, theory of persuasion, theory of collective action and trust which are used to be considered in the design of crowdfunding campaigns to influence funders.

**Keywords:** : *crowdfund, crowdfund campaign, digital marketing*

### INTRODUCTION

The main aim of this paper is to examine the design of the crowdfunding campaign in relation to the successful campaign. Studies have shown that to an extent the success of the crowdfund (CF) campaign in achieving the target is in the design of the campaign by the crowdfunding platform (CFP). Crowdfund is defined by Schwenbacher and Lambert (2010) as "an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes". A study by Forbes and Schaefer (2017) indicated that the vast majority of crowdfunding campaigns fail badly with 81% of failed campaigns achieving less than 20% of their funding target. The important question to answer is therefore how designers can ensure crowdfunding is a success. One of the reasons for the failure of achieving the desired target is the design and engagement of the crowdfunding campaign.

The aim of a crowdfund campaign design is to convince unknown people to invest in an entrepreneurial idea. The use of digital marketing in the effort to crowdfund, should attract attention, help the fund seekers to explain their ideas and strategy and why their project is better. Some study show the need to create a good content page with good design. Seekers of the fund need to create an image of the business on digital media and be able to convince the investors with image, videos and list the rewards that is available to funders. Hence it is therefore important to examine what it takes for a crowdfund campaign to succeed when using digital marketing. There is limited research on campaign success drivers and investors' investment criteria. Empirical research on the success drivers of crowdfunding is mostly on the crowd or members of the public as investors and is limited to the work of Ahlers et al (2015).

The potential of the CF market, according to a study by Sharma and Lernuwat (2016), states that the crowdfunding market is \$16 billion in 2014 and is expected to grow to more than \$34 billion. The venture capital invests only an average of \$30 billion a year. In Asia, the crowdfunding has gained wide attention and attraction. Asia has seen a growth of 320% in crowdfund volumes. In the UK, crowdfunding market has only grown to a worth of £50 billion. Thus crowdfunding offers a potential alternative to the traditional models by which early-stage start-ups receive funding, including venture capital. Yet crowdfunding remains relatively unstudied (Kuppuswamy & Bayus, 2013), outside of the still-uncommon analysis of particular crowdfunding efforts (Agrawal, Catalini, & Goldfarb, 2013; Burtch, Ghose, & Wattal, 2011).

It is important, therefore to understand how to capture the attention of the crowd when creating or funding projects. This is because of the increasing number of crowd funded projects. A study by Geber and Hui (2013), suggests that it is important to identify opportunities to refine and redefine crowdfunding platforms. This will impose the user's experience and to better recruit and sustain participation (Kraut and Resnick, 2012). Crowdfunding platforms gives people with disposable income, to give to others by "investing" in projects that do not have the financial support. CFPs help facilitate the exchange of financial resources between seekers and fund providers. It is therefore valuable to review previous study on the way to create a successful crowdfunding campaign. This study hopes to develop practical guidelines to be used by the seekers and the crowdfunding platform when determining the design and process of the campaign.

### **LITERATURE REVIEW**

Brüntje and Gadja (2015) stated in their book, on the shift to crowdfunding, as an alternative source of financing for entrepreneurs. The world economic crisis of 2008 created the phenomenon based on collaboration and trust with the introduction of crowdfunding. Crowdfunding is an internet based solution to funding opportunities available especially to new businesses. By 2013, the world gave recognition to crowdfunding and was seen as an innovation in financial services. In this literature review, the type of crowdfunding is explained with the link to social marketing theories that play a role in ensuring the success of the crowdfund campaign. There are four types of crowdfunding methods used which are the reward-based, peer-to-peer, equity and donation. Reward-based crowdfunding allows seekers to raise capital to launch a business concept prior to selling their products or services. Reward-based crowdfunding treats funders as initial customers and allow them to access the products produced by funded projects in the earlier stage, better price, or with some other special benefit (Mollick 2014). Besides, "equity crowdfunding, debt-based crowdfunding (also known as "Peer to Peer" or "P2P"), litigation crowdfunding and donation-based crowdfunding (also known as charitable crowdfunding) are other major types of crowdfunding" (Choy et al. 2015). While campaign success is important for seekers of funds and platforms, many campaigns fail. The equity crowdfunding platform, Invesdor (2015), a crowdfunding platform, stated that 30% of their campaign was successful in raising the required sum in the sampled time frame. The success rate is small. A better understanding of how to make the campaign successful could be to explore the theory on communicative visibility, theory of persuasion and the theory of collective action. A valuable insight of the design aspect of the campaign may be better understood.

#### **Theory of Communicative Visibility**

Crowdfunding platforms must be able to attract funders, to be successful in raising the targeted sum. The campaign needs to be seen as impactful which means the campaign can stir emotions, make people act, and obtain financial and non-financial support for the project. The platform can create an interactional approach for the seeker and thus create the communicative visibility of the project. Communicative visibility is made possible by CFP to enhance awareness of the information presented in the CF campaign. CF campaign helps the seeker better understand the funders' preferences and also make demand predictions. In this way the target market can also be identified and this will mean that the seeker and CFP will be able to better facilitate the information dissemination.

When disseminating information, the users should be able to interact, coordinate, cooperate, form relationship networks, and obtain and share information (Sundararajan et al. 2013). CF campaigns' design should be seen as a tool to create and build awareness, persuade therein to achieve the funding target. Kumar et al. (2012), suggest that the seeker must ensure that their project is promoted continually for the period of their campaign. This approach could enable the seeker to gain visibility for the campaign. A study by Goh et. al (2013) explained the importance of content building to attract the attention of funders. They suggested the use of Facebook and YouTube as part of the campaign as well. An attractive content may entice the funders to enquire further about the project. The design of the campaign can affect the usage, interaction and satisfaction level derived from the use of the CFP website itself. The CFP site must be user friendly allowing the parties concerned to explore the different opportunities available in the funding process. The funders should find the websites user-centric, allowing the user to easily get information and participate safely in the process as well (Kraut and Resnick, 2012).

In order to build the level of engagement, Hildebrand et al. (2013) suggested the need to build feedback and interaction for communities. However, if there are any counterintuitive or counterproductive effects, it can easily be addressed with an online reputation management process. This can also assist the seekers to address any problems or issues that may arise quickly. In fact both CFP and the seekers will obtain feedback on the campaign itself and assess the demand for the product or possible future funding opportunities available.

#### **Theory of Persuasion**

Being visible does not guarantee funding. The campaign must enable action from the funders. Hence the language used in the project has surprising predictive power— accounting for 58.56% of the variance around successful funding (Mitra and Gilbert, 2014). The theory of persuasion plays an important role in advertising, marketing and consumer behaviour research (Shrum et al, 2012) and persuasive design (Fogg et al, 2002). There are four aspects of the theory of persuasion which are the rule of reciprocity, social proof, social identity theory and power of scarcity. The gist of the theory of persuasion is the obligation to return favours (Cialdini, 2001), show how this project is the choice of influential people (Aronson et al, 2005 and Cialdini, 2004), support of experts or persons of authority (Tajfel, 1981; Tajfel, 1982; Wood, 2000) and there is limitation in funding option (Cialdini, 2001; Cialdini and Goldstein, 2004).

### **Trust**

Even if the platform is well designed with all the information and persuasion power, it is advisable for platform providers to conduct screening processes for third-party offerings. What is really important is that the funders must be able to trust the seekers and the CFPs. A study by Zhang et al (2016), indicated trust management can ensure fundraising performance by investigating the seekers' creditworthiness, the platform reputation and the viability of the project. The study also confirms that the CFP reputation has a higher importance than the fund seeker when determining the level of trust of the funders. It is therefore important for the CFP to create an engaging and interactive platform for the crowd to participate in prior to the funding. If it can be shown that the seeker has a good track record based on that entrepreneur's prior success in crowdfunding, it will have a positive impact on the fundraising performance. Rousseau et al.'s (1998) view that trust is "a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviour of another".

An understanding of why people would contribute is the real question as well. All parties really do not know each other. So how will anyone be willing to invest in a project done by another? This requires a philosophical understanding of connectionism. "*Connectionism* is a way of involving ourselves with strangers. It is a special loving connection that involves us in a reality which transcends the world in which we normally exist. Simply it works like this: I engage a stranger, I give them unbroken focus on their world, they experience increased clarity, this clarity feeds back to me and so back to them, and we experience an enhanced level of reality." (Stanford Encyclopaedia of Philosophy). Interaction and engagement will enhance the strength of the connection with funders and win their hearts to contribute. According Moritz and Block (2015), there are quality signals that can build trust for example past success record of the capital seeker, external references, network size, level of preparedness is just to name a few. A study by Kirmani and Rao (2000) suggested that the information provided by the crowdfunding platform should show that the seeker has the skill and ability necessary to execute the plan. This will enable the funders to trust as there is information symmetry. This will represent the information the funders seek before making the decision to fund the project. However it is also unclear the extent to which crowdfunding can close the early-stage financing gap. As suggested by Moritz and Block (2015), further investigation on this should be done to build on existing theories and in entrepreneurial and innovation financing research areas.

### **Theory of Collective Action**

During the last few decades a large amount of literature on collective action has been developed, with a great emphasis on the conceptualisation of collective action and on the analytical framework necessary to study it (Olson 1965; Wade 1987; Ostrom 1990). Marshall (1998) defined collective action as 'the action taken by a group (either directly or on its behalf through an organization) in pursuit of members' perceived shared interests'. As observed by Meinzen-Dick et al. (2004), the more specific and varied definitions which have been added later have in common the following features: the involvement of a group of people, shared interests, common and voluntary actions to pursue those shared interests. The Theory of Collective Action could be seen as a means by which people lean on crowd funders who have the knowledge and decide to invest.

### **METHODOLOGY**

This research was built on prior studies as well as numerous scholars' work. This paper is done by reviewing existing literature on crowdfunding opportunities available to seekers of funding in other parts of the world. A documentary analysis approach was used by looking at data from previous literature. The documents that were reviewed were journal articles, books, blogs, newspapers and conference papers on funding opportunities and well as magazines.

Some of these journals were published by highly reputable research institutes which were funded by their government. Their findings are reliable. Generally the factors that the crowd funders are looking for to decide which project to invest in, is relatively similar between these countries. It is nevertheless important to note that

some data series may change over time or perhaps there are some country specific uniqueness which needs further exploration. Hence a more detailed investigation needs to be done to re-examine the factors.

## FINDINGS AND ARGUMENT

Increasing customer engagement with the help of social customer relationship management and relationship marketing appears to be very important. Therefore when a seeker wants to start a new campaign in a crowdfunding platform, he/she is required to submit information of the campaign in accordance with the requirements of platform. Among the information provided, a choice of design of the campaign. Rewards are also recognised as motivational triggers in reward-based crowdfunding (Thürridl and Kamleitner, 2016).

The amount of information on the campaign will show the funders the nature of the product. The initial settings of a campaign such as the amount of the funding goal and the duration of the campaign can also predict its success. Muller et al (2013) found that the smaller amount the funding goal the more successful it will be. The duration of a campaign is negatively related to the success of the campaign. The social network of project creators is often the initial funding source of many campaigns and plays an important role in determining success (Agrawal et al, 2013; Mollick, 2013). For example, Mollick (2013) found that the number of Facebook friends of creators is positively correlated with the success of campaigns. Yet, it is not clear how the degree of this effort influences the outcome of the campaign. (Xu, 2013).

CF Platform is a social media network platform. Mollick (2014), states that the social network size is important to the success of the CF effort. Communicating the CF project is the key to factor for the success of funding. The relationship built can have both a positive and negative effect. Frequent updates on the project is very important to ensure that the relationship is well managed (Xu et al, 2014). Information disseminated should capture the reader's attention through the use of high quality media content. Overall, seekers of funds need to construct their campaign to convey credibility and create product demand. One distinctive benefit of CF campaign is to allow the crowd to engage when large amounts of feedback is obtained. Such feedback is possibly a reference on the way the CF campaign is designed. This will enable the seekers to improve the product that is to be considered

## CONCLUSIONS

The effort required of the seeker is very high. The seeker should build a strong social network presence using digital marketing and public relations. The CF Platform, in turn, measure the visit to contribution ratio, to monitor the project funding progress. A networking process should be seen to by starting to build virality to seekers networking group. This is to measure visibility by monitoring the attention drawn in the funding process. Seekers should by the visits know who their target market is and keep the information flowing. The seekers should work with this group intensively. The offer under the rule of reciprocity should now take place.

“The fund seekers should create constant updates about optimization, news, innovation, experiences, and feedbacks – the crowd will show their appreciation for improvements and a consistent work ethic via their funding” (Kraus et al. 2016). It is therefore important before starting a crowdfunding project to consider which strategy fits best with the idea, and the seeker. A distinct use of communication tools like social media, pictures, rewards, etc. can be achieved (Kraus, 2016). In their paper, Hosseini et al (2015) stated that the lack of research in certain geographic areas in the crowdfunding topic puts the application of the achieved results at risk if they are directly reused for the population of other locations

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## THE PREFERENCE ON RICE AMONG BANDUNG SOCIETY

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### EXTENDED ABSTRACT

Marketers have spent more budget to marketing in order to make consumer choose their product. The problem lies when only a little portion of products is chosen by consumer since the marketers did not do effective marketing activities. Thus knowing what affected the consumer decision can benefit the marketers. The findings can later be used by marketers to persuade consumer decision into a decision that favor their product categories and brands.

This research will address the preference of rice consumer in Bandung by the information collected from in depth interview method and questionnaire deployment to the consumers. Then, all collected data from the consumers was processed through conjoint analysis to get the real insight of customer preference. This paper explains the evaluative criteria mostly used by the consumers and customer's preference on rice. The research found that the top considered factors in buying rice are the rice taste and the price. Most of the respondent preferred to buy Pandan Wangi rice which has clean white color, usual consumed packaged rice brand, not containing lice, on the price range around Rp 9000-Rp 15000.

**Keywords:** : Rice preference, Pandan Wangi, Bandung

### INTRODUCTION

Indonesia is the world's third-largest rice producer and also one of the world's biggest rice consumers. The country's rice area expanded from 11.4 million ha in 1995 to 13.2 million ha in 2010, which represented 24% of the total agricultural area. Rice yield increased slightly from 4.3 t/ha in 1995 to 5 t/ha in 2010. Rice is the most important food crop in the country.

Rice quality is judged based on attributes, which could be classified several ways. Product characteristics could either be *intrinsic*, such as taste, texture, or color; or *extrinsic* to the product, such as packaging, brand, or label. Another attribute classification distinguishes between *search*, *experience*, and *credence* attributes. Search attributes are available for product evaluation before purchase, such as price, appearance, brand, and packaging. Experience attributes can be evaluated only upon product experience, thus after purchase or product use—examples are taste, texture, ease of cooking, and swelling capacity. Credence attributes are attributes that consumers cannot evaluate or verify themselves. Instead, they rely on people or institutions, such as government controls or industry claims. Attributes relating to production, processing, and product contents are typical examples of the credence-type attributes. (Rutsaert, Demont, & Verbeke, 2013).

In Bandung, each modern retail sells on the average 8 brands, at least 4 and maximum 9, of packaged rice or in total there are thirty seven (37) brands of packaged rice sold in 8 most popular modern retails in Bandung, such as Carrefour, Setiabudi Supermarket, Lottemart, HERO, Hypermart, Borma, Superindo and Yogya Riau Junction

in Bandung (Winda, 2016). Every brand sells more than one type of rice like Cianjur, Rojolele, Setra Ramos, slip, fluffier fragrant, Pandan Wangi, Long grain crystal, jasmine rice, Jitai, IR 64 and various kind of Jasmine fragrance rice in 5, 10, and 20 Kg package weight and the Price per kg varies from IDR 15000 up to IDR 50000. As we know our preference towards the product is brought by various factors. People from Java and Sulawesi have the similar preference on types of rice such as rice fluffier while the Sumatran prefers „pera“ rice.

What are the evaluative criteria mostly used by the customers before picking one package of rice?. What their preference?

## LITERATURE REVIEW

### Rice Preference

Preferences refer to certain characteristics any consumer wants to have a good or service to make it preferable to him. This could be the level of happiness, a degree of satisfaction, utility from the product. Preferences are the main factors that influence consumer demand. Economists study preferences to perceive the demand for each commodity and the future implications it may cause. (Merriam-Webster, 2017)

There are various factors that can affect people's preference on rice, such as

1. Customer Individual Factors
  - income (Isvilanonda & Kongrith, 2008) (Cuevas, Pedre, McKinley, Velarde, & Demont, 2016),
  - socioeconomic factors (Cuevas, Pedre, McKinley, Velarde, & Demont, 2016) (Ogunde, 2014)
2. Product Factors
  - Price quality (Isvilanonda & Kongrith, 2008) (Cuevas, Pedre, McKinley, Velarde, & Demont, 2016), (Azabagaoglu & Gaytancioglu, 2009),
  - cleanliness of rice (Ogunde, 2014) (Azabagaoglu & Gaytancioglu, 2009),
  - rice variety (Azabagaoglu & Gaytancioglu, 2009) (S.A.M.H.Senarath & G.C.Samaraweera, 2017),
  - price (Azabagaoglu & Gaytancioglu, 2009) (Isvilanonda & Kongrith, 2008) (Al-Hassan, Agbekpomu, & Sarpong, 2008),
  - physical attribute (S.A.M.H.Senarath & G.C.Samaraweera, 2017) (Azabagaoglu & Gaytancioglu, 2009) (Cuevas, Pedre, McKinley, Velarde, & Demont, 2016) (Hossain, Rahman, Kabir, Siddique, & Tareq, 2015), and
  - taste (Al-Hassan, Agbekpomu, & Sarpong, 2008)

## METHODOLOGY

This research use both qualitative and quantitative method. First, Interview 8 consumers of rice to identify their preference and factors which they consider when buying rice. Then, Survey was carried out to spread the questionnaires to a larger target respondent to test the consumer preference on rice. For conjoint's preference, data of 396 respondents, were involved in this study. The respondents, 20-60-years-old and potential purchasers of rice, were chosen by nonprobability judgmental sampling. To study consumer preference towards rice product s. Participants were asked to rank several rice product based on their preference. Each product represents a single combination of cues (color, brand, type, price, and rice condition)

## FINDINGS AND ARGUMENT

### 1. Demographics of the Respondents

In total there are 396 respondents for this research, 6 % of them are men while the rest are women. The age range of the respondent is 20-60 years old. The respondent below 25 years old was about 16.92 %, the respondents whose age was 25-33 years old was 18,94%, there are 15.40 % respondents whose age 34-41 years old, there are 21.46% respondents whose age was 42-50 years old, and last 27.2 % of the respondents' age was more than 50 years old.

Most of the respondent are house wife that usually understand the process of rice buying since they responsible for doing so. In this research there 34.34% house wife that contributed, there are 15.91 % civil servant, 14.56% private employee, 10.61 entrepreneur, and others were about 24.49% of the total respondents

From 396 respondents, 45.71 % of them had an outcome under Rp 3000000/month, 41.92 % of them had outcome ranged Rp 3000000-Rp7000000/month, 5.81% of them had the outcome for Rp8000000-Rp12000000/month, and last 6.57% of them had the outcome for more than Rp 12000000/month.

For their monthly income, From 396 respondents, 43.18 % of them had an income under Rp 3000000/month, 40.40 % of them had income ranged Rp 3000000-Rp7000000/month, 10.86% of them had income for Rp8000000-Rp12000000/month, and last 5.56% of them had income for more than Rp 12000000/month.



## 2. Factors Considered in Buying Rice

There are several factors in the questionnaire as factors considered by the consumer when they bought rice, such as price, price & taste, rice type, suitable rice type, rice brand, rice brand & rice type (Table 1). The respondents answered each statement using Likert scale by scoring it from 1-10. The lower the score showed that they did not agree with the statement while the higher the score showed that they agreed with the statement.

The result is, the most considered factor in buying rice is the price & taste with total presentation of 80.13%, followed by rice type with total score of 75.38%, then suitable rice type for 72.22%, the price of the rice for 68.76%, rice brand & rice type for 63.74%, and last is the rice brand for 53.99%.

## 3. Rice preference

The constant value of the result 13,8691 which is the average level of the stimuli. The constant value is the foundation to calculate the utility value of rice color, rice brand, rice type, price/Kg, and rice condition. So, the utility is the difference between certain factor average with the constant value. If it is negative then the respondent like that certain stimuli. In the opposite, if the difference is positive then the respondent did not like that certain stimuli. It is due to the sort of number 1 means the most preferred and number 20 is the least preferred.

Based on conjoint analysis results (Table 1.2), rice color (33,92) and rice condition (23,89) have the highest result and become factors with highest value level for rice consumers rather than other cues ( $R=0,871$ ,  $p=0.000<0,05$ ) it's indicate that there is a strong correlation between the estimates part-worth with the actual factors.

Table 1. Factor Description and Attribute Level

Factor	Attribute Level
Rice Color	Clean White
	Yellowish
Brand	Usual brand
	Other Brand
Rice Type	Rojolele
	Pandan Wangi
	Setra Ramos
Price/KG	Rp.9.000 - Rp.15.000
	Rp.15.000 - Rp.22.000
	>Rp.22.000
Rice Condition	Contain lice
	No lice

Tabel 1.2 Estimates Part Worth Calculation

Factor	Level Atribut	Utilities	Dev <sup>2</sup>	Dev. Std	Estimates Part Worth	Range of Part Worth	Factor Importance
Rice Color	Clean White	-3,7963	14,4119	3,3437	1,8286	3,6572	33,92%
	Yellowish	3,7963	14,4119	3,3437	1,8286		
Brand	Usual brand	-0,6324	0,3999	0,0928	0,3046	0,6092	9,04%
	Other Brand	0,6324	0,3999	0,0928	0,3046		
Rice Type	Rojolele	0,5768	0,3327	0,0772	0,2778	0,9812	14,10%
	Pandan Wangi	-1,0185	1,0373	0,2407	0,4906		
	Setra Ramos	0,4417	0,1951	0,0453	0,2128		
Price/KG	Rp.9.000 - Rp.15.000	-1,6215	2,6293	0,6100	0,7810	1,7873	19,05%
	Rp.15.000 - Rp.22.000	-0,2338	0,0547	0,0127	0,1126		
	>Rp.22.000	1,8553	3,4421	0,7986	0,8937		
Rice	Contain lice	2,6839	7,2033	1,6713	1,2928	2,5855	23,89%

Condition	No lice	-2,6839	7,2033	1,6713	1,2928		
<b>Total</b>			<b>51,7215</b>				
<b>Standardized</b>			<b>0,2320</b>				

In conjoint analysis, Utilities is the main result. Utility functions indicate the perceived value of the feature and how sensitive consumer perceptions and preferences are to changes in product features. The lower utilities score to mark the factors preferred by rice consumers, while the higher utilities score to mark the un-preferred characteristics for rice consumers. Based on table 1.2, for the rice color, most of the consumers preferred clean white rice (-3.7963 ) rather than yellowish rice (3.7963) with no lice.(0.6839) For the brand, they tend to buy the usual brand they usually (-0.6324 ) consume rather than try unfamiliar brand (0.6324). For the rice type, the constant value of Rojolele is 0.5768, the constant value of Pandan Wangi is -1.0185, while the constant value of Setra Ramos is 0.4417. So, the consumers mostly prefer Pandan Wangi (-1.0185), rather than Setra Ramos (0.4417), and Rojolele (0.5768). For the price, most of the consumers are willing to buy rice around Rp 9000- Rp 15000. While the most preferred combination is the familiar brand of Pandan Wangi rice that have a price range around Rp 9000-15000, have a clean white color, with no lice on it (-4.6976).

## CONCLUSIONS

The results of this study indicate that based on 396 respondents, most of rice buyers in Bandung are 50 years old house wives, have an income and outcome lower than IDR 3.000.000/month. The important factors that they consider when buying rice are taste, price, rice color and conditions. While for the most favorable rice they prefer is white clean color Pandan Wangi rice product that their familiar with the Brand, have price range around Rp 9000-15000, with no lice on it.

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# MODELING CONSUMER PREFERENCE IN RETAIL BANKING: A CONJOINT ANALYSIS FOR INDONESIAN BANK CUSTOMERS

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## EXTENDED ABSTRACT

Indonesia banking sector has becoming a lucrative industry. Following the sector growth, consumers demand more various and complex for banking products and services. Preferences towards banking services are becoming a challenge to follow the consumer demand trend. This paper used conjoint analysis to measure the consumer preference towards Indonesia banking service. Twelve distinguished orthogonal profiles are generated to enable the preference measurement. It was found that online banking facility and ATM location is the most preferred attribute for consumer towards banking service. Meanwhile, banking distance is the least preferred attribute.

**Keywords:** : *Consumer preference, bank, conjoint analysis*

## INTRODUCTION

Indonesia banking sector continues to develop after years of expansion. The sector is largely stable and well capitalized. The industry is resonant with sufficient capital to support credit growth, while the regulatory environment is favourable and supportive. Indonesian banking sector has been developing for more than a decade. The sector has become stronger to withstand shocks, and by the time global financial crisis hit the banks were strong enough to sail without bailout. Banks are set to grow as the inclusivity improves, that stimulate customers to demand more complex products. Financial technology is increasing access to banks. The technology helps the penetration of the sector exponentially. Ubiquitous technology in Indonesia enable the possibility of closing the customer's distance without border. Online banking distribution channel such as SMS Banking, Mobile Banking, and Internet Banking roams in almost every major bank player in Indonesia. New technology such as branchless banking is also taking a toll in the matter of market penetration. This new feature amalgamates trusted agents and financial technology to reach customers who are mostly live in disadvantaged areas. The more sector has developed, consumers demands more convenience and comfort in the market. Banks intensely compete by providing better facilities, customer service, financial performance, and infrastructure, particularly when there are various awards in the sector.

Drolet et al (2009) defined preferences simply as what an individual want to gain or from potential alternatives. Lichtenstein & Slovic (2006) explained more that preferences can be regarded as individual's attitude towards a set of objects, that is typically reflected in their explicit decision making process. Conjoint analysis is a survey-based statistical technique used in market research that helps determine how people value different attributes (feature, function, benefits) that make up an individual product or service. Several studies are conducted to address consumer preferences towards banking services by using conjoint analysis design. Most recent study is conducted by Dauda & Lee (2016), a study that measure consumer preference for a quality of service and customer satisfaction of Nigerian bank customers. Ülengin (1998) initially conducted a comprehensive conjoint design with hierarchical integration to measure consumer preferences. Three high order bank choices (product mix, delivery channel, and customer relations) with 23 attributes are incorporated in the study.

The goal of this study is to measure consumer preferences for banking services in Indonesia. The advantage of using conjoint analysis in this study allows a realistic decision model for the population (Dauda & Lee, 2016). A precise performance level of studied product attribute allows statistical design of the null hypothesis that all attributes have an equal utility in the aggregate decision model. The objective of this study is to use conjoint analysis and test the variance of consumer's behaviour in relation to current product and service preferences in Indonesia banking service. By knowing the utility level of the attribute in the study, both practitioner and academician can have a proper direction to address consumer preference towards Indonesia banking service. The individual valuations can be utilized in the creation of market models that should be able to estimate revenue, market share, and profitability for creating banking strategy or further research. With this method, it can also be useful to run market simulations in order to predict the reaction of the market with regards to different scenario.

## LITERATURE REVIEW

Drolet et al (2009) defined preferences simply as what an individual want to gain or from potential alternatives. Lichtenstein & Slovic (2006) explained more that preferences can be regarded as individual's attitude towards a set of objects, that is typically reflected in their explicit decision making process. Preference is interpreted as mean of evaluative judgment in liking or disliking an object. However, preferences may not be constant over time, it can be affected by stimulus and decision-making processes. In a sense, customer preference is inclined to show choices among neutral or more valued options with willingness to tolerate the status quo or some less desirable option (Fife-Schaw et al. 2007). The definition can be refined in several extensions of studies. Novemsky et al (2007) defined a preference fluency as the subjective feeling of ease or difficult experience in making decision. This preference fluency is affected by two choices deferral and compromise. Yoon & Simonson (2008) explained further that strong preferences reflects a greater confidence, stability, and resistant to change. Individual with strong preferences is argued to be less likely to change over time, though their original choice is particularly influenced by stimulus. Dhar (2013) explained further that a preference has ordering that implies definitive preference ranking from consumer between alternatives that allows them to evaluate whether one alternative is at least as good as the other.

In order to measure stated preference, eliciting choices that illustrate the practical field is necessary. The basic principles of designing a marketing research study will apply to any study that uses conjoint analysis. Differences arise in the conceptual foundations. The conceptual model of conjoint analysis is quite straightforward; it postulates that the utility of a multi-attributed item can be decomposed into specific contributions of each attribute and possibly their interactions. Describing scenarios that resemble reality is difficult to be devised by merely following previous study. Designated scenarios are important to be modified that favours with current condition. Naturally, a conjoint study design begins with a definition of the problem and planned usage of results. For example, imagine that the study is being conducted for helping a firm with the design of a new product; and assume further that the firm already has an entry in the product category. The next step in the study design is to select the attributes and levels for constructing the hypothetical product profiles.

First, online banking facilities have taken an impact towards banking behaviour. There are many researches that emphasized M-Banking, SMS- Banking, and E-Banking towards customer adoption and preference (Laukkanen, 2007; Wessels & Drennan (2010). According study from Bain/Research 2014, Indonesia is the world leader in the use of Mobile Banking application. Second, Ta and Har (2000) explained that a strategic location is also important to make consumers decide to use bank services. Almossawi (2001) also discovered that convenient location is a major factor for consumer to selecting bank.

Third, Dauda & Lee (2016) used conjoint analysis that incorporate waiting time, online transaction error, information leakage, price, online service coverage, bank size, brand name, and customer care in the conjoint analysis of customer satisfaction and quality of service. Mersha & Adlakha (1992) pointed out that timely and prompt service was an important attribute to determine customer satisfaction. This attribute is also proposed by Oppewal and Vriens (2000) in the integrated conjoint experiment. Fourth, we proposed transaction error to be measured in the consumer preference. Dauda & Lee (2016) stated reliability of banking can be determined by online transaction error. This notion is supported by study from Akthar (2011) that explains a strong customer satisfaction is affected by error-free service.

Fifth, we propose that longer operational day is important as one of the consumer preference in selecting bank service. Almossawi (2001) initially started this attribute in the exploratory study. This rudimentary concept leads us to a hypothesis to incorporate operational time of banking service in the study. Most banks in Indonesia are following the central bank operational hour to serve customer. This unique attribute may differ the consumer preference in Indonesia and other countries. Sixth, the development of banking sector, such as online banking facility, enables the transaction notification to be more proactive than ever. Ülengin (1998) used a proactive reminder in the a customer relations aspect with bank. We proposed a similar approach as a bank notification in our hypothesis to measure the consumer preference.

Seventh, we believe that marketing program of banking service can encourage consumer preference. Ülengin (1998) found that the loyalty program which covers all the transactions customer make, is found to be the most important attribute in bank selection decision. Customers feel that reward from the transaction they have made is important to encourage them in selecting bank service. Eighth, we believe that ATM location is important as the consideration in consumer preference. There are many previous that highlighted ATM locations as an important factor for customer decision in banking selection (Almossawi, 200; Ülengin, 1998; Harris et al, 2016). ATMs are a convenient way for consumer to perform most financial and many non-financial transactions 24 hours a day.

## METHODOLOGY

This design of this study uses conjoint analysis to measure consumer preference towards banking service. The procedure of the data collection and analysis of the study is taken in survey design, pilot experiment, data collection, and data analysis. This study uses survey that is distributed online as a measurement tools. Orthogonal design is used to generate the statistical design for generating full profiles. According to Rao (2014), orthogonal design is parsimonious and enable estimation of all main effects of the attributes. The orthogonal profiles are generated by using SPSS software. The conjoint study design is comprised of eight attributes that each has two level of attributes. There are 12 profiles that are generated from the software. Respondents are asked to rank 12 banking profiles from best (1) to worst (12) according to preference. The dataset response of each profile should be idiosyncratic score, otherwise it will be invalid. All 12 profiles and response field are placed in one page.

Pilot experiment was conducted with low sample size ( $n=22$ ) to test the functionality and feasibility of the study. Several adjustments such as attribute placement, design space, and font type are appointed to help respondents in the survey. After pilot study has shown a favourable response, the survey questionnaire is distributed through online survey. The target sample of the study is individual above 18-year-old who has bank account. The population size of the sample is notably abundant. According to Orme (1998), minimum sample size of Traditional Conjoint Analysis can be calculated by using formula:  $3(\text{Total number of levels} - \text{total number of attribute} + 1)$ . Applying the rule, the minimum sample size of this study should be at least 27 respondents.

This study collected 655 respondents that were collected from 1 July to 20 July 2017. The socio-demographic of the respondents are proportionately distributed. The age of the respondents is comprised of 54% aged 18-35 and 46% aged 36 older; undergraduate and master education respondents are 65% combined; and 47% are male. All respondents need to have banking account to be eligible to fill the questionnaire. In the proportion, there are 235 respondents who have one bank account, 163 for two bank accounts; and 257 respondents have more than two bank account. This is interesting because 64% of the respondents have at least two bank accounts in their arrangement. Respondents who have Bank Mandiri and BCA as their bank account are each equally contribute 30% to the collected dataset. This study also asked consumers about their behaviour in the usage of Online and ATM facility. The collected data show that most respondents use ATM and online facility. There are only 20% of the respondents who are not using Online facility and 3% who are not using ATM.

## DATA ANALYSIS

The collected data is processed by using SPSS Software. Table 1 shows the correlation level of the conjoint design. The Pearson's R value is 0.924 with 0 significance value, while Kendall's tau value is 0.697 with 0.001 significance value. This means that values generated from the data analysis is significantly different.

	Value	Sig.
Pearson's R	0.924	0
Kendall's tau	0.697	0.001

Table 1. Correlation level

Initially, this study finds that consumers value online and ATM facility the most. Both of the attributes has the highest important value that can be depicted from Table 2. It is interesting to see that the importance value level from each attribute does not have substantial distance. The findings could be interpreted that all attributes in the study design is important for consumers. Regardless, online facility has highest importance value, while bank distance has lowest importance value. The finding shows that consumers are emphasizing on the distribution channel facility as the most important factor in their preference towards banking service. In the first place, this finding is sensible to the 80% of respondents who are using Online facilities and 97% who are using ATM.

Importance Values			
Attribute	Value	Attribute	Value
Online Facility	<b>13.839</b>	Operational Day	<b>11.954</b>
Distance	<b>11.68</b>	Transaction Notification	<b>11.464</b>
Waiting Time	<b>12.423</b>	Marketing Program	<b>12.136</b>
Error	<b>12.967</b>	ATM Location	<b>13.537</b>

Table 2. Importance Values Level

The next most important attributes according to consumer preference is transaction error. Banking industry is a business that operate with risk and trust as their core. Therefore, it is an established finding that transaction error holds a major contribution to consumer preference. However, it is interesting to further investigate that consumer prefer distribution channel before transaction error. Consumers may value distribution channel facility more because they feel bank is reputable

enough to mitigate transaction error. The most preferred attributes in banking service is waiting time, marketing program, operational day, bank distance, and bank notification respectively.

This study found several findings that are comparatively novel and contrast to a pre-conceptual hypotheses regarding bank service. Firstly, it is sensible to find online facility and ATM facility as the most important attributes. However, it is fascinating to see that consumers prefer ATM facility that is only available in bank branches. Table 3 shows the utility estimate for each attribute level. This finding may represent a perceived risk from the customer perception towards ATM facility. Consumers may prefer to manage a transaction through ATM in bank branches because they feel safer. ATM that is located outside bank branches may comprise risks.

Attribute	Attribute Level	Utility Estimate	Std. Error
<b>Online Banking Facility</b>	Bank has online facility (Mobile Banking, E-Banking)	0.163	0.114
	Bank doesn't have online facility	-0.163	0.114
<b>Distance</b>	Near home	-0.03	0.114
	Near office	0.03	0.114
<b>Waiting Time</b>	Under 10 Minutes	0.099	0.114
	Above 10 Minutes	-0.099	0.114
<b>Error</b>	0%	-0.091	0.114
	3%	0.091	0.114
<b>Operational Day</b>	Monday - Friday	0.165	0.114
	Monday – Saturday	-0.165	0.114
<b>Transaction Notification</b>	Bank provide notification	-0.023	0.114
	Customer finds notification independently	0.023	0.114
<b>Marketing Program</b>	Cover all product and service	0.175	0.114
	Only cover some of product and service	-0.175	0.114
<b>ATM Location</b>	Available at bank branches and other places	-0.355	0.114
	Available only at bank branches	0.355	0.114
<b>(Constant)</b>		6.5	0.114

Table 3. Utility Estimate of the model

Secondly, consumers prefer bank that is located their office or school rather than their home. This finding shows that consumers prefer to complete their banking transaction after, during, or before their working hour. It could also be correlated with preferred operational day for the banking office. Consumer prefer to go to bank during working day instead of weekend. There are several explanations about this. First, office or institution often requires individual to go to bank immediately to do financial chores instead of home. This is sensible because office is a place for professional or commercial work for business that engages with economic resources instead of home. Secondly, consumers may prefer to leave office a while to complete their financial chore instead of leaving home in the weekend. This preference could also be correlated with waiting time. Since consumers prefers to go to bank in the working day around their office, they prefer to have a quick transaction. Consumers prefer to wait a transaction under 10 minutes, probably because they need to back to the office immediately.

Attribute	Profile No 9 Attribute Level	Profile No 2 Attribute Level
<b>Online Banking Facility</b>	Bank has online banking facility	Bank has no online banking facility
<b>Distance</b>	Near office	Near office
<b>Waiting Time</b>	Under 10 minutes	Above 10 minutes
<b>Error</b>	3%	0%
<b>Operational Day</b>	Monday-Friday	Monday-Friday
<b>Transaction Notification</b>	Customer finds notification independently	Bank provide notification
<b>Marketing Program</b>	Only cover some of product and service	Only cover some of product and service
<b>ATM Location</b>	Only available in Bank branches	Available at bank branches and other places

Table 4. Highest and lowest utility profile

Thirdly, consumers prefer to have a marketing program that covers all products and services. They want to be rewarded from each transaction they make. However, in terms of notification, consumers prefer to find their information independently instead of receiving it from bank. Notifications may irritate consumers because it could be interpreted as a spam message instead. Consumers may feel uncomfortable to get flooded by bank notifications, so that they prefer to find the information they require independently. If this data is connected with the respondent banking profile, it will be sensible because 64% of the respondents have at least two bank accounts. Since consumers are also familiar with Online banking facilities, they could easily gather transaction information by themselves. Technology enables consumers to monitor their transaction without a automatic message burden.

From 12 available profiles in the orthogonal design of this study, the utility level from each profile was calculated to identify the best profile. Each attribute is calculated by summing up estimate level of the attribute level for each corresponding profile. Profile number nine (9) has 7.251 total value of utility estimate, while profile number two (2) has 5.831.

## CONCLUSION

This study discovered several major findings in terms of consumer preference in Indonesia banking industry. Firstly, consumer feel that both online banking facility and ATM location is the most important attributes for banking services. Secondly, consumers prefer to go to bank that is nearest to their office instead of their home. An inference of this notion drawn an idea that consumers prefer to go to bank because office has more financial chores. Consumer also prefer to wait in a bank that serves customer quickly. Thirdly, consumers prefer a reward point that covers all transactions they have made with bank. Lastly, consumer prefer to find a transaction notification independently. This preference could be provoked because automated notification irritate consumers as a spam message. The managerial implication of this finding shows that it is better for bank to set up a bank branches near office that has ATM facility and adequate amount of teller or employees. However, further investigation regarding consumer perceived risk regarding transaction error and ATM location is required. Spurious effect of bank brand image may affect consumer perception regarding their banking risk. Thus, conjoint analysis is not dedicated to address this research issue. Another method direction for further investigation can be developed by using qualitative method or neuroscience that cultivate more findings in a specific research question.

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# THE INFLUENCING VARIABLES TOWARDS INTENTION TO PURCHASE (ITP) AND THEIR RESEARCH GAPS

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## EXTENDED ABSTRACT

Purchase intention is important to study due to its research results are frequently be used for making decision about product and services and, the research result could predict future sales for organization. The objective of the research is to define the independent variables of which influence the intention to purchase as dependent variables. The method used in this study is systematic literature review of which is supported by articles from prominent journal in two years period, 2016 - 2017. Results of the study show that trust to intention to purchase, price to intention to purchase, perceived value to intention to purchase and attitude to intention to purchase are having contradicting on their hypotheses, where some of the hypotheses results are not significant, and some of them are significant. The result of the study provide significant contribution to academic field, as such to build a conceptual framework for further study, besides results of the study also provide significant contribution for industry, where all variables and their linkages are important for the people in the industry for consideration to make strategic decisions.

**Keywords :** *intention to purchase, trust, price, perceived value and attitude*

## INTRODUCTION

Intention to purchase must be exist for any individual who want to buy things or services. According to Wu, Wu, Lee & Lee (2015), saying that purchase intention is coexistence of consumer's planning in buying a product. Therefore in shopping context, attitudes of consumers are another way to ascertain the result of which the consumer might take action either they will purchase online or decline it (Hidayat and Diwasasri, 2013, Waruyanti and Suyanto, 2015). In view of this, Chen, Hsu and Lin (2010) highlighted that purchase intention is an outcome from prior to purchase enjoyment. Hence, the researcher is intending to search independent variable of which are influencing the intention to purchase. The objectives of the study is to answer the research questions by finding the variables of which are influencing the intention to purchase and to find out linkages of independent variables and dependent variable (Intention To Purchase) of which are having contradictions in their hypotheses test results. The problem statements of the study is that: too many scholars have done research on intention to purchase (ITP) as dependent variables and it's independent variables, and yet there are little research of the results of their hypotheses of which are having contradiction. The above problem statement can be broken down into two research questions, they are: 1) What variables or constructs of which are influencing the intention to purchase; and 2) What variables or constructs are having contradictions in their relationship with intention to purchase.

## LITERATURE REVIEW

The literature review is the main research of this study. Therefore, in reviewing the literature, the researcher is going to use systematic literature review and the steps consist of macro mapping, screening for contradictions which is gaps and micro mapping. Since this research is using systematic literature review and meta-analysis as a method to find and collecting selected research papers and journals from other scholars. The results from literature will be formulated and the answers for those research questions will be written in a structured methodology. The gaps are defined by selected articles of which are having contradiction in their research hypotheses results. Systematic review is differ from the traditional narrative review in several ways which mainly involved a detailed and comprehensive plan and search strategy. The objective is to reduce bias by identifying, appraising, and synthesizing all relevant studies on a particular topic. Often, systematic reviews include a meta-analysis component which involves using statistical techniques to synthesize the data from several studies into a single quantitative estimate or summary effect size (Petticrew & Roberts, 2006).

## I. MACRO MAPPING

The first step of the systematic literature review is using macro mapping as a method to collect literature from year 2016 to year 2017. Thus, in this macro mapping, there are columns for years, journal title / scholars, theories, relationship between independent variables and dependent variables, result of hypothesis, model, context, definition of every variable, recommendation for further research and the chosen one. To make the table concise in this extended abstract, the following table is going to contain only year, title of the article, and scholars

**Table 1: Macro Mapping**

No	Year (2017 -2016)	Titles of Articles	Scholars
1.	2016	Elucidating the determinants of purchase intention toward social shopping sites:A comparative study of Taiwan and Japan (Accepted manuscript)	Chia-Lin Hsu, Mu-Chen Chen, Kazuo Kikuchi & Machida Ippei
2.	2017	Store brands' purchase intention : examining the role of perceived quality	Cristina Calvo-Porrall & Jean-Pierre Levy-Mangin
3.	2017	Generic drugs in times of economic crisis:Are there changes in consumer purchase intention?	Vinicius Lins Ferreira, Cassia Rita Pereira da Veiga, Claudeneia Kudlawicz-Franco, Priscila Scalercio, Yohanna Ramires, Roberta ontarolo, Denise Maria W. Carvalho & Claudimar Pereira da Veiga
4.	2017	Yesterday once more? Autobiographical memory evocation effects on tourists' post-travel purchase intentions toward destination products	Vinicius Lins Ferreira, Cassia Rita Pereira da Veiga, Claudeneia Kudlawicz-Franco, Priscila Scalercio, Yohanna Ramires, Roberta ontarolo, Denise Maria W. Carvalho & Claudimar Pereira da Veiga
5.	2016	Generating consumer resonance for purchase intention on social network sites	Shari S.C. Shang, Ya-Ling Wu & Yi-Jhen Sie
6.	2016	The influences of airline brand credibility on consumer purchase intentions	Dhieh-Ping Jeng
7.	2017	Policy implications of the purchasing intentions towards energy-efficient appliances among China's urban residents : Do subsidies work?	Zhaohua Wang, Xiaomeng Wang & Dongxue Guo
8.	2016	A social commerce investigatiof the role of trust in a socialnetworking site on purchase intention	Nick Hajli, Julian Sims, Arash H.Zadeh & Marie-Odile Richard
9.	2017	Consumer purchase intentions for electric vehicles: Is green more important than price and range?	Nick Hajli, Julian Sims, Arash H.Zadeh & Marie-Odile Richard
10.	2016	Social bundling : A novel method to enhance consumers' intention to purchase online bundles	Ahmed Doha, Maryam Ghasemaghahi & Khaled Hassanein
11.	2016	An investigation of brand placement effects on brand attitudes and purchase intention : Brand placements versus TV commercials	Davit Davtyan and Isabella Cunningham
12.	2016	Determining consumer purchase intentions toward counterfeit luxury goods in Malaysia	Mao-Seng Ting, Yen-Nee Goh and Salmi Mohd Isa
13.	2016	The influence of peer characteristics and technical features of a social shopping website on a consumer's purchase intention	Xi Hu, Qian Huang, Xuepan Zhong, Robert M. Davison and Dingtao
14.	2016	How does the online service level influence consumers' purchase intentions before a transaction? A formative approach	Ines Kuster, Natalia Vila & Pedro Canales

\* The complete table will be provided in the full paper.

## II. SCREENING

Amongst the articles published on 2016 and 2017, researcher will do screening in order to find: The theory (ies), underlining the relationships between independent variables and dependent variable, definition of the independent variables, and contradictions in hypotheses results.

### **III. MICRO MAPPING**

Finally, the screening result from 14 articles will be projected by using micro mapping of which consists of articles' title, theories, independent variables, definition of the independent variables, and the contradiction in the hypotheses' results.

### **FINDINGS AND ARGUMENT**

The finding which have been found from the research shown there are theories, independent variables and its definitions, linkages between variables and conceptual framework.

#### **I. THEORIES**

##### **Theory of Reasoned Action**

Theory of Reasoned Action (TRA) by Martin Fishbein (1975) is to get clearer picture about the behavioural intent whereby which has been seen as the main determinant of attitude, the TRA will look into a person's or a group of population towards that behaviours which finally will influence the other people or a group of population's attitudes. This TRA Theory is supported the relationship between Trust, Price, Perceived Value and Attitude with Intention to Purchase.

##### **Theory of Planned Behavior/ Reasoned Action**

This theory is explaining of human behavior (Ajzen and Fishbein, 1980). The theory was resulted from attitude research whereby taken from Expectancy Value Models. This theory formulated after the researchers were trying to make estimation towards the discrepancy between attitude and behavior. This Theory of Planned Behaviour is supported the relationship between Trust, Price, Perceived Value and Attitude with the Intention to Purchase.

#### **II. VARIABLES AND DEFINITIONS**

##### **Intention To Purchase**

Consumer behaviour can be predicted by knowing their intention towards purchasing; and normally consumers who can explore and see the content have higher acceptance of resonance behaviour which lastly this behaviour will lead them to purchase a certain product (Zolait, 2014).

##### **Trust**

Trust is integral part when doing online businesses as consumers do not know in person the site owner and the sellers, however when having trust, consumers will use the online purchasing because they have belief towards the platform (Chen et al., 2010).

##### **Price**

According to Junquera et al. (2016), price and range for purchase intention will influence the consumers' intention to buy chosen goods.

##### **Perceived Value**

Perceived value is defined when overall assessment of the utility of a product based on perception of what is received and what is given. This assessment should be done by consumer in term to get the genuine of perceived value towards the brand which means that what consumer paid is what they should be given (Zeithaml, 1998).

##### **Attitude**

The intention to purchase can be determined by studying the consumer behaviour toward shopping attitude decision (Hidayat and Diwasasri, 2013; Warayanti and Suyanto, 2015).

### **III. LINKAGES BETWEEN VARIABLES**

#### **1. Trust to Intention To Purchase**

According to Hsu et al. (2016) that Trust as a variable was having a close relationship with Intention to Purchase (ITP) for male Taiwanese customers, whilst Trust was not closely related to ITP for female Japanese customers, in the context of Social Shopping Purchase Intention. Meanwhile Hajli et. al. (2016) found out that Trust was having relationship with ITP in their research in social commerce.

## 2. Price to Intention To Purchase

The finding from Degirmenci and Breitner (2017) that Price as a variable was having no relationship with Intention to Purchase in the context of Electric Vehicles. Meanwhile Calvo –Porral and Levy-Mangin (2017) that Price as variable was having direct relationship with ITP for High Perceived Value (HPQ) which was not significant, whilst Price was having direct relationship with ITP for Low Perceived Value (LPQ) which was significant in context of Store Brand or Retailer Brand.

## 3. Perceived Value to Intention To Purchase

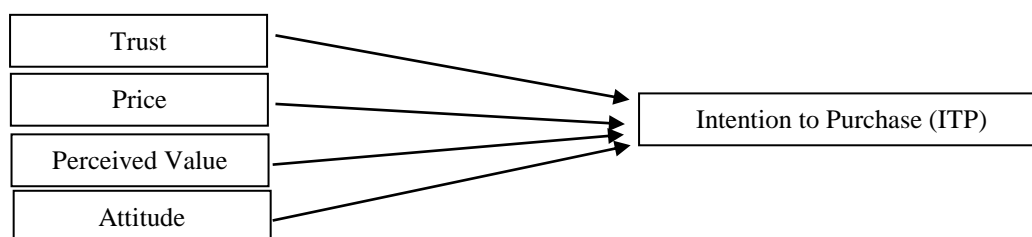
According Calvo–Porral and Levy-Mangin (2017) that Perceived Value as variable was having relationship with ITP for High Perceived Quality but it was not significant, whilst Perceived Value was significant for Low Perceived Quality in the context store brand or retailer brand. Meanwhile Ghasemaghaei and Hassanein (2016) found out that Perceived Value with ITP was having direct relationship with ITP and the result was significant in the context of social bundling.

## 4. Attitude to ITP

The finding from Fereirra, Veiga, Kudlawicz-Franco, Scalercio, Ramires, Pontarolo, Calvalho and Veig (2017) that Attitude as variable was having direct relationship with ITP and its relationship was significant in the context of drug. Another scholar from Degirmenci and Breitner (2017) found out that Attitude was also having direct relationship with ITP but it was not significant in the electric vehicles context. Meanwhile Ting, Goh and Isa (2016) found out that Attitude was having relationship and significant with ITP in their research in counterfeit luxury goods context.

## Conceptual Framework

Based on the mentioned above literature review, the conceptual framework can be described as the following:



**Figure 1 : Conceptual Framework**

## Discussion

These findings were for the four variables (Trust, Price, Perceived Value and Attitude) which were supported by results.

- TRUST:** Trust and ITP is having contradiction whereby Trust is having close relationship with ITP with male Taiwanese customer, meanwhile Trust is not having close relationship with ITP for female Japanese customer (Hsu et al., 2016). On the other hand Trust is having significant relationship with ITP (Hajli et al., 2016).
- PRICE:** Price and ITP is having contradiction whereby Price is having no relationship with ITP (Degirmenci et al., 2017). Meanwhile Price is not having significant relationship with ITP for High Perceived Quality and Price also having significant relationship with ITP for Low Perceived Quality (Calvo-Porral and Levy-Mangin., 2017).
- PERCEIVED VALUE:** The linkage between Perceived Value and ITP is having contradiction whereby Perceived Value is having no significant relationship with ITP for High Perceived Quality, meanwhile Perceived Value also having significant relationship with ITP for Low Perceived Quality (Calvo-Porral and Levy-Mangin., 2017). Besides, the variable for Perceived Value is having significant relationship with ITP (Ghasemaghaei and Hassanein., 2016).
- ATTITUDE:** Attitude and ITP is having contradiction whereby Attitude is having significant relationship with ITP (Ferreira et al., 2017 and Ting et al., 2016). On the other hand, Attitude also shown no significant relationship with ITP (Degirmenci et al., 2017).

## CONCLUSIONS

From the above discussion, it can be concluded that Trust is a variable of which is influencing the ITP. Meanwhile the variable of Price has shown that Price is influencing the ITP. It also concluded that Perceived

Value is a variable of which influencing the ITP. The similar to the variable of Attitude which shown that Attitude is influencing the ITP.

Besides, the linkage between Trust and ITP is having contradiction among previous scholars' research, that is why it is producing a research gap. The similar linkage between Price and ITP is having contradiction, Perceived Value and ITP is having contradiction and Attitude and ITP is having contradiction and those results are producing gaps. Therefore, those variables in these findings were pertinent for the industry to make strategic decisions. Thus, based on conceptual framework, other researchers can do literature review on relation between trust and price, price and perceived value, perceived value to attitude and attitude to trust for future research.

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## CUSTOMER-BASED MARKETING STRATEGY FOR POTTERY BUSINESS COMPANY IN INDONESIA

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### EXTENDED ABSTRACT

Pottery making has a long history in Indonesia. Pottery Business as one of the pottery producer in Indonesia aims to continue the long history of pottery making in Indonesia. Therefore, Pottery Business focuses on creating, producing, delivering the varieties of innovative and creative handcrafted handmade stoneware potteries to customers. Currently, the company wishes to increase its sales on domestic market. Thus, this research concentrates on proposing solution from customer-based exploration where data and information are from close observations, conversation, and interview to company owner, staff, and people who works in the industry. One of the methods that will be used in this research is customer value chain analysis. CVCA is useful to identify the stakeholder, value flow, material and energy flow, information flow, the value that need to be address, and who is the important customer in the system. After understanding customer needs/wants, this research will discuss further on how to develop a reliable new marketing strategy to increase domestic sales of Pottery Business, what are the best possible solutions according to the company current situation. In the end of this research, the company management expects that this research will give a new insight on understanding customer's needs/ wants.

**Keywords:** : *marketing strategy, pottery, customer value chain analysis (CVCA), customer needs*

### INTRODUCTION

History of pottery in Indonesia started around the time when pre-historic Indonesian has settled down and started farming (2500 BC to 2000 BC). In the present time, hand-made pottery often relates to art products, as it adds additional values of potter's crafting skill. The additional values distinct handmade pottery from the mass production manufactured pottery. Pottery Business has a goal to continue the long history of pottery making in Indonesia, by focus on producing stoneware pottery. With passion of learning and making pottery, the founder also wishes to popularize handmade pottery in Indonesia. The founder built the company on 2014, following his 7 years of passion on pottery making. Pottery Business focuses on creating, producing, delivering the varieties of innovative and creative handcrafted handmade potteries to customers.

Current issue that is faced by the Pottery Business is how to increase sales on domestic market. Company's management decided to move its target market from exporting to sell its product to Indonesian domestic market. One of the consideration made by the management is that company believes the teams will be able to understand the customer needs better if the focus on producing product for its near customers. Moreover, with the increasing level of consumerism and online media user trend in Indonesia, the Pottery Business is optimist to find its market in Indonesia. Even though, the current domestic sales are still low, according to the data for 6 months, the company total sales are 760 pieces; it includes 195 domestic and 565 exports. The company seeks to find the best strategy to fit in domestic customer need and expectations in order to increase sales in Indonesian local market (according to interview, with extra human resources and optimum production, the company is able to produce around 2000 pieces per month).

This research focus on finding the best business strategy to increase sales in Indonesia domestic market. Some deep explorations that will be explored in this research are; 1) what are the needs/wants of all important company stakeholders 2) what are the best marketing strategies to increase sales in domestic market. Other questions that will be explored in this research such as; what is the company current situation, what are the factors for both external and internal that will affect the business, how big is the potential market, who is the company potential customers, who is the company stakeholders, what do they expect from this business, and how they interrelated to each others. In the end of this research, the company management also expects that this research will give a new insight on understanding the true customer need. Thus hopefully this research will continuously benefit the company in the future.

### LITERATURE REVIEW

This research concentrates on customer-based exploration. Data and information are from close observations, conversation, and interview to company owner, staff, and people who works in the industry. The analysis and findings of internal and external analysis will explored with 7C's Compass Model, CVCA, and Design Thinking concepts. The basic philosophy of **7C's compass model** is to communicate and cooperate with the consumers, stop, and also listen to customer. **Customer value chain analysis** is methodological tool to comprehensively identify pertinent stakeholders, and their relationships with each other, and their role in the product's life cycle. CVCA is useful to identify the stakeholder, value flow, material and energy flow, information flow, the value that need to be address, and who is the important customer in the system. Furthermore, Wants Chain Analysis focuses on 'why' the system structure in CVCA is formed. Thus, in Wants Chain Analysis, the writer wants to add the 'why' part by analyzing the needs/ wants from customer's point of view. It is useful for analyzing and designing complex business models with numbers of stakeholders having various needs/wants in mind. **Design thinking** is a method of meeting people's needs and desires in a technologically feasible and strategically viable way. Human-centered design thinking includes research that based on direct observation. It will capture unexpected insights from empathy and produce innovation that more precisely reflects what consumers want. Considering people desire, technological aspect, and financial viability, the solution that emerge in the end of human-centered design should hit the overlap of the three of them.

## METHODOLOGY

Research methodology is the process used to collect information and data. This research uses both qualitative and quantitative method to gain an understanding of underlying reasons and opinions. The primary datas collected are mainly qualitative. They are collected from action research through observation and various interview with the Pottery Business employees, customers, and owner during a number of research visit to the studio, exhibitions, and open days of the Pottery Business. The issue that addressed in this observation mainly related to customer opinion about the company and its products. The secondary data carries out literature review from books and websites which helps analyses and findings. The methodology and analysis below based on the factors that affecting sales, promotion, and marketing decisions.

## FINDINGS AND ARGUMENT

Analyzing company current situations prepares groundwork for matching the company's strategy both to the external market circumstances and its internal resources and capabilities. Company analysis also prepares a precondition insightful analysis to identify the strategic issues that needed to be address as well as to gain confidence from understanding the company core competency. As Pottery Business targets domestic market, for both individual and business owner/corporates. Pottery Business's products are classified into medium to premium price, with most or current local product sold in medium price range. Thus, the products are categorized in medium to premium price, with online platform such as website and social media as a place for distribution. The company currently uses differentiation leadership.

As competitors will continually seek to gain advantage over each other, competitor analysis assesses company current condition compare to potential competitors. This analysis involves knowing the competitors' strengths, weaknesses, market positioning, market share, and upcoming initiatives from data collection, observations, and interview. To conclude, Pottery Business considers as relatively small business with relatively low market share. It makes Pottery Business has more business flexibility compare to other companies. Pottery Business high quality of products helps to divine company position in the market. Pottery Business current position in the market is not in favor to gain advantage over the market. Both market share and scale of the business of Pottery Business are in the weak position. Therefore, Pottery Business needs to improve its bargaining power over its competitors.

Other factor that encircling the company is the external circumstances. Circumstances in Indonesia are closely related to politic and legal factor (law). In every presidential period, combination of the politicians in the parliaments may change and implement different policies. This issue become influential factor to set company strategy. Looking at recent political movement of Indonesian government towards creative industry, government movements open up the opportunity for the Pottery Business to establish its firm root in Indonesian domestic market. However, it also triggers many new start-up creative businesses. Thus, creative industry in Indonesia will become more competitive in the future.

Another findings are related to stakeholders' flow of values, CVCA focuses on how the stakeholders are related to each other. Internal stakeholders of Pottery Business include the owner, managers, employee, potter, and seller. While external stakeholders of Pottery Business include the shareholders (if there is any), partner and collaborators, competitors, delivery clerk, government, publication and media, art community, sponsors, suppliers, user, and buyer. However, to simplify the analysis and focus on the customer needs, the internal stakeholder will address company as a whole. Suppliers, sponsors, partner and collaborator, delivery clerk, buyer, and user are the main stakeholders whose roles directly affect Pottery Business production and product selling process. The following Figure 1 shows the customer value chain analysis of Pottery Business.

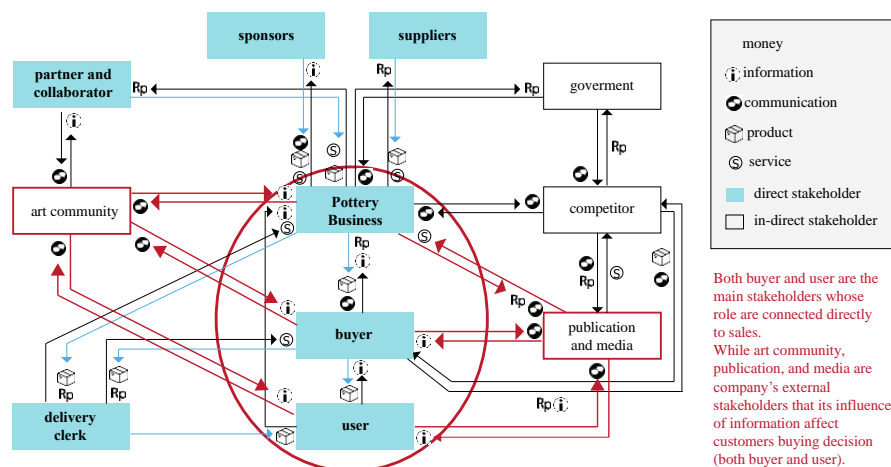


Figure 1. Customer Value Chain Analysis of Pottery Business

From the analysis of CVCA above, it is concluded that both buyer and user are the main stakeholders (customers) whose role are connected directly to sales. Thus they are the key player (buyer and user could be the same person) that decided the product success on Pottery Business sales in domestic market. In return to delivering product value, Pottery Business receives money and information. In the scenario where buyer and user are different stakeholders, both product and information flows are longer. Moreover, art community, publication, and media are company's external stakeholders. Those influence of information affect customers buying decision (both buyer and user). To better understand the value flows, the writer wants to add WCA approach. The analysis of WCA to identify each stakeholder needs/wants illustrated in Figure 2

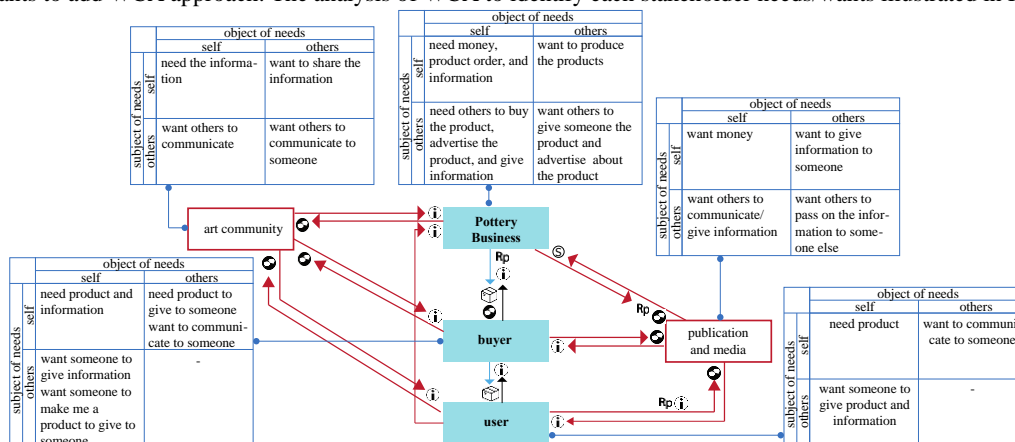


Figure 2. Wants Chain Analysis of Pottery Business

Other findings are the customer experience on purchasing from design thinking approach. The purpose is to gain the empathy from understanding of one's process through an experience. During the discussion, customers also asked to explain their experience in detail. Recently, Pottery Business provides small batch of retail products in addition to the customized products. These are the products that have been standardized according to its size and shape. However, the long waiting for production process, especially fully customized products, makes customer mood down. Other companies that offer customized design home wares products normally send its product in 1-2 weeks after the placement order. Thus, overall duration between placements orders to the proposed date customers will receive their order is not more than 3 weeks time. This fact brings concern to Pottery Business products that have average 4 weeks production time. If we look at the overall timeline of Pottery Business production time compare to its competitor, production time of Pottery Business will be nearly Pottery Business products will be able to be competitive in the market? Is Pottery Business has been efficiently use its the production time?

Other findings from design thinking approach related to several possible problems that cause low sales of Pottery Business are mainly focus on company position in the market, company bargaining power, promotional issue, consumer research, and customer feedback issue. Pottery Business is a pottery producer that focuses on providing customized pottery product to its customer. Thus, most of its production activity focuses on making customized product. However, it is also important to define the degree of the customization. Based on deep customer research on customer journey, customers prefer standardized customized product than fully customized product, they feel safer in their decision. This opinion is also supported by the



customer review from Deloitte about make-to-order. The customer review explains about the challenge to determine how many customization options are necessary for a product or a service. Since too many options may confuse customers, instead of bring benefit, the value of customization bring a hidden pain to customer.

## CONCLUSIONS

From the previous analysis, it can be concluded that the root causes of low sales in Pottery Business are caused by there is no product and customer demand alignment, low maintenance of customer feedback, and lack of product knowledge value that should be delivered to customer. Some other issues that surface are because the company focuses on two different customer segment with different demand while the management has no preparation of expanding its business. It is mainly because of the low maintenances of customer feedback from low product introduction in the market and laid back marketing. Those issues also affected by the fact that the company focuses on design and aesthetic value in the lower hierarchy of needs. If the company is able to tackle the main issues, other issues such as low product value perceived in the market, lack of interest in stoneware pottery, low market share and low competitive advantage of the company in the market, and low brand awareness of the company brand that leads to low domestic sales of the company could be solve eventually.

- **Create an Alternative Solution for Company's Branding**

The first step of proposed solution is to create a separate brand or sub-brand to gain new or broader customer segmentation and target market. The first alternative strategy is to create sub-brand under current company brand. The second alternative strategy is to launch a new brand. The summary of advantage and disadvantage of each company alternative branding towards proposed marketing strategies are listed in the Table 1.

**Table 1. Comparison of the alternative brand strategy**

	<b>Advantage</b>	<b>Disadvantage</b>
<b>Sub-brand Strategy</b>	Marketing efficiency in cost of brand development and also future distribution channel Future new sub-brand doesn't need brand recognition while entering the market Build companies strong brand equity as one company parent brand to compete with competitor	Marketing strategy flexibility for each sub-brand, as each sub brand also has to present the parent brand Consumer experience with one sub-brand might affect other sub-brand perceptions Lower quality product of a sub-brand might brings down the others
<b>New brand Strategy</b>	Clear brand positioning in each market segment Each brand can have separate marketing program Each brand perception doesn't effect the others	Risk of new thread and competitors competition are higher Require higher cost marketing, distribution channel, human resource, advertising and also sales and promotion program It takes more effort to get the brand recognition in the initial time entering the market

From the two alternative solution above, it can be concluded that the sub-brand solution is deemed more profitable based on Pottery Business current situation since it provide marketing efficiency in cost of brand development and also future distribution channel. In a long-term company's development, future new sub-brand doesn't need brand recognition while entering the market. The sub-brand strategy also helps to build companies strong brand equity as one company parent brand to compete with competitor. The alternative solution would not only be effective if applied by itself, but can also combined with the marketing strategy solution to enhanced the effect. Combining proposed marketing strategies, 7C's Compass Model, Design Thinking Concept, and Want Chain Analysis from CVCA, the solution that emerge should hit the overlap of people's needs and desires in technologically feasible and strategically viable way.

- **Proposed Marketing Strategy for Pottery Business**

The core benefit of launching sub-brand is that the company allows the company expansion into specific market while at the same time create exposure for the parent brand. Parent brand is the key of sub-brand marketing strategy, as sub-brand strategy become very effective when the parent brand has a strong value. The customer experience with one sub-brand is also closely related to other sub-brand under the same parent brand image. Therefore, issues such as whether there is enough customer demand in the particular new segment, whether the company has enough resources needed to conduct brand extension, such as creative asset, financial, and human resources, or whether the company's product varied enough from one another to support the sub-brand. Presenting multiple brands of products that are too similar may confuse potential customers and damage the brand image. The imperative steps and explanation of proposed marketing strategies follows AIDA Model framework (DK, 2014). AIDA Model channels customer feelings through each stage of communication process towards increasing company sales. Proposed marketing strategies for creating a sub-brand is illustrated in Figure 3



Figure 3. Proposed Marketing Strategies for Creating a Sub-brand Pottery Business

To help the purchasing process, the company can make the customer experience as simple as possible. It includes in simplified the buying and ordering process, minimizing the hustle, providing a good assistance, providing clear guideline of the service, and also minimizing potential customer confusion through misleading information, such as simplifying range or products, offer samples for pre order or customized order, and providing ready stock items. Based on the previous analysis, Pottery Business is a young company that is still on the introduction phase. Therefore, product introduction and brand awareness is needed to increase sales. However, Pottery Business also needs to compete with existing competitors. Marketing communication tools should not stand-alone. Thus, it is important to set the company's combine several media promotion and marketing.

- **Proposed New Customer Feedback Maintenances Program**

One of the main goals of gathering customer feedback is to enable communications between the business and its customer. In traditional store, it is easy to communicate with customers. From the conversation, staff can understand what they like and dislike. However, as more business go online, there is less of the face-to-face communication you find in a physical store front. In the online world, there's no communication and if there is no communication, it is impossible to understand customers needs and wants. There are a variety of ways to gather feedback from customers these days, such as empower customer-facing employees, hire a third-party customer feedback provider, monitor customer behavior, use customer feedback tools, and monitoring through social media platform. (Inc, 2010)

Once the company gather customer feedback, it's important to use that information to address specific challenges (Inc, 2010). The first task is to define the scope to get relevant feedback about a particular challenge. Getting the organization ready to act requires dividing customer feedback into strategic horizons, which correspond to the way in which you will act; **Horizon One**, Immediate tactical adjustments, such as quick wins, red-alerts, and lifelines. **Horizon Two**, Revenue interlocks, including actions that impact revenue not this month, but over the next year, **Horizon Three**, Game-changing ideas and suggestions for the long term. Once the feedback is divided into action buckets, the next step is to ensure that each organization or function in the company has three roles to play: to receive the feedback, to be conditioned by the findings, and to participate in the determined course of action.

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# RISK MANAGEMENT OF HEALTHCARE IN KLINIK PRATAMA MEDIKA ANTAPANI USING ANALYTIC HIERARCHY PROCESS

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## EXTENDED ABSTRACT

The participants of BPJS Kesehatan is keep increasing, and the number of registered participants in KPMA also increased. The other issues are the complex movement process of a participant from one to another health facilities, also the capacity of participants in a FKTP determined based on the ratio of number of doctors by number of participants that does not fit with room space and doctor schedule. However, with this big opportunity, KPMA also have risks that need to be considered by Medika Antapani. Medika Antapani also has a plan to open a new branch of KPMA. To understand the current business situation, it is necessary to conduct an external and internal analysis of the company using SWOT analysis. There are seven categories of risk identified that consist of financial, operational, disaster, market, reputation, legal and policy, and human resource. Risk measurement using AHP method that conducted by weighting the importance of elements in the hierarchy used Expert Choice software. The result of AHP showed that the most important risk category is the financial category with highest eigenvalue. Since there are none of risks are categorized as extreme risk, there are seven risk factors that must be prioritized to be mitigated.

**Keywords:** risk management, analytic hierarchy process, healthcare, pratama clinic

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## INTRODUCTION

The high demand for *Badan Penyelenggara Jaminan Sosial Kesehatan* (BPJS Kesehatan) insurance becomes an opportunity for health facility providers, but if the number of participants who are treated is too high, it will be a disadvantage. This is because the rules of BPJS Kesehatan require participants to pay monthly dues, healthcare facility providers will receive capitation income, but medical expenses also borne by healthcare providers. Healthcare facilities providers such as *Klinik Pratama Medika Antapani* (KPMA) realize that this is an opportunity as well as a threat. Therefore, it is important to manage the associated risk within their business units.

In this research, different books and literature about risk management, risk management in healthcare, and Analytic Hierarchy Process (AHP) were reviewed and studied in order to gain sufficient depth, knowledge, and theoretical understanding of risk management, decision making, and AHP as a whole. This helps author to gain proper knowledge and which theories or models are going to be used to analyze and formulate the best result of this research. This study aims to determine what risks are associated with KPMA business units and what steps should be taken to manage those risks.

## LITERATURE REVIEW

### Risk Management

Risk is the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood. Risk management is the culture, processes and structures that are directed towards the effective management of potential opportunities and adverse effects (Standards Australia, Standards New Zealand, 2004). Risk management is defined as a set of financial or operational activities that maximize the value of a company or a portfolio by reducing the costs associated with cash flow volatility. The goal of risk management is to create a reference framework that will allow companies to handle risk and uncertainty. Risk are present in nearly all of firms' financial activities (Dionne, 2013). That opinion refers to activities that manage or reduce potential losses into potential opportunities aimed at increasing profits. In general, risks can occur to anyone and anytime, but with the application of risk management, those risks can be reduced. According to AS/NZS 4360:2004, the risk management process framework consists of communicate and consult, establish the context, identify risks, analyze risks, evaluate risks, treat risks, and monitor and review.

### **Analytic Hierarchy Process (AHP)**

AHP is a method which was developed by Thomas L. Saaty in 1980. AHP is a theory of measurement through pairwise comparisons and relies on the judgements of expert to derive priority scales (Saaty, 2008). AHP in risk management mainly applied in project risk management and supply chain risk management (Verbano & Venturini, 2002). AHP can be used in strategic risk management, financial risk management, disaster risk management, clinical risk management and others. AHP can assist in prioritizing actions in risk management to achieve the objectives of risk management. AHP aims to determine the level of risk identified as a basis for determining the company's decision. AHP will indicate the risk level based on the likelihood and impact as a basis for determining the level of risk (Sum, 2013). There are four stages in the decision making using AHP, including: setting goal; structure the decision hierarchy; construct a set of pairwise comparison matrices; weight the priorities of each element in the hierarchy (Saaty, 2008). The goal in AHP is based on the problem to be identified and the kind of knowledge sought. Then formulating the decision problem in a hierarchical structure. The structure of the hierarchy, the top level reflects the overall objective (goal) of the decision problem. The intermediate level reflects the element that affecting the decision. The lowest level comprises the decision options. This type of hierarchy provides a clear and simple illustration of all the factors affecting the decision and their relationship. Once the hierarchy has been constructed, begins the prioritization procedure to determine the relative importance of the element in each level of hierarchy. Element in each level are pairwise compared with respect to their importance in making the decision under consideration. To make a pairwise comparison, the data obtained from an interview in the company. Each respondent to make a judgment on the priority level of each element. The results of the pairwise comparisons are the relationship between elements shown in the relative importance, or it is called eigenvalue or eigenvector. Because AHP involves a relatively complex mathematical procedure, a user-friendly computer package, Expert Choice has been developed to support the method (Goodwin & Whight, 2004).

### **Risk Management in Healthcare**

Risk management activities were inducted into the healthcare industry in response to the growing national malpractice insurance costs (Singh & Ghatala, 2012). The clinical risk is the organizational response to the need to reduce errors and their costs. The risk management includes the procedures necessary to reduce all potential risk factors, not just clinical factors (Vincent & Bark, 1995). In this study, the implementation of risk management not only focus on clinical risk but all aspects related to healthcare insurance governance and management and operations of KPMA. Jaminan Kesehatan Nasional (JKN) is a healthcare protection organized by the government through BPJS Kesehatan for its participants to benefit health protection (BPJS Kesehatan, 2014). Healthcare facility providers must follow all the conditions stipulated by the government. There are some favorable rules, but there are also harmful rules, especially for healthcare facility providers.

## **METHODOLOGY**

To analyze the business issues, the authors perform an external and internal analysis. The external analysis consists of PESTEL analysis, competitor analysis, and Porter's Five Forces. For internal analysis consists of 7P Marketing Mix and STP analysis. The results of both external and internal analysis will help in determining the SWOT (Strength Weakness Opportunity and Threat) Analysis. SWOT Analysis aims to know the strengths, weaknesses, opportunities, and threats of KPMA. In addition, SWOT analysis also aims to identify risks in risk management process. Risk management process consists of risk identification, risk measurement, risk evaluation, and risk mitigation. The results of the risk management process are implemented through monitoring and review. The objective of this study is to identify all possible risks in KPMA, to assess the risks based on the risk profile of the company, and to determine what steps should be taken to manage those risks. Medika Antapani has several other business units beside KPMA, namely: Utama Clinic (KUMA), pharmacy, and laboratory. However, the company currently concerned with development of KPMA, thus the focus of this research is to analyze the risks in KPMA.

### **SWOT Analysis**

SWOT analysis is obtained from internal and external analysis of the company. This internal analysis is used to determine the strength and weakness, while the external analysis is used to determine the opportunity and threat. The negative part of the SWOT analysis, that weakness and threat will be utilized for the identification of risks. In the external analysis, risk identification obtained from PESTEL analysis, competitor analysis, and Porter's Five Forces analysis. The important things that can be a risk in the PESTEL analysis are the political and legal aspects. The regulations about BPJS Kesehatan are complicated. Although the current regulations are quite favorable for Medika Antapani, the changes in regulation can be a risk for KPMA. The important things that can be a risk in the competitor analysis are the competitors itself. In Porter's Five Forces, the important things in this analysis are the threat of new entrants and rivalry among existing firm. To enter this industry is quite difficult, and the level of competition in this industry are quite intense. However, the threat of new entrants and the competition in this industry can be a risk for KPMA. In the internal analysis, risk identification obtained from 7P Marketing Mix and STP analysis. From 7P Marketing Mix obtained that KPMA has the limited capacity even though the number of participants of KPMA are very much. The equipment and administration system of KPMA are not reliable enough. From STP analysis also found that KPMA has big market potential, especially in West Bandung Area.

## **FINDINGS AND ARGUMENT**

### **Risk Identification**

Risk identification in this study was obtained from several sources, include: internal and external analysis (SWOT), risk from another similar research, and FGD (focus group discussion) with management of KPMA.

Risk Categories	Risk Factors	Descriptions
Financial (F)	Investment fund (F1)	Lack of investment funds under certain conditions
	Payment of BPJS capitation (F2)	Delay in payment capitation by BPJS because of problems in BPJS
	Allocation of funds (F3)	Allocation of funds are ineffective and inefficient
	Medicines and supplies price (F4)	The rise in prices of equipment and medical supplies, medicines, and others
	Manipulation and fraud (F5)	fraud and manipulation of data and financial transaction
Operational (O)	Diagnosis (O1)	Misdiagnosis during examination
	Treatment (O2)	Wrong in giving the drug of treatment measure
	Infectious diseases (O3)	There are patients who have infectious diseases around the clinic
	Contamination of bacteria and viruses (O4)	Contamination of bacteria and viruses around the clinic (clinic unhygienic)
	Medical equipment (O5)	Damage or impropriety medical equipment for treatment of patients
	Medicines and supplies stock (O6)	Medicines and supplies stock are unavailable when it needed
	Capacity (O7)	Limited capacity due to limited number of medical personnel and facilities
	Administration system/IT (O8)	The administration system is out of order (medical record system, computers)
	Clinic facilities (O9)	Clinical support facilities damaged or unfit
	Medical waste (O10)	Inappropriate medical waste management (separation, processing)
Disaster (D)	Flood (D1)	Building flooded (water entering the building)
	Earthquake (D2)	Powerful earthquake
	Storm (D3)	Powerful wind or rain with powerful wind
	Extra ordinary event (D4)	Events at a certain time, such as poisoning and epidemics
Market (M)	Number of registered member (M1)	Registered members moved to another health facility that makes the number of registered member declined
	Number of patients (M2)	The number of patients who visiting clinic increased
	Competitors (M3)	Competitors have a new and better services
	New entrants (M4)	New clinics that provide services with the same quality or better
Reputation (R)	Services quality (R1)	Decreased service quality
	Comfort quality (R2)	Decreased comfort quality
	Communication (R3)	Communication with patients is not well established
	Complaint (R4)	Complaints related to treatment services in clinic
	Company image (R5)	Bad news about the clinic which is widespread in society
Legal and Policy (L)	Government regulations (L1)	Changes in Government regulations related to BPJS program
	Permission (L2)	Delays in getting the establishment and operation permissions due to incomplete requirements
	Conflict of interest (L3)	Conflicts between stakeholders (management, employees, or other parties)
	State law (L4)	Violations of the law by the company or employees
	Internal regulation (L5)	Violation of the rules and ethics of the company by medical personnel or employees
Human Resource (H)	Qualified employees (H1)	Difficulty in obtaining qualified medical personnel and employees
	Retain the employees (H2)	Failure to maintain qualified medical personnel and employees
	Performance measurement (H3)	Improper employee performance measurement
	Performance quality (H4)	Decline in the quality of medical personnel and employees' performance
	Work accident (H5)	Work accidents caused by human error (medical personnel or employees)

Table 26 Risk Identification

### Risk Analysis/Measurement

Judgment results obtained from interviews conducted for 9 of Medika Antapani's management. AHP will indicate the risk level based on likelihood and impact as a basis for determining the level of risk that are divided into five levels: very high, high, medium, low, very low. Before conduct assessment using AHP, it is necessary to determine the hierarchy based on the risk identification and level of risk that will be analyzed.

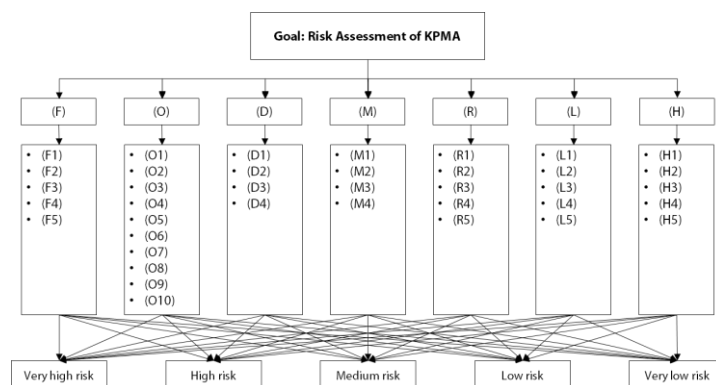


Figure 10 Hierarchy of Risk Assessment of KPMA

Each matrix of the pairwise comparison made must be calculated in advance the value of CR before the results of the weighting used for the next stage. Consistency Ratio (CR) value shows the consistency of the results of judgment, if the CR value is greater than 0.1, then a judgment is inconsistent, then the judgment must be repeated (Coyle, 2004).

Table 27 Consistency Ratio (CR) Result

Name	Overall	Goal	F	O	D	M	R	L	H
Combined	0.0251	0.0180	0.0371	0.0667	0.0338	0.0428	0.0632	0.0345	0.0627
Dir. Utama	0.0467	0.0509	0.0176	0.0601	0.0440	0.0440	0.0535	0.0496	0.0535
Dir. Keuangan	0.0615	0.0628	0.0359	0.0948	0.0193	0.0292	0.0699	0.0566	0.0808
Dir. SDM	0.0478	0.0313	0.0592	0.0904	0.0155	0.0792	0.0841	0.0454	0.0541
Dir. IT	0.0700	0.0755	0.0413	0.0800	0.0554	0.0789	0.0841	0.0211	0.0852
Dir. Pengadaan	0.0574	0.0427	0.0646	0.0730	0.0936	0.0817	0.0799	0.0651	0.0661
Dir. Klinik Utama	0.0593	0.0657	0.0300	0.0601	0.0326	0.0490	0.0846	0.0518	0.0895
Dir. Klinik Pratama	0.0479	0.0376	0.0300	0.0887	0.0592	0.0416	0.0502	0.0214	0.0894
Dir. Apotek	0.0520	0.0368	0.0638	0.0788	0.0621	0.0751	0.0694	0.0670	0.0537
Dir. Laboratorium	0.0711	0.0696	0.0865	0.0840	0.0195	0.0245	0.0737	0.0578	0.0678

Table 28 Result of AHP in KPMA

Risk Category		Risk Factor		Likelihood Level		Impact Level		Risk Category		Risk Factor		Likelihood Level		Impact Level	
F	0.349	F1	0.190	L	0.108	M	0.091	M	0.121	M1	0.033	M	0.018	H	0.013
		F2	0.077	M	0.038	H	0.038			M2	0.067	L	0.040	H	0.031
		F3	0.024	M	0.008	M	0.011			M3	0.015	M	0.007	M	0.005
		F4	0.044	M	0.023	M	0.021			M4	0.007	M	0.004	M	0.002
		F5	0.014	L	0.008	L	0.005			R1	0.042	M	0.023	H	0.020
O	0.258	O1	0.068	L	0.036	VH	0.031	R	0.083	R2	0.003	M	0.001	M	0.002
		O2	0.053	L	0.032	VH	0.026			R3	0.011	L	0.005	M	0.004
		O3	0.011	M	0.006	M	0.007			R4	0.005	L	0.003	M	0.002
		O4	0.020	L	0.007	H	0.007			R5	0.022	L	0.012	H	0.012
		O5	0.007	L	0.004	H	0.003			L1	0.016	M	0.010	VH	0.006
		O6	0.045	L	0.027	H	0.022	L	0.060	L2	0.030	H	0.011	VH	0.012
		O7	0.005	M	0.003	H	0.003			L3	0.004	L	0.002	M	0.002
		O8	0.033	M	0.020	H	0.015			L4	0.007	L	0.004	H	0.003
		O9	0.004	L	0.002	M	0.002			L5	0.002	L	0.001	H	0.001
		O10	0.013	M	0.005	H	0.007			H1	0.026	M	0.015	H	0.012
D	0.027	D1	0.015	M	0.005	H	0.009	H	0.103	H2	0.006	L	0.003	M	0.004
		D2	0.007	L	0.002	H	0.003			H3	0.014	L	0.008	M	0.008
		D3	0.003	M	0.001	H	0.001			H4	0.053	L	0.030	H	0.030
		D4	0.002	M	0.001	H	0.001			H5	0.004	L	0.002	H	0.002

Note: VH: very high H: high M: medium L: low VL: very low

### Risk Evaluation

Risk evaluation involves comparing the level of risk found during the analysis process with criteria established when the context was considered. Based on this comparison, the need for treatment can be considered. Decisions should take account of the wider context of the risk and include consideration of the tolerance of the risk come by parties other than the organization that benefits from the risk. The classification of the risk is based on a combination of likelihood and impact level. A lower impact on risk means a lower management attention in allocating resources to address the risks associated. Risk mapping is the process of mapping of the risk factors in a scheme template to determine the pattern and the position of the risk (Djohanputro, 2012). In this process, will obtain the level of the risk of each factor that consists of four categories: low risk, moderate risk, high risk, and extreme risk. The result of risk mapping is no risk at the extreme level, 14 risks at the high level, 22 risks at the moderate level, and one risk at the low level. Determination of these parameters adjusted to the character of the firm in assessing those risks, called risk profile. Risk tolerance could be expressed in terms of absolutes, for example, we will not expose more than x% of our capital to losses in a certain line of business or we will not deal with certain type of customer. While risk appetite, by contrast, is about what the organization does want to do and how it goes about it (The Institute of Risk Management, 2011).

### Risk Mitigation

Risk mitigation is the action taken against the risk that has been analyzed and evaluated in the previous stage which aims to reduce or anticipate the impact of the risk. There are four method of risk mitigation: avoidance, reduction, sharing (transfer), and acceptance (COSO, 2004). The mitigation method for low risk will be accepted, the moderate risk will be reduced/transferred, the high risk will be reduced/transferred, the extreme risk will be avoided. The mitigation method according to the risk profile of Medika Antapani toward KPMA. Mitigation of the risk factors is based on the risk profile that has been predetermined. Each level has a risk of mitigation methods respectively.

## CONCLUSION

KPMA is a business unit that has many opportunities for Medika Antapani. However, with many of these opportunities, KPMA also have risks that need to be considered by Medika Antapani. Therefore, Medika Antapani requires a risk analysis in KPMA. The risk identification is obtained from SWOT analysis, the risk from another similar research, and focus group discussions with management and employees. From risk identification process obtained 38 risk factors that grouped in seven categories of risk: financial, operational, disaster, market, reputation, law and policy, and human resource. Risk measurement using AHP method to assess each category and factor of risks to obtain the level of likelihood and impact. The weighting is done by comparing each element with other elements in pairwise comparison. The result of AHP showed that the most important risk category is financial with eigenvalue 0.349, then followed by operations (0.258), market (0.121) human resource (0.103), reputation (0.083), legal and policy (0.060), and the last disaster (0.027). The highest eigenvalue of risk factors from each category are investment fund (0.190), number of patients (0.068), diagnosis (0.067), performance quality (0.053), service quality (0.042), permission (0.030), and flood (0.015). The mitigation plan is based on the classification of the level of the risk. There are four methods to mitigate the risks: avoidance, reduction, sharing/transfer, and acceptance.

There are several recommendations for KPMA in implementing the risk management result:

1. There are seven risk which considered as a priority to be mitigated immediately based on the level of risk in the risk evaluation and based on the level of importance in the risk analysis:

Table 29 Risk Mitigation of KPMA

Risk Category	Risk Factors	Risk Level	Mitigation	Description
Financial	Investment fund (F1)	High	Transfer	Bank loan
	Payment of BPJS capitation (F2)	High	Reduction	Business continuity plan
Market	Number of patients (M2)	High	Reduction	Quality improvement
	Number of registered member (M1)	High	Reduction	Quality improvement
Operational	Administration system/IT (O8)	High	Transfer	Third party
Legal and Policy	Permission (L2)	High	Reduction	Contingency plan
Human Resource	Qualified employees (H1)	High	Transfer	Third party

2. Medika Antapani should be aware of the events that related with the risk in KPMA and reports all the information gathered to be reviewed further.
3. The report provided should be accountable so that truly reflect the current conditions to avoid mistakes in the next stage.
4. The cooperation of the parties on risk management process required to support the success of this program.
5. For further research, the assessment of risk treatment can be performed using AHP method to get the best response in the risk management process.

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# CAN THE FRAUD TRIANGLE PREDICT FINANCIAL STATEMENT FRAUD?: EVIDENCE FROM JAPAN

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## EXTENDED ABSTRACT

The reliability for the capital market in Japan has fallen by accounting fraud which occurred at one of the excellent firms in Japan. Why did accounting fraud occur in Japan? Urgent studies to clarify a fraud mechanism and to detect and predict fraud will be needed. The effectiveness of the fraud triangle should be clarified through this analysis. I provide evidence from Japan by investigating whether the model focused on the fraud triangle factors can predict fraudulent financial statements by using fraud firms and non-fraud firms in Japan. The followings are my findings: First, univariate analysis results suggest total accruals as a rationalization factor differs between fraud and non-fraud firms. The results of the logistic cross-sectional regression analysis suggested that all three factors of pressure, opportunity, and rationalization affect the likelihood of financial statement fraud. The results of regression suggest that financial targets and profitability as pressure, ineffective governance as opportunity, and managers' discretion as rationalization are significantly associated with fraudulent financial statements. Based on these results, it seems that fraud firm managers have discretions through accruals and decrease accruals quality. The results of regression suggest that there is a possibility that rationalization is related to managerial discretion.

**Keywords:** : forensic accounting, fraud, the fraud triangle, fraudulent financial statement, incentive, opportunity; rationalization

## INTRODUCTION

The reliability for the capital market in Japan has fallen by accounting fraud which occurred at one of the excellent firms in Japan. Why did accounting fraud occur in Japan?

First, it is likely that governance mechanism and the internal controls system did not work well in Japan. While accruals management and real management had a trade-off in the post-SOX in the U.S., earnings management remained unchanged in Japan in the post-J-SOX (Nakashima and Ziebart 2015). Nakashima and Ziebart (2015) suggested that the inconsistent results with the U.S. results may have been from the deficiency of governance mechanism and the feasible internal controls system. Nakashima (2017) documented that there is a possible relationship between fraud and governance mechanism.

Second, it is likely that since forensic accounting education is not cultivated in Japan, there have been no chances to learn theory of fraud systematically and theoretically. While a forensic accounting course will first be opened in Japan in Fall 2017, Huber (2017) argues that the fraud triangle does not apply to fraud and the model that attempts to predict and detect fraud should be considered, since the fraud triangle is not supported by empirical studies. Urgent studies to clarify a fraud mechanism and to detect and predict fraud will be needed. This is the motivation of my study. Therefore, I examine whether the fraud triangle can apply to financial statement fraud. The effectiveness of the fraud triangle should be clarified through this analysis.

This study contributes to the literature in the following ways. First, this study provides the results regarding the effectiveness of the fraud triangle theory framework, focusing on pressure, opportunity, and rationalization through using Japanese public firms. Beasley (1996) and Nakashima (2017) suggest that financial statement fraud is associated with ineffective inner governance mechanism. This study can provide a comprehensive model that includes not only financial ratios but also governance information for predicting fraudulent financial statements. Second, I used publicly available financial statements in which the fraud firms already restated the amount for the analysis. This means that fraud can be predicted through the innate characteristics such as financial structure and corporate governance by the prediction model. The prediction model based on the fraud triangle will help regulators and auditors to identify fraudulent financial reporting firms. It is likely for managers to encourage avoiding the indicators computed through this modified Skousen et al.'s (2009) model as the red flag signals. Therefore, the prediction model will provide managers with an indicator for the red flag signals leading to the possibility of fraud. Third, this study adds the feature of Japanese corporate culture and governance into the modified prediction model based on Skousen et al.'s (2009) model. Huber (2016, 20) indicates that national culture is a significant



factor in researching fraud. If cultural differences exist in auditors' evaluation of internal control and assessment of risk, auditors need to take such differences into account when planning audits and selecting audit procedures to be performed by auditors in other countries (Huber 2012, 16). Although the prediction model developed in this study is based on the fraud triangle framework, the model includes the specific feature related to Japanese firms, such as governance and organizational structure in Japan. This model provides a useful predictor for regulators for investigation to identify fraud related to the cultural dimension.

## LITERATURE REVIEW

Dichev et al. (2012) conducted the survey and the interview with CFOs in the U.S. and found that incentives of earnings management are outside and inside pressure to hit earnings benchmarks (92.9%, 91%) and executives' career fears (88.6%). Although Dichev et al. (2012) did not conduct the archival study but showed that the interviewed firms have larger sales, lower sales growth, and higher credit ratings, compared with the typical Compustat firms. Also, they succeeded in that they received the CEOs' general ideas that the red flag signals for detecting earnings management when earnings are inconsistent with operating cash flows and deviation from industry norms (Dechow et al. 2016, 41-42).

Nakashima and Ziebart (2016) documented that the lower objective decision-making by managers is linked to the trade-off between accruals and real management based on the results of the survey that asked the public firms' CEO about their internal controls system and auditing in Japan. They use the objective decision making as a proxy of rationalization of the fraud triangle. However, they did not conduct an archival study by using the financial ratio nor prove that all three factors of the fraud can detect fraudulent financial statements.

There are few archival studies that examine whether the fraud triangle theory applies to fraud and there is little evidence to support the effectiveness of the fraud triangle in order to predict and detect fraud (Skousen et al 2009, 2; Huber 2017, 5). There are some empirical studies that financial statement fraud is associated with inner governance mechanism.

Beasley (1996) documents that the proportion of outside directors, board composition, and board size affect the likelihood of financial statement fraud. Nakashima (2017) finds that there is a significant association between fraud and the percentage of outside directors and a significant association between fraud and the independence of the outside directors. These studies focused on the constraints of opportunity, one factor of the fraud triangle.

Song et al. (2016) found that the model based on the Dechow (2011) model that used accruals quality, performance, non-financial measures, off-balance sheet activities, conservatism and market-related incentives, conservatism, and the Japanese-specific factors for predicting fraudulent financial statements for public firms in Japan generally possess higher explanation power for detecting accounting fraud.

Aghghaleh et al. (2016) examined whether the Beneish M-Score model (1999) and Dechow F-Score model (2011) based on financial ratio can predict the financial statement fraud for Malaysian fraud firms. They found that the ability of Dechow F-Score model (73.17%) is higher than the Beneish M-Score model (69.51%) and the Dechow F-Score model better fits the Malaysian fraudulent financial statements.

Mehta and Bhavani (2017) investigate whether the Beneish M-score model, the Altman Z-Score and Benford's Law can detect financial statement fraud through the case of Toshiba. Beneish M-model is the model that uses eight financial ratios to find how much earnings are manipulated (Aghghaleh S.F. et al. 2016; Mehta and Bhavani 2017, 693). They found that the Beneish Model failed to detect the fraud in Toshiba's financial statements (Mehta and Bhavani 2017, 707).

Skousen et al. (2009) was one of the empirical studies that examined the effectiveness of the fraud theory comprehensively. They documented that five pressure proxies and two opportunity proxies are significantly related to fraudulent financial statement and found that rapid asset growth, increased cash needs and external financing positively relate to the occurrence of fraud and provided evidence of effectiveness of the fraud triangle. They also indicated that ownership of share and control of the board of directors are also associated with fraud occurrence but that the number of independent auditors on the audit committee is negatively related to the occurrence of fraud.

This study examines whether the model that focuses on all three factors of the fraud triangle based on Skousen et al. (2009) can predict fraudulent financial statements.

## METHODOLOGY

The three risk factors of the fraud triangle are related to fraudulent financial statements.  $FRAUD_t = f(\theta_0 \text{Pressure}_{t-1}, \theta_1 \text{Opportunity}_{t-1}, \theta_2 \text{Rationalization}_{t-1})$ . Where, Pressure is the degree to which the person in authority has the motivation to commit fraud. Opportunity is the degree to which conditions are such that fraud could be committed due to feasible governance. Rationalization is the degree to which the person in authority has an attitude or ethical values such that they would allow themselves to commit to fraud. If all three of these factors exist in a given situation, it would be highly likely that fraudulent financial statements have occurred. If any one of the factors is missing, then it would be highly unlikely that fraudulent financial statement have occurred.

Tokyo Shoko Research (TSR) Investigation Report (Tokyo Shoko Research 2016) provides that 280 public firms in Japan disclosed fraudulent financial statements during the period from 2007 to 2015. The fraud firm sample that disclosed that inappropriate accounting impacted the prior financial statements or would have an impact in the future in their annual reports which were issued from April 2007 to March 2015 through Tokyo Shoko Research (TSR) Investigation Report (Tokyo Shoko Research 2016). As step 1, I confirm these firms as my initial sample of fraud firms. As step 2, I eliminate the four financial institutions. As step 3, I remove the two firms that prepare financial statements following to the US GAAPs and the eleven firms that applied IFRS in order to compare the financial statement data. The final firms comprise 150 firms as fraud firms. In order to develop a pair sample of non-fraud firms, I matched them based on the industry and size (total assets). Table 2 presents sample statistics for mean and median for the fraud and non-fraud firms. The results of t-tests shows insignificant differences between the two samples.

Data is obtained from Nikkei NEEDS. Nikkei data is a retroactive modified financial statement when restatement data is disclosed by the firm. I use the restated financial statement data from Nikkei database.

## FINDINGS AND ARGUMENT

Although I develop the proxies for the three factors following Skousen et al. (2009), I add some proxies as Japanese specific features into the original Skousen et al.(2009) model. I employ a multivariate model to examine whether variables lead to increase the occurrence of fraudulent financial statements. The dependent variable is (1) fraud or (0) no fraud. Some independent variable are dropped from the original model by the univariate analysis. The following logit regression model is used to test the hypotheses:

$$\begin{aligned} FRAUD_t = & \beta_0 + \beta_1 GPM_{t-1} + \beta_2 GROWTH_{t-1} + \beta_3 ROA_{t-1} + \beta_4 FOREIGNSALES_{t-1} \\ & + \beta_5 FINANCE_{t-1} + \beta_6 FCF_{t-1} + \beta_7 LEV_{t-1} + \beta_8 BOARD_{t-1} + \beta_9 OUTSIDEDIRECTOR_{t-1} \\ & + \beta_{10} OUTSIDEAUDITOR_{t-1} + \beta_{11} CEOOWNERSHIP_{t-1} + \beta_{14} FOREINGEQUITY_{t-1} \\ & + \beta_{15} OPINION_{t-1} + \beta_{16} AUDITQUALITY_{t-1} + \beta_{17} ACCRUALS_{t-1} + \beta_{18} TA_{t-1} + \varepsilon_{t-1} \end{aligned}$$

I examine the association between fraud and factor through logistic regression. Table 1 reports the results of the logistic cross-sectional regression analysis for fraud firms and non-fraud firms. The Chi-square test of the model fit of 641.240 (8 degrees of freedom) is significant at 0 level. While the coefficients for GPM and FCF are positively and statistically significant, the coefficient for FINANCE is -4.514 and has a significant negative association with fraud, suggesting that the pressure factors affect the likelihood of financial statement fraud. These results indicate that risk factors regarding pressures by AICPA (2002, A2 a) are important factors as red flags for detecting fraud. This is consistent with the results of Skousen et al. (2009). Therefore, working hypothesis 1a is supported. With regard to the correlation coefficient of fraud and governance mechanism, the Pearson correlation of fraud and OUTSIDEDIRECTOR, OUTSIDEAUDITOR and CEOOWN are 0.047, -0.847, and 0.068 significant respectively.

There is a significant negative association between fraud and OUTSIDEDIRECTOR and OUTSIDEAUDITOR, suggesting that opportunity factors affect the likelihood of financial statement fraud. The rate of outside directors and outside auditors are associated with a reduced likelihood of fraudulent financial reporting. Thus, this supports H1b. The results of regression suggest that ineffective governance is significantly associated with fraudulent financial statements. This suggests that outside directors and outside auditors work as constraints of fraud.

The coefficient (t-value) for AUDITOPINION and ACCRUALS are -9.177(1.127), 1.782 (0.651) and significant, suggesting that rationalization factors affect the likelihood of financial statement fraud. Thus, this supports H1c. This suggests that the fraud firms had earnings management through accruals. To test working H1c, I focus on the association of fraud and rationalization factors in fraudulent financial statements between fraud firms and non-fraud firms. OPINION and ACCRUALS are associated with fraudulent financial reporting.

Thus, this supports H1c. After the financial statements are restated, the association between fraud and TA is insignificant, while the association between fraud and ACCRUAL is significant. This suggests that although restatement removes managers' bias, the state of accrual is likely to link to fraudulent financial statements. The results of regression suggest that there is a possibility that rationalization is related to managerial discretion.

**TABLE 1**  
**Logit Regression Results for Fraud Firms and Non-Fraud Firms**

TABLE 1

Logit Regression Results for Fraud Firms and Non-Fraud Firms

Independent Variable	Estimated Coefficients	Standard Errors	Chi-Square T test	Pr>ChiSq	
GPM	3.946	1.168	51.733	.001	***
GROWTH	.005	.006	1.005	.421	
ROA	-.094	.084	.910	.262	
FOREINGSALES	-.014	.011	.986	.193	
FINANCE	-4.514	1.218	.011	.000	***
FCF	4.265	1.514	71.186	.005	***
LEV	.305	.457	1.357	.504	
BOARD	.920	.467	2.509	.049	**
OUTSIDEDIRECTOR	-2.704	.835	.067	.001	***
OUTSIDEAUDITOR	-11.931	.908	.000	.000	***
CBOOWNERSHIP	-2.047	1.478	.129	.166	
FOREIGNEQUITY	1.119	1.094	3.061	.306	
FINEQUITY	-.531	.695	.588	.445	
OPINION	-9.177	1.127	.000	.000	***
AUDITQUALITY	-.507	.352	.602	.149	
ACCRUALS	1.782	.651	5.939	.006	***
TA	2.021	1.850	7.543	.275	
Pseudo R <sup>2</sup>	322.59	***			
Chi-Square Test of Model's Fit	2476.1951(0.0001)(1 degrees of freedom)				
*, **, and *** indicate significance at p< 10 %, p< 5%, p<1%; t-value is based on White's (1980) standard error.					

## CONCLUSIONS

I provide evidence from Japan by investigating whether the model focused on the fraud triangle factors can predict fraudulent financial statements by using fraud firms and non-fraud firms in Japan. The followings are my findings: The results of the logistic cross-sectional regression analysis suggested that all three factors of pressure, opportunity, and rationalization affect the likelihood of financial statement fraud. The results of regression suggest that financial targets and profitability as pressure, ineffective governance as opportunity, and managers' discretion as rationalization are significantly associated with fraudulent financial statements. Based on these results, it seems that fraud firm managers have discretions through accruals and decrease accruals quality. The results of regression suggest that there is a possibility that rationalization is related to managerial discretion.

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## AN EMPIRICAL STUDY OF GENDER EFFECTS IN PSYCHOLOGICAL DETERMINANTS OF RISK-TAKING BEHAVIOUR OF MALAYSIAN INVESTORS

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### EXTENDED ABSTRACT

This study determined the moderating effects of gender in psychological assessments of risk-taking behaviour among investors in the Malaysian Stock Market. Individual investors from Wilayah Persekutuan (W.P.) Kuala Lumpur, Selangor, and Melaka, were sampled using “non-probability sampling” technique. The Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to analyse the data. While this study implies that gender does moderate herding and self-confidence bias in risk-taking, the difference in the risk-taking levels between the genders is insignificant. Thus, the readiness to undertake higher levels of risk is determined by the individuals’ predisposition towards psychological biases. Essentially, the results in this study shed light on some of the conflicting views in the previous research pertaining to consequential effects of gender stereotyping and discrimination in risk taking behaviour of investors. Hence, the avoidance of gender stereotypes is imperative in strategy formulation to increase market liquidity and to enhance wealth management of investors.

**Keywords:** : gender, risk-taking, herding, self-confidence bias

### INTRODUCTION

In the aftermath of the Asian financial crisis of 1997–1998, most of the countries in the Asian region were unable to restore their state of economy to its pre-crisis level, and the severity of its impact was reflected in the liquidity as well as the vibrancy of markets. Additionally, the liquidity and vibrancy of a country’s market are often associated with the risk-taking behaviour of its investors. The liquidity of the Malaysian market in terms of the total value of shares as a percentage of the gross domestic product was 123.5 per cent in 1996, before the crisis. However, the market liquidity was only about 38.9 per cent in 2011 (World Bank, n.d.). The Edge Malaysia (2015) reveals that Bursa Malaysia’s vibrancy which stands at 26.86 per cent, is falling behind its Asian counterparts, like Hong Kong and Singapore, with 51.5 per cent and 38.9 per cent, respectively. Malaysia’s vibrancy is only slight better than that of Indonesia (22.7 per cent) and the Philippines (14.6 per cent). This research aims to explore the moderating role of gender in psychological assessments of herding, conservatism bias, familiarity bias, regret, and self-confidence bias in risk-taking of investors. This study is important as not many studies use a combination of PLS multi-group analysis, permutation test, and MICOM results for assessing measurement invariance, to substantiate the impact of gender on psychological factors in financial risk taking. In addition, the study also attempts to resolves some contradictory findings in the existing literatures by verifying if the differences in the risk-taking level between the genders are an inherent trait personality or can be ascribed to psychological factors.

### LITERATURE REVIEW

#### Gender and Risk-Taking

There are studies that document gender differences pertaining to risk taking and risk aversion (Bajtelmsmit & Bernasek, 1996; Embray & Fox, 1997), with worry and anxiousness being more pronounced in females with regard to making investment decisions (Ricciardi, 2008). The gender differences in the overconfidence effect are documented in many prior studies (Barber & Odean, 2001). There are also studies that document no gender differences with regard to risk taking and risk aversion (Atkinson, Baird, & Frye, 2003; Nelson, 2016). The gender differences in the overconfidence effect could be attributable to different investment experience and education, according to Mishra and Metilda (2015). Besides this, although self-attribution bias is associated with overconfidence, interestingly it is not associated with gender and age. In addition to this, there is no gender effect in the disposition effect (Ben-David & Hirshleifer, 2012). Gender differences in risk taking could also be due to expertise, as maintained by Gysler, Kruse, and Schubert (2002). However, Ponzi, Wilson, and

Maestriperi (2014) contend that Horne and Östberg's eveningness by Horne and Östberg (1976) is associated with greater general risk taking in the specific domains of financial, ethical, and recreational decision making, independent of the age, sex, ethnicity, or personality traits of individuals. Although risk taking is associated with risk perception and some personality dimensions of the Big Five Inventory, the prediction of risk taking by eveningness is independent of these factors. As there are inconsistencies in the prior studies on gender differences in risk taking, this study aims to verify whether the differences in risk taking between genders are an inherent trait or can be attributed to the differences in inclinations toward certain psychological factors. Hence, the following hypotheses are developed:

- H1: Gender moderates the relationship between herding behaviour and risk-taking behaviour of investors.
- H2: Gender moderates the relationship between conservatism bias and risk-taking behaviour of investors.
- H3: Gender moderates the relationship between familiarity bias and risk-taking behaviour of investors.
- H4: Gender moderates the relationship between regret and risk-taking behaviour of investors.
- H5: Gender moderates the relationship between self-confidence bias and risk-taking behaviour of investors.
- H6: Males assume more risk than females.

## METHODS

A 600 sets of structured questionnaires are distributed to individual investors in Wilayah Persekutuan (W.P.) Kuala Lumpur, Selangor, and Melaka. Of 600 sets of questionnaire, only 391 set are returned and only 362 sets of questionnaire are usable. Specifically, the study applies the research framework developed by Lim (2017) as shown in Figure1. Altogether 43 items are adapted from the past studies as cited in Lim (2017). The constructs in this research are the risk-taking behaviour of investors (reflective), herding (formative), conservatism bias (reflective), familiarity bias (formative), regret (reflective) and self-confidence bias (formative). The respondent is required to provide a rating for each statement or item on a scale from strong agreement to strong disagreement. Data that are collected are analysed using IBM SPSS Version 20.0 and the Smart-PLS 3.0 software. The validity and reliability of the measurement model are assessed before the structural model can be validated and interpreted (Hair, Hult, Ringle, & Sarstedt, 2013). Multi-group analysis is used to analyse the moderating effects of age on the relationship between the psychological factors and the risk taking. To confirm the results of the multi-group analysis further for gender effect, permutation routine in "SmartPLS 3.0" is conducted to assess the measurement invariance assessment of Composite Models (MICOM) (Ringle, Wende, & Becker (2015). Besides this, the independent-samples Mann-Whitney U test is performed using IBM SPSS version 20.0 to determine whether there is any significant difference in the risk-taking level between the genders.

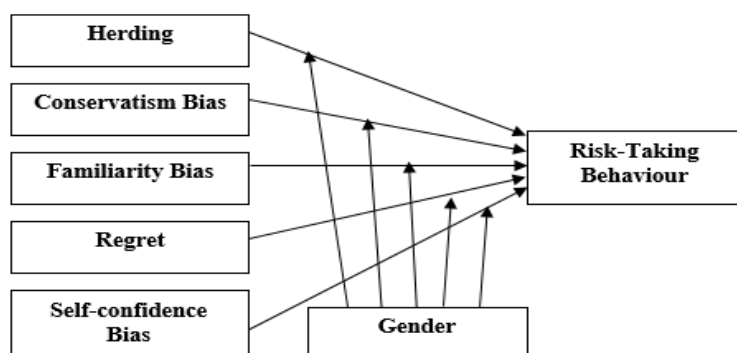


Figure 1. Research Framework

Reference: Lim, 2017

## FINDINGS AND ARGUMENT

As shown in multi-group analysis in Table 1, a significant difference is found between male and female in herding on risk-taking ( $\beta=0.235$ ,  $t=2.319$ ,  $p<0.05$ ). This indicates that male tend to herd more compared to male in risk-taking. Thus, hypothesis H1 is supported. The configural invariance, compositional invariance as well as the equality of composite mean and variances in MICOM indicate full measurement invariance. These results confirmed that gender does moderate the relationship between herding and risk-taking. This is probably because males may have a tendency to engage in a higher level of networking to obtain more information from others,

thus encouraging them to herd with others in trading activities. The study by Shiller and Pound (1989) elicits the prevailing role of direct communication in investment decisions and contends a social norm for individual investors to discuss their investments with family, friends, and acquaintances. However, males and females perceive the importance of networking differently. Males are more inclined to perceive networking as highly important for their career advancement, but their female counterparts, on the other hand, view networking as somewhat unlawful (Runkle, 2011).

Besides this, a significance difference between male and female is found in the relationship between the self-confidence bias and risk-taking ( $\beta=0.230$ ,  $t=2.072$ ,  $p<0.05$ ) as shown in Table 1. This implies that male tend to have more self-confidence bias than female. Hence, hypothesis H5 is supported. In addition, based on the MICOM results, it is also confirmed that gender does moderate the relationship between self-confidence bias and risk-taking. This is intuitive as males are more active, invest more money, and spend more time on share analysis in comparison with female investors in the world of finance, which engenders self-confidence bias among males (Mangot, 2007). This further lends support to the existing study by Barber and Odean (2001) that males have a higher confidence level than females when it comes to risk taking. The gender differences in the overconfidence effect could also be attributable to different investment experience, education (Mishra & Metilda (2015) and expertise (Gysler et al. (2002).

In contrast, no significant gender effect found on the relationship between the conservatism bias and risk-taking. This is expected as there is no existing literature that supports the notion of a gender effect in conservatism bias. Apart from this, gender also does not moderate the relationship between familiarity bias and risk-taking. This is also expected as there is no assertion of the gender effect in familiarity bias in the literature to date. Further from the analysis, the relationship between regret and risk-taking is not significantly moderated by the gender. This is consistent with the previous study by Ben-David and Hirshleifer (2012), which suggests that no gender differences exist in the disposition effect. In sum, hypothesis H2, H3 and H4 are not supported.

The independent samples Mann-Whitney U Test results suggest that the distribution for risk-taking is the same across the gender ( $p > 0.05$ ). Thus, hypotheses H6 is not supported. Contrary to the popular belief that females assume less risk and display greater risk aversion, the results of this study indicate that male investors do not seem to take higher risk than their female parts. This seems to suggest that risk taking is not an inherent trait of either gender or the willingness to assume a higher level of risk is determined by individuals' inclination towards biases, such as herding and self-confidence bias. The findings of this study contradict the studies that document gender differences pertaining to risk taking and risk aversion (Bajtelsmit & Bernasek, 1996; Embray & Fox, 1997). However, this study is in agreement with the studies that document no gender differences with regard to risk taking and risk aversion (Atkinson et al., 2003; Nelson, 2016).

The results of this study further suggest that the gender predisposition towards psychological factors such as self-confidence bias and herding, which are intuitively related to experience and financial knowledge, might account for the gender differences in risk-taking behaviour (Mishra & Metilda, 2015). This finding implies that, when formulating strategies to encourage risk-taking participation in the market, stereotypes such as females being definitely more risk averse should be avoided. Females can take as much risk as males under certain circumstances. Hence, investment products should be recommended based on their risk taking or risk tolerance associated with the investment life cycle of the investor to improve their participation in the market. However, the recommendation of investment products based on the investment life cycle of the investor alone without incorporating the gender effects in psychological factors is insufficient to increase the participation of investors and the liquidity of the market.

**Table 1. Hypothesis Testing Results for Moderator Model Using Multi-Group Analysis between Male and Female Investor**

No.	Hypothesized Path	Path Coefficients		Path Coefficients -diff Male and Female	T-Value	P-Value	Decision
		Male	Female				
H1	Herding -> Risk-Taking	-0.033	-0.268	0.235	2.319*	0.010	Supported
H2	Conservatism Bias -> Risk-	-0.03	0.078	0.109	0.973	0.166	Not supported

	Taking						
H3	Familiarity Bias -> Risk- Taking	0.095	0.151	0.056	0.369	0.356	Not supported
H4	Regret -> Risk-Taking	0.112	0.192	0.081	0.834	0.202	Not supported
H5	Self- Confidence Bias -> Risk- Taking	0.573	0.343	0.230	2.072*	0.019	Supported

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\*\*p<0.01, \*p<0.05

At present, there is still a lack of proper risk profiling of investors by incorporating gender effects and psychological factors in the form of a questionnaire. Moreover, the risk tolerance level of investors is not static, and it is influenced by the psychological factors that are constantly changing according to the market conditions. Thus, a short interview should be conducted in addition to the risk profiling of investors. Besides, the financial advisor should be given training pertaining to gender effects in psychological biases to attune to the needs of investors and to ensure that the monitoring of the portfolio is conducted efficiently to align with the ever-changing risk tolerance level. The stockbroker should also provide at least some form of basic training to educate investors about the possible gender effects in these biases and how to utilise them to be smarter investors. If investors are well aware of it, they could become better informed and trade confidently. As mentioned in the findings, risk taking is not an innate personality trait but rather a behaviour that is affected by psychological biases, such as herding and self-confidence bias. Therefore, strategies must be formulated and customised to instil self-confidence in investors, especially among those investors who have a weak self-confidence bias to increase their participation in the market. This will increase market liquidity and enhance wealth management of investors.

## CONCLUSIONS

This research provides a mechanism for understanding the moderating role of gender in risk taking. The results suggest that males tend to herd more than females in risk taking. Apart from this, the results show that males tend to have more self-confidence bias than females. In contrast, no significant gender effect is found in conservatism bias, familiarity bias, and regret of risk taking. The results of this study also show no significant difference in the distribution of risk taking between male and female investors. Male investors do not seem to take higher risk than their female parts. Hence, this study iterates that risk taking is not an inherent trait or personality for each group but rather a behaviour that could be affected by psychological factors. Hence, the findings in this study are important in addressing some inconsistencies in the previous research that may contribute further to consequential impacts of gender stereotyping in excessive risk taking by certain gender. The coverage of the sample should be extended to encompass individual investors from the northern region and southern region as well as states such as Sabah and Sarawak to increase the representativeness of the sample. Moreover, only gender effects are explored in the sampling. Thus, other demographic factors such as race, income, and field of occupation in the sampling technique may be considered in future studies.

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## DETERMINANTS OF CAPITAL STRUCTURE: EMPIRICAL STUDY ON TELECOMMUNICATION INDUSTRY IN INDONESIA

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### EXTENDED ABSTRACT

The capital structure is an essential element in the firm's long-term financial strategic decision. The number of capital that consists of debt and equity potentially affect the firm's value. Many studies have been explored and discover the contemporary capital structure theory which helps the firms to understand financing behavior with all potential variables that could affect to its capital structure. But, these theories also proposed different hypotheses/assumptions regarding the capital structure. Hence, the result of those studies does not lead to a concurrence for the specific factors that affect the capital structure. This research focuses on investigating the capital structure regarding to the implementation of new Indonesian "Thin Capitalization" Rules. The panel data econometric techniques are used to investigate the most significant factors that affect the capital structure of telecommunication industry in Indonesia which represented by five listed telecom firms with the highest market capitalization in Indonesia Stock Exchange (IDX) during 2008-2015. The result suggests the most significant factors that affect the capital structure are liquidity, risk, interest rate, gdp, and ownership which consistent with some capital structure theories.

**Keywords:** : *Telecommunication industry, capital structure, determinants, Indonesia*

### INTRODUCTION

Capital structure is one of the three major principles in financial management decisions; together with investment and dividend (Sartono, 2001). Capital structure is the mix of debt and equity that a firm uses for its financing (Zerriaa and Noubbigh, 2015). Generally, the firm's management tends to create leverage with the optimal capital structure as the target. They combine the proportional number of debt and equity to maximize the return on investment and firm's value while minimizes the cost of capital; and also protects the firm from any potential risks such as bankruptcy and financial distress; therefore, the optimal capital structure is very important for every firm (Youssef and El-ghonamie, 2015).

The capital structure has a policy to determine the amount and the type of debt that will be used with equity (Bubic & Susak, 2015). In Indonesia itself, The Ministry of Finance (MoF) reforms and limit the number of debt to equity ratio from 3:1 to 4:1 which effective for Fiscal Year 2016<sup>5</sup>. This regulation is implemented in all industry except financial services, infrastructure, oil and mining industry, and others exception that had regulated in the ministry of finance regulation No.169/PMK. 010/2015. One of industry that will be restructuring their capital is telecommunication. This industry had an important role as one of a key industry in Indonesia. Over 300 million subscribers has supports Indonesia's telecommunication industry to become the 4<sup>th</sup> largest mobile market in the world and the 3<sup>rd</sup> higher mobile penetration in Asia<sup>6</sup>.

Most of the firm in this industry creates significant debt financing for business expansion, merger and acquisition. However, the aggressive leverage possibly leads the firms to negative industry outlook. The Indonesian telecom firms show significant differences among state owned and private firm. The highest level of optimal leverage in this industry is PT XL Axiata Tbk and the lowest one is PT Telekomunikasi Indonesia Tbk. Some economists argue that the government-controlled firms use less debt financing (Alipour et al., 2015).

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<sup>5</sup> Based on Ministry of Finance Republic of Indonesia No. 169/PMK. 010/2015. On 9 September 2015, The Minister of Finance ("MoF") set new regulation of DER (Debt to Equity Ratio) regarding finance expenses that can be deducted when calculating corporate income tax payable.

<sup>6</sup> Redwig-Asia, Asean Today, SpirE-research, retrieved March 23, 2016

In this research, we investigate the capital structure determinants of telecom industry in Indonesia due to the newest DER regulation. The author proxies Total Debt Ratio (TDR) as the capital structure which can define the leverage level by comparing the total debt to financing its total assets. The panel data econometric techniques are used to investigate the most significant factors that affect to the capital structure of telecommunication industry in Indonesia which represented by five listed telecom firms with the highest market capitalization in Indonesia Stock Exchange (IDX) during 2008-2015. The result suggests the most significant factors that affect to the capital structure are size, tangibility, risk, interest rate, gdp and ownership which consistent with some capital structure theories.

## LITERATURE REVIEW

The contemporary capital structure theories initially developed by Modigliani and Miller (1958) who has illustrated two theoretical models. First, irrelevance proposition or **MM I (1958)** show the capital structure does not affect to the firm's value. This model assumes that perfect market has zero transaction costs or bankruptcy costs, the capital market is efficient, and the information is symmetry both in the internal or external organization; therefore, the leverage does not affect to the market value of the firm and this irrelevance proposition assumes that a firm's total market value is independent of its capital structure. Second, **MM II (1963)** reviews the prior model then suggests tax and growth factors, also the more debt has to be used in the capital structure to create tax advantages that maximize firm's market value. But, this assumption ignores the increasing level of risks on debt which make this model less attractive (Youssef and El-ghonamie, 2015). This relevance proposition assumes that a firm's cost of equity increases linearly with its debt to equity ratio. Furthermore, Miller (1977) investigates three tax rates which affect to the market value of the firm. He has concludes, indeed after considering taxes factor, the capital structure does not affect to value of the firm. On the other side, the debt tax shield can be substitute by non-debt tax shields from investment credit tax, depreciation and amortization deductions which also reduce debt financing (Deangelo and Masulis, 1980). Scott (1977) argues that bankruptcy costs also limit the benefit of potential interest tax shields and limit borrowing consequently (Zerriaa and Noubbigh, 2015).

After Modigliani and Miller proposed MM theory, many researchers conduct empirical studies regarding to the capital structure. Donalson (1961) firstly introduced **trade-off theory (TOT)**, and then Jensen and Meckling (1976) develop this theory comprehensively. They had predicted the positive relationship between the capital structure and the variables such as profit, size, collateralized assets and growth. The managers tend to choose the mix of debt and equity that achieves a balance between the tax advantages on debt and the various costs of financial leverage (Alipour et al., 2015)<sup>7</sup>. The firm borrowing debt to the point when an extra dollar of taxes saving from its debt is exactly equal to the cost of debt which increased the financial distress risk level (Youssef and El-ghonamie, 2015). Kraus and Litzenberger (1973) argues that optimal capital structure reflects a single period of trade-off between the tax advantages on debt financing and the deadweight costs of bankruptcy risk (Koksal and Orman, 2015)<sup>8</sup>.

Myers (1984) proposed **pecking order theory (POT)** which emphasizes the financing hierarchy on the capital structure decision. Myers (1984) and Myers and Maljuf (1984) argues that pecking order theory suggest the firms to follow a financing hierarchy to reduce the asymmetric information problem between insiders and outsiders (Koksal and Orman, 2015). Alipour et al., (2015) argues POT has rejected the optimal capital structure existences because this theory proposed the pecking order in corporate finance decisions. The order in which funds are raised is retained earnings first, then debt, then convertible debt and preference shares, and last, new issues of equity.

Baker and Wurgler (2002) initially proposed **the market timing theory (MTT)**, this theory states that the capital structure is depend on the stock performance and bond market conditions (Zerriaa and Noubbigh, 2015).

<sup>7</sup> See also, Sitorus et al. (2015), Wet (2006), Jensen and Meckling (1976) and Myers (1977)

<sup>8</sup> Different formulations that proposed by Fischer et al. (1989) and Hennessy and Whited (2005) called "dynamic trade-off theory". This theory states that a firm has a target level of leverage and deviations which gradually removed overtime (Koksal and Orman, 2015). Sitorus et al. (2014) states that capital structure on optimal debt level when tax shields/savings reach maximum amount over the financial distress costs. Therefore, in this paper, the authors refer to the static trade-off theory to adjust the topic.

This theory suggests that financing choices follows timing behavior. The firms issue the stock when their market value is high and vice versa. This theory help to explain the factors that may be affect to the capital structure decision such interest rate (Frank and Goyal, 2004). The interest rate on debt is lower than dividend rate due to risk element makes the debt capital becomes the cheaper financing source.

According to Berle and Means (1932), **the agency theory (AT)** states that the capital structure decision results allow the agency problem which means there is reconciliation of conflict of interests between the shareholders/bondholders and the managers. The capital structure decision can affect value of the firm by the way the managers make the decision and shareholders supervise the funding behaviors of the managers. The higher monitoring activity of the managers, the higher agency costs will be. The firm should determine the optimal structure of ownership to reduce the agency costs.

Jensen (1986) discussed **the free cash flow theory (FCFT)** and argues there is potential conflict of interest between managers and stockholders. This theory states the aim of firm's debt financing is to reduce the incentives of cash balance and misappropriation of firm's free cash flow and eliminates organizational inefficiency; also debt financing reduces the agency cost by forcing the management to work efficiently in order to service the debt and protect the firm from bankruptcy risks.

Also, **the signalling theory (ST)** illustrates the effect of asymmetry information between management and investors toward the capital structure. This theory illustrates the way managers use the debt financing as signals to communicate the firm's risks and profitability to the external parties such investors (Ross, 1977).

## METHODOLOGY

We collect panel data of telecommunication industry that represented by the five listed telecom firms with the highest market capitalization on Indonesia's Stock Exchange (IDX) during 2008-2015. Telecom firms which operate on infrastructure (e.g. BTS) are not included to this analysis as their business nature has different characteristics with our selected sample. Finally, the research sample was represented by five biggest telecom firms; they are PT. Telekomunikasi Indonesia Tbk, PT. XL Axiata Tbk, PT. Indosat Tbk, PT. Smartfren Tbk, and PT. Bakrie Telecom Tbk. This research employs balanced panel data of 32 quarterly data during 2008-2015.

Many studies have been investigated the capital structure in different industries across the countries which tested by using different measurement/approach on particular variables such as profitability, size, tangibility, liquidity, risk, effective tax rate, ownership, interest rate, and gdp growth rate, etc. (e.g. Alipour et al., 2015). We adopt the capital structure determinants from the prior research. The variables analyzed in this research is described in table 1

Table 1 Variables Definition

Variables	Descriptions
<b>Dependent Variables</b>	
Total debt ratio	TDR= total debt divided by total assets
<b>Independent Variables</b>	
Profitability	PROF=net income divided by total equity
Firm size	LNTS= natural logarithm of total sales
Tangibility (Assets Structure)	TANG=net fixed assets divided by total assets
Liquidity	LIQ=current assets divided by current liabilities
Risk	VOLAT= standard deviation of (ROA)
Efektive tax rate	ETAX=tax divided by earning before tax
Ownership structure	OWN=takes value of 0 for state-owned firm and a value 1 for private-owned
<b>Control Variable</b>	
Interest rate	IR=% interest rate BI rate
GDP	GDP=% change in real GDP

We construct 9 hypotheses in order to determine the relationship among variables, i.e:

*H1. There is a positive relationship between profitability and capital structure*

*H2. There is a positive relationship between firm size and capital structure*

- H3. There is a positive relationship between tangibility and capital structure  
H4. There is a negative relationship between liquidity and capital structure  
H5. There is a negative relationship between firm risk and capital structure  
H6. There is a positive relationship between effective tax rate and capital structure  
H7. There is a positive relationship between ownership and capital structure  
H8. There is a negative relationship between interest rate and capital structure  
H9. There is a positive relationship between GDP growth and capital structure

Table 2 Classical Assumption Test

Multicollinearity	VIF test	18.77
Heteroscedasticity	Wald test	0.0000
	Doornik Hansen	
Normality	test	0.0000
Autocorrelation	Wooldridge test	0.0269
Model Selection	Hausman Test	0.3732

Source: Author

Based on table 2, the data is does not fulfill the classical assumption test requirement. First, the multicollinearity test using *Variance Inflation Factor* (VIF) > 10 indicates multicollinearity problem among variables. Second, Wald test is statistically significant with Prob>Chi2 (0.0000) <  $\alpha$  (0.05) which indicates the presence of heteroscedasticity on the model. Third, Doornik-Hansen test above, the result rejects H0 and shows that Prob>Chi2 (0.0000) <  $\alpha$  (0.05) which indicates the model has no normal distribution. The last, Wooldridge tests also shows significant Prob F (0.0269) <  $\alpha$  (0.05) that indicated autocorrelation problem. The result on table 2 shows that the panel regression does not fulfill the classical tests. Moreover, the hausman test is statically insignificant with p-value (0.3732) <  $\alpha$  (0.05) indicating that RE model more preferable than FE model to be used on panel regression. Therefore, we decide to determine the capital structure using *Random Effect* model.

## FINDINGS AND ARGUMENT

Table 3 Random Effect Model

Table 5 Random Effect Model

Variable	RE	
	coef.	z-stat
_cons	-0.7080396	-1.5
Prof	0.003327	0.5
Size	-0.0210566	-1.8
Tang	0.8407005	1.8
Liq	-.07918718*	-2
Risk	2.1963013***	6.8
Etax	0.006815	0.9
Ir	10.367798***	6.5
Gdp	-.91392348***	-3.6
Own	.16450339**	3.1
Number of Obs.	160	
Notes:*significance at $\alpha=10\%$ ; **significance at $\alpha=5\%$ ; ***significance at $\alpha=1\%$		

Source: Author

The complete model of the regression is shown as following

$$\text{TDR} = -0.07918718 \text{ Liquidity} + 2.1963013 \text{ Risk} + 10.367798 \text{ Interest} - 0.91392348 \text{ GDP} + 0.16450339 \text{ Ownership} + \varepsilon + \mu$$

The regression result shows that variable such as profitability, size, tangibility, and effective tax rate statically has insignificant relationship with leverage. These variables are does not affect to the capital structure of telecommunication industry in Indonesia. The result also shows that liquidity, risk, interest rate, GDP, and ownership are statistically significant towards the leverage. This result suggests that these variables are the most significant factor that affect to the firm capital structure in Indonesia telecom industry.

## CONCLUSIONS

The capital structure is an essential element in the firm's long term financial strategic decision. The optimal capital structure reflects the "right" of mix debt-equity to be used. This financial decision is important because the number of capital that consists of debt and equity may affect the firm's value through the firm risk and wealth profile. Generally, the firm's management tends to create leverage with the optimal capital structure as the target. They combines the proportional number of debt and equity to maximize the return on investment and firm's value while minimizes the cost of capital; and also protects the firm from any potential risks such as bankruptcy and financial distress.

This research attempted to investigate the capital structure of telecommunication industry in Indonesia related to the new DER (Debt to Equity Ratio) limitation on the ministry of finance regulation No.169/PMK. 010/2015. The panel data econometric techniques are used to investigate the most significant factors that affect the capital structure of telecommunication industry in Indonesia which represented by five listed telecom firms with the highest market capitalization in Indonesia Stock Exchange (IDX) during 2008-2015. The result answers the research questions and suggests the variables such as liquidity, risk, interest rate, gdp, and ownership as the capital structure determinants which consistent with some capital structure theories.

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# WATERFLOOD PILOT PROJECT INVESTMENT ANALYSIS - CASE STUDY OF BRAVO FIELD IN CENTRAL SUMATERA

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## EXTENDED ABSTRACT

Waterflood pilot project is nested of the big project that constituted to value of information (VOI) project throughout new technology application to against challenge in oil and gas industry which are reserve replacement ratio and production declining. This project is limited to time constraint accomplishment which is less than a year. Its comprehensive financial analysis result will be used as a scalability baseline for the big project full field expansion under schematic of Cost Recovery and Gross Split Contract. This paper focuses on project investment analysis by using Discounted Cash Flow (DCF) method by using financial indicators (NPV, PBP, IRR and DPI). The result is required investment around 3,710 MUSD (CAPEX and OPEX) for gaining 111 MBO estimate ultimate recovery (EUR). Contractor earned -507 MUSD of NPV and 0.86 of DPI under Cost Recovery and under Gross Split earned -1,745 MUSD of NPV and 0.53 of DPI. Oil price and oil volume are the most sensitive variables to Waterflood pilot project. Based on those comprehensive analysis is inferred that Cost Recovery Contract is more attractive than Gross Split Contract from Contractor stand point.

**Keywords:** : Pattern Waterflood, EUR, Cost Recovery, Gross Split, Financial Indicators

## INTRODUCTION

Common challenges of oil and gas industry are reserve replacement ratio and production declining as its natural behaviour of non-renewable resources meanwhile the expenditure increase year by year. New technology is necessary to answer these challenges and to unlock reserves at least to retain production's decline rate with lower cost in order to deliver maximum profit. This paper merely focuses on pilot project of patterns Waterflood itself which part of Bravo Pattern Waterflood Project Development (big project) as one of the new technology solutions to deal with those common challenges.

This pilot project is value of information (VOI) project that limited to the time constraint accomplishment which shall less than a year meanwhile the investment might be spent at the beginning of the big project however it is a critical point to success pilot project firstly as the projection of big project success as well. Accordance those circumstance, cost saving alternatives is necessary to develop that might being narrowing decision for big project implementation and driving to deliver maximum profit with all due respect.

Maximum a year accomplishment period is allowed because it is correlated to the maximum time required to inject reservoir until reaching one (1) pore volume (PV) which means entire reservoir of seven (7) patterns has been flooded. Time period is the main constrains consequently for the execution of its pilot project, if it accomplished a head consequently might impact to the big project implementation will be a head and earn high profit. This pilot project is intended to maximize value of information (VOI) of pattern Waterflood performance as scalable projection of big project feasibility implementation and further as its baseline.

The main objective is to understand and refine water injection performance at commercial pattern size in the next Big Project (full field development) meanwhile this paper will focus on investment analysis to all alternatives that produce the highest value of NPV and DPI means fastest to accomplish this pilot project by regarding to time constraint. An opportunity to expedite this pilot project is essential works to be considered, it can be achieved by increasing production rate to existing gathering station from 21 MBLPD to more than 60 MBLPD that may impact to the overall cost of project and pilot project itself. Several upgrading design should be accommodated changing on the existing facilities in term of subsurface and surface facilities design. Several alternatives are developed to address these issues.

Scope and limitation is addressed on this sub chapter solely for the pilot project itself. Several alternatives are generated to perceive the most efficient investment and fastest time to accomplish this stage, the selected alternative is developed based on the limitation that embedded on this pilot project execution, first, it should be conducted and accomplished not more than one year because the maximum time to sweep the reservoir until one (1) pore volume reached. Second, limited capacity of existing surface facilities, it is only for 21 MBLPD. Third, minor surface facilities upgrading is allowed, whole upgrading capacity to accommodate excess fluid should be tied-in to existing surface facilities without distract current operation. Fourth, entire capital cost incurred for wells construction will be imposed to big project. Fifth, cost will be incurred to this pilot project merely for the project management cost, subsurface / work over cost and minor surface facilities upgrading cost

for each new alternatives generated. Sixth, the project investment analysis has been determined under Cost Recovery Contract Schematic and Gross Split schematic will be calculated for selected alternative to perceive the economic analysis result if this schematic implemented by Government.

This paper has been analysed by using Discounted Cash flow (DCF) method to determine financial indicators (PP, NPV, ROR & DPI) under Cost Recovery Contract and Gross Split Schematic Term. It is regarding to the project investment analysis in oil and gas business, so there are several key uncertainties need to solve prior performing investment analysis which is as input to the analysis process that might impacted to the financial indicators. Key uncertainties need to be solved prior business solution performing are reserves, production profile, generating alternatives and capital investment for each alternative. The outcome of financial indicators will drive to the best decision what alternative shall be performed to overcome the business issues. The process to earn best outcome of the performing pilot project on this paper as follow:

1. Determine key uncertainties as mention in the preliminary this sub chapter.
2. Reserve and production profile determination.
3. Generate alternatives.
4. Cost development for each alternative.
5. Discount rate or WACC calculation.
6. Cash flow calculation under Cost Recovery and Gross Split Mechanism Term.
7. Financial indicator determination for each alternative.
8. Sensitivity analysis including probability analysis if necessary.

The expected outcomes of this pilot project are reducing uncertainties of reservoir characteristic, water injection performance, improving operation standard procedure and driver of investment decision for big project. Investment project analysis will be much discussed in this final project, many alternatives were proposed to make this project visible to execute timely with cost efficiency.

## METHODOLOGY

Project investment analysis on this case has been analyzed by using Discounted Cash Flow (DCF) method under Cost Recovery and Gross Split Schematic Term. Financial Indicators are as the outcome of this analysis which are Net Present Value (NPV), Payback period or pay out time (POT) if it less than a year, Internal Rate of Return (IRR) or sometime called Rate of Return (ROR) and Discounted Profitability Index (DPI). Feasibility and effectiveness of this project is perceived from the comparison of financial indicators outcome among alternatives.

Investment is required to perform the pilot project funded by Contractor 100%, cost development has been including cost associated with schedule uncertainty (risk) by considers major underlying assumptions and breakdowns (major activities, relationship, critical path, etcetera). Cost probability distribution covered full range of cost outcome from uncertainties contribution. There are two cost types which are tangible and intangible that inherently for all activities, cost component based on activity to perform this pilot project is divided into five (5) categories which are project management, land encroachment, drilling, completion and production facility cost.

Discounted Cash flow (DCF) method under Cost Recovery and Gross Split Schematic Term as the calculation reference that has passed away throughout six (6) stages to earn best business solution; First stage will analyses and watches out the investment climate on oil and gas business within Indonesia and globally what the impact probably and how big its influences to this pilot project. Second stage is the Opportunity Statement assigning, it was started by understanding what the project is, what the objectives are and what the scope of work are. Third stage is performing technical analysis to determine size of prize and kind of technology should be applied because it may impact on size of investment and profit. Fourth stage is cost development, capital budget analysis will be performed to determine size of capital expenditure (CAPEX) and operating expenditure (OPEX) incurred to this pilot project, this stage outcome is Class-3 Cost estimate which means 10% variance. Fifth stage are performing investment analysis, these are divided in to two steps which are deterministic approach by using Discounted Cash Flow (DCF) methodology to determine financial indicators (PP, NPV, ROR & DPI) under Cost Recovery Contract and Gross Split Schematic Terms for the selected alternative. Those results will perform sensitivity analysis to discern sensitive parameters may impact to this pilot project. The last stage is time to decide which alternative as the best solution that will deliver high VOI with lower cost

All Calculation for each alternative will follow below schematic term (Cost Recovery and Gross Split) to earn financial indicators prior comparing entire outcomes. Amount of cost recovery, amount of investment credit and FTP will be applied for Cost Recovery only and refund to SKKMigas whereas tax might be applied for both schematic term. Cash flow calculation in this final project has referred to the Cost Recovery and Gross Split Schematic Term. Analysis scope in this final project is merely for pilot project from Contractor perspective. The commercial data for Bravo field that is being evaluated has Contractor's share 38.46% before tax or 20% after tax because Bravo field is being developed for tertiary recovery. The analysis would be begun in the mid of 2017 and will be finished at the latest on mid of 2018, hence unrecoverable depreciation will be exists.

The concept of Gross Split is based on the gross production split without anything related to the cost recovery mechanism. The base split should constitute as the baseline in span of Plan of development (POD) with the split for oil 57% and 43% for



government and Contractor respectively, and for gas about 52% and 48% for government and contractor respectively. Tax treatment is to follow specific tax rules for upstream activities.

## FINDINGS AND ARGUMENT

The process to earn best business solution on this pilot project investment analysis has follow the process as depicted in this **Table 1** below. Net cash flow calculation for each alternative in this paper has been proceed under Cost Recovery term schematic in monthly basis by following schematic term as depicted on the **Figure 1** below.

**Table 1. Business Solution Process Flow**

ACTIVITY →	INPUT →	PROCESS →	OUTPUT
<b>Technical Analysis</b>	<b>Parameters</b>	<b>Methodology</b>	<b>Outcome</b>
4. Reserves	5. Porosity, Permeability,	3. Reserves	3. Reserves
5. Production	Net pay, Drainage Area,	Deterministic (material balance	Estimate ultimate recovery
6. Existing Facility Capacity	Current Oil Saturation,	& reservoir simulation,	(EUR) and recovery factor
	Total Production,	Probabilistic (Monte Carlo)	4. Production
	Recovery Factor etc.	4. Production	Production forecasting,
	6. Nearby well history:	Decline Curve Analysis,	profile, decline rate, initial
	Production rate, decline	Probabilistic (Monte Carlo),	production, water cut, ESP /
	rate, initial production,	Artificial lift design, completion	SRP
	water cut, gas liquid	design	5. Maximum existing
	ratio etc	5. Pipephase: assessment of	capacity, pressure drop,
	7. Output from production	network and gathering	equipment MAWP, tie-in
	analysis	station capacity	point etc
Generate Alternatives	Technical analysis output	Refer to given and focus	Number of Alternatives
		decision	
Cost Development	Number of Alternatives and	Refer to the existing contract in	Cost for each Alternative
	breakdown activity	term of material and services for	• CAPEX (Tangible,
		each alternative	Intangible)
			• OPEX / Lifting Cost
Investment Analysis	• Technical, alternatives and	1. Discounted Cash Flow	1. Payback Period
	Cost Development Output	(DCF)	2. NPV
	• Cost Recovery & Gross	2. Sensitivity Analysis	3. IRR
	Split Schematic Model		4. DPI
<b>Decision</b>	Entire output of above	DRB and DE Meeting	Pilot project execution

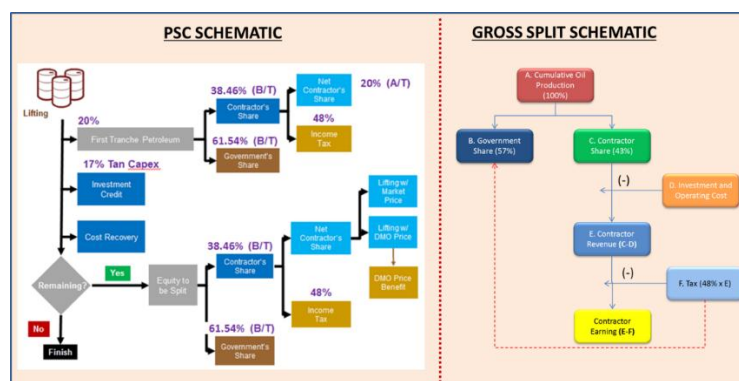
Technical outcome of this study shall be used as feeding to project investment analysis which is the size of prize. Deterministic approach which are material balance and reservoir simulation yielded EUR or recoverable reserves and additional recovery factor (RF) is about 111,249 barrels and 2.5% respectively. Considering the uncertainties factor, then probabilistic approach by using Monte Carlo simulation was applied to estimate P10, P50 and P90 for the sensitivity with considering nearby behavior and history in term of wells and reservoir properties. Probability approach of Monte Carlo Simulation has been solved by using commercial software which is Crystal Ball. EUR was yielded of P10, P50 and P90 are 89,382 barrels, 111,249 barrels and 129,194 barrels respectively. Bravo field has two distinguish decline rate regard to the nearby well performance, the first year will be averagely around 85 to 90% and the rest following year slightly constant around 8% to 11%.

The alternatives are developed based on subsurface and surface facility constraint that will deliver time of accomplishment less than six (6) months. There are two alternatives for subsurface section, first alternative kept staying with current design that connected immediately to the big project without changing any completion design later on while the pilot project would have been accomplished and followed by big project, this alternative will produce 3,000 BLPD per well and injecting 1,500 BWIPD per well. Second alternative is designed with higher deliverability on maximum 10,000 BLPD and injecting water 5,000 BWIPD per well, it need to change the completion design than current design of big project in span of pilot project and then return the current completion design like in first alternative after the pilot project would have been accomplished, so it needs effort to do work over program prior started the big project. There are four surface facility alternatives including current design to overcome the business issues are following: available in the **Table 2** below.

1. **Current Design**, Existing facility design however still need upgrading on MPFM Trafo.
2. **Alternative-1**, Upgrading existing production line to single line 16 inch
3. **Alternative-2**, Install Double Line without MPFM upgrading which are 10 inch existing facility design plus additional new 12 in line.
4. **Alternative-3**, Install Double Line with MPFM upgrading which are 10 inch existing facility design plus additional new 12 in line.

The outlook of net cash flow and discounted net cash flow perceive how the investment works for each alternative and how good the response if the Government changes the term and mechanism. Gross Split calculation was solely done for selected alternative from the outcome of Cost Recovery term calculation because gross split calculation process where does not consider FTP, amount of depreciation and opex which entire cost responsible to the Contractor, therefore the lowest

investment will deliver higher return no matter what cost type and Alternative two is the lowest investment. However, Cost Recovery term mechanism will deliver different outcome depends on the cost category on that investment. Net cash flow calculation has been performed by following the schematic on **Figure 1** below.



**Figure 1. Cost Recovery & Gross Split Schematic Term for Calculation**

The highest NPV value among the alternatives in term of Cost Recovery or Gross Split calculation mechanism is the Alternative-2 around -507 MUS\$D. Gross Split term has yielded NPV for Alternative-2 around -1,745 MUS\$D, it was very not attractive for the Contractor stand point. This pilot project has DPI value range for whole alternatives proposed are 0.8 to 0.87. Highest DPI has gone to Alternative-2 and the worse DPI around 0.5 is belong to the analysis if it is calculated by using gross split mechanism. This pilot project is looking forward for the highest DPI by regarding to the scope and limitation, higher DPI value resulted for this pilot project might be impacted to deliver higher profit to the big project. Payback period (PBP) and Internal Rate of Return (IRR) values were not exist since the cumulative undiscounted net cash flow (NPV) has value less than zero means the investment has not returned yet and none of alternatives deliver PBP and IRR value, it will be existed when the NPV value is greater than zero.

**Tabel 2. Summary of Project Investment Analysis – Contractor Stand point**

FINANCIAL INDICATORS	PSC MECHANISM TERM (MUS\$D)				GROSS SPLIT
	As Is Design	ALTERNATIVE-1	ALTERNATIVE-2	ALTERNATIVE-3	Alternative-2
PAY OUT TIME (month)	#N/A	#N/A	#N/A	#N/A	#N/A
NCF after 1 year (MUS\$)	(903)	(654)	(418)	(706)	(1,700)
DISCOUNT RATE (%)	10%	10%	10%	10%	10%
<b>NPV (MUS\$)</b>	<b>(1,053)</b>	<b>(743)</b>	<b>(507)</b>	<b>(795)</b>	<b>(1,745)</b>
IRR	● -49% ●	● -59% ●	● -40% ●	● -62% ●	● -178% ●
INVESTMENT @ 10%	6,005	4,101	3,710	4,187	3,710
<b>DPI</b>	<b>0.82</b>	<b>0.82</b>	<b>0.86</b>	<b>0.81</b>	<b>0.53</b>

There are four components in the cash flow calculation that generating revenue and profit to Government which are Government FTP share, Government ETS, DMO and Tax Entitlement. These components as the country income from the energy sector, financial indicator from the Government stand point is only NPV whereas IRR and PBP indicators is eliminated because Government does not invest on Capital or Operating Expenditure, if only the project is failed, it will be imposed to the Contractor, therefore financial indicators can be applied to Government are NPV and DPI.

Current design alternative shown different most sensitive variable to each value measure inherently, Intangible variables is the most sensitive for the NPV aiming and Oil Price and Oil Volume for the DPI value measure. It was supposed to be having the same most sensitive variable, however in this case seems contrary like no connection and unsynchronized. The most sensitive variables are denoted by highest slope in the spider chart. The fact is when the intangible cost variable only is decreased or increased, so it will produce higher or lower NPV however the cost will be following the trend as well, therefore variance on the DPI was not to high compare. Contrary, when oil price or oil volume variable is increased or decreased hence will produce higher or lower NPV respectively however the investment still steady with previous value so it will deliver higher variance on the DPI.

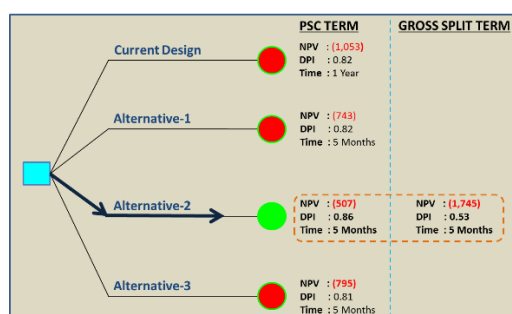


Figure 2. Summary of Alternatives Outcome

These whole three alternatives perceived the same most sensitive variable to value measures of NPV and DPI which is oil volume and oil price. This result is quietly different with the current design which shown different variable inherent to its value measure, it is due to alternative one and current design have the same amount of oil volume but different in term of cost and time for project accomplishment. The oil volume and oil price variable yielded the same amount value for NPV and DPI variance if any changing on those variables while applying on this pilot project then oil volume took place the highest uncertainties compare to the oil price fluctuation because oil volume depends on the reservoir that still remains plenty of uncertainties whereas the oil price depends on the economic condition meanwhile this project targeted to accomplish within five month and approximately the fluctuation on oil price will not be dominant player or probably can be ignore it.

## CONCLUSIONS

Comprehensive project investment analysis on pilot project has been conducted under Cost Recovery schematic and Gross Split Schematic term for several alternatives to earn prominent alternative in term of cost efficiency. This analysis went to second alternative as strongly recommended to be implemented since expedited project accomplishment more than double to the current design (become 5 months) and it produced highest NPV and DPI by regarding to Contractor stand point under Cost Recovery term calculation among alternatives.

Financial analysis of the selected alternative earned NPV and DPI to Contractor are around -507 MUSD and 0.86 respectively, meanwhile Gross Split schematic term resulted NPV and IRR are around -1,745 MUSD and 0.53 respectively. Those results perceived that the current contractor share under PSC Scheme is equal to 70% of contractor share in Gross Split Scheme term instead of 43% embedded Contractor's share. The PBP and IRR are undetermined since the NPV.s value is less than zero even the IRR value must be negative as well. Oil price and oil volume are the most sensitive variables to this pilot project.

The success of this pilot project implementation might further bring the great victory to the big project as well. Design and maturing operational aspect is packed in the project execution plan (PEP) prior management endorsement. Based on comprehensive analysis of this pilot project is inferred that Cost Recovery Contract Schematic Term is more attractive than Gross Split Contract Schematic Term.

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## **PRINTING MACHINE INVESTMENT ASSESMENT TO MAXIMIZING VALUE OF PT. BALEBAT DEDIKASI PRIMA**

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### **EXTENDED ABSTRACT**

The growth of the printing industry in Indonesia actually increasing for the last 3 years, and reaching their peak condition in 2016, but the market condition is slightly shifting also on that year. PT Balebat Dedikasi Prima is one of the companies whom get negative impact from this shifting market condition with a very low income at the end of 2016, that happening because of the low income and unstable printing demand from their parent company, PT MD Media. This situation on the 2016 giving PT Balebat Dedikasi Prima one clear statement, which is to expanding and more focusing their business into another category, the more profit satisfying market, which are packaging industry, commercial printing, and security (trade industry, etc). Reacting to this condition, the company proposed to buy three new printing machines with 10 years of time bound and the objective of this research itself is to give advice on the investment proposed by the company that having problem on deciding which is better, buying new condition machine or used condition machine. Before doing the investment analysis for both of the machine, to make sure that the investment proposed is the most suitable action needed to achieve the company target is the first step to be done of this paper. Internal and external situation analysis using SWOT/TOWS approach will be conducted to fulfill this analysis. The next step is to do the investment analysis for choosing which machine condition giving more value to the company with several tools such as, payback period (PP), the net present value (NPV), internal rate of return (IRR), and Profitability Index (PI) and these analysis. Giving suggestion for the company on which investment assessed that they should implement in term of reaching their goals is the next step to do but it isn't the last step. The last one is to make the sensitivity analysis and giving advice for the risk management process regarding the investment.

**Keywords:** : *Investment, Market Analysis, Business Decision*

### **INTRODUCTION**

The growth of the printing industry actually increasing for the last 3 years. Some company that have significantly increasing income during the 2016 must be having either a good company "name" as a parent company that needed printing company's coalition, or having a capable printing machine capacity to fulfill the market demand. With the low income through the end xof the year, and the-more-unstable printing demand and low revenue at the end of the year, PT Balebat Dedikasi Prima decided to raise their market sector from focusing on fulfill demand of the parent company, to more focusing on fulfill the biggest market for printing industry, which is commercial and packaging industry. To fulfill the company's target, PT. Balebat Dedikasi Prima decide that they must expand their printing capability by buying new printing machine. The scope of this paper is in all aspect of the "buying new printing machine: investment assessed by PT. Balebat Dedikasi Prima.

Objective of this paper have the chain effect and finished with giving advice on the investment proposed by the company. Knowing the production rate of each machine's condition is one of the first step to do the calculation to know the machine payback period (PP), the net present value (NPV) and the internal rate of return (IRR), choose the The last thing after knowing which machine that the company should buy (The result could be in formed of combination of second hand printing machine, and the new printing machine), the payment decision could be made that suitable with the company financial condition and culture. Beside that, other objective of this paper is to give the risk management process.

There are several literature review that used to make the framework for the research and to analyzing the current situation towards the company. The first one is internal and external situation analysis using SWOT/TOWS approach. This approached method will be evaluating the goals that the company want to achieve and the market condition After the evaluation done and resulted that this investment instrument is the best way to reach

the company target, do the investment analysis using Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PP) of each investment assessed. This analysis will result on which investment that assessed by the company is the best and the most feasible (whether it's to buy new conditioned machine or used conditioned machine). The next step is do the sensitivity analysis and do the risk profiling based on the investment to know risks of doing the investment.

For the research design, identifying the problem is the first step of this paper research. This research having qualitative and quantitative research approach for gathering data, which consist of primary and secondary data. For gathering the primary data, in-depth-interview and reviewing company growth target done by qualitative and reviewing market and company expected growth done mix method,. The secondary data collection will be gathered using both quantitative and qualitative approach. The next step is do the calculation for solving this research, which is doing the calculation for buying the new condition printing machine and the used or second hand condition printing machine. The last step is to decide which one's giving most value as the research objective, and test it with the sensitivity analysis and making a simple risk profiling for the proposed investment assessment. The overview or expected result from this research paper is giving the advice to the company, PT. Balebat Dedikasi Prima on which investment assessed that they should implement in term of reaching their goals. Several points already gathered but not yet concluding fixed answer on which investment that the company should choose.

Research design as stated on the previous paragraph chosen for this research paper because of the effectiveness of the method and the company's representative, which is CEO of the PT. Balebat Dedikasi Prima thinks that the proposed methodology for investment research that based on his company is the most suitable methodology to give simply understandable and brief research explanation of this research.

Several question proposed to be solved in this research are :

1. Is increasing printing capability is really the answer to maintain and increasing company growth in respond to the shifting market condition?
2. Which option are economically feasible and giving the greatest value for PT. Balebat Dedikasi Prima
3. Which financial strategy should be implemented by PT. Balebat Dedikasi Prima to achieve the financial goals.

## METHODOLOGY

For the methodology, identifying the problem is the first step of this paper research. After knowing the research problem, as stated in the introduction of this paper, do the research using qualitative and quantitative research approach for gathering data. There are two type of data that needed, primary data and secondary data. The expected primary data is the detailed budgeting for buying new printing machine, and expected growth until year 2028. For the secondary data, previous research needed as the literature review for making the framework of this research, this research also need the company annual report for at least last 3 years, and machine productivity data.

For gathering the primary data, in-depth-interview and reviewing company growth target that the company want to achieve is needed. In-depth interview with several peoples, including the CEO of PT. Balebat Dedikasi Prima. The step of reviewing market and company expected growth done by mix method, which collaborating the qualitative and quantitative approach. The secondary data collection will be gathered using both quantitative and qualitative approach with doing the literature review. Reviewing annual report is needed for calculation on the productivity of printing machine used before and knowing the projection of company growth for the next 10 years, and reviewing previous similar research will helping to make the theoretical framework of the research. The previous steps are conducted to gather the data needed and to analyze the current situation of the company, market, and the competitors. The next step is to do the calculation for solving this research, which is doing the investment analysis for the investment proposed by the company, which is calculating the profitability of investment for buying the new condition printing machine and the used or second hand condition printing machine. The next step is to decide which one's giving most value as the research objective, and test it with the sensitivity analysis and making a simple risk management strategy for the proposed investment assessment. After that, the last step is to giving the conclusion and suggestion from the calculation.

## FINDINGS AND ARGUMENT

### Growth, Fixed Expense, and Depreciation Cost

There are significant difference on the company growth resulted from both investment assessed for the company, which is buying new condition or second hand (used) condition of the machine. Each of the investment assessed will affecting the growth of the company because the difference of the increased productivity that the investment give to the company. Initial Investment must be difference between these two proposed investment activities, since the difference on the investment activities is on the machine condition that PT. Balebat Dedikasi Prima's should decide to buy to reaching the growth target and increasing productivity. Fixed Expense also considered and calculated before decided since each of the machine's condition have different on the annual expense of each investment

### Net Present Value, Internal Rate of Return, and Payback Period

**Table 1 : Revenue Growth, Fixed Expense, and Deprecitaion Cost ; 2017 - 2028**

		Year											
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Revenue Growth	N	143.59%	28.85%	22.39%	18.29%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
	U	143.59%	13.46%	10.45%	9.46%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
	C	143.59%	28.85%	22.39%	8.54%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Fixed Expense	N		30.623										
		7.623%	%	30.623%	30.623%	7.623%	7.623%	8.623%	8.623%	8.623%	7.623%	7.623%	7.623%
	U		40.623										
		7.623%	%	40.623%	40.623%	7.623%	7.623%	7.628%	7.628%	7.628%	7.623%	7.623%	6.071%
	C		40.623										
Depreciation Cost		7.623%	%	40.623%	40.623%	7.623%	7.623%	7.628%	7.628%	7.628%	7.623%	7.623%	6.071%
	N			IDR1,05	IDR2,10	IDR3,15	IDR3,15		IDR3,15	IDR3,15	IDR3,15	IDR3,15	IDR3,1
				0,	0,	0,	0,	IDR3,150,	0,	0,	0,	0,	50,000,
	U	-	-	000,000	000,000	000,000	000,000	000,000	000,000	000,000	000,000	000,000	000
					IDR1,33	IDR2,00	IDR2,00		IDR2,00	IDR2,00	IDR2,00	IDR2,00	IDR2,0
				IDR666,	3,333,33	0,000,00	0,000,00	IDR2,000,00	0,000,00	0,000,00	0,000,00	0,000,00	00,000,
		-	-	666,667	3	0	0	0,000	0	0	0	0	000
	C			IDR1,05	IDR2,10	IDR2,76	IDR2,76		IDR2,76	IDR2,76	IDR2,76	IDR2,76	IDR2,7
				0,000,00	0,000,00	6,666,66	6,666,66	IDR2,766,66	6,666,66	6,666,66	6,666,66	6,666,66	66,666,
		-	-	0	0	7	7	6,667	7	7	7	7	667

Net Present Value is the cash inflows reduced by the cash outflows in the future. The calculation of the NPV is sum up the discounted cash flow of the project for each investment target. NPV formula for this research is to sum up annual discounted cash flow from year 2016 to 2028 and add the initial investment for each scenario. Internal Rate of Return or IRR is needed when made the investment analysis to know evaluate the attractiveness of a project or investment. The rate of IRR sometimes said as the desirability of a new project or investment assessed for this . If the investment exceeds a company's required return, than the investment assessed is positively ready to be implemented. Payback Period means that the time in which the initial cash outflow of an investment is expected to be recovered from the cash inflows generated by the investment.

**Table 2 : Investment Analysis**

INVESTMENT ANALYSIS			
Discount Rate		6.75%	
Machine Condition	Net Present Value (NPV)	Internal Rate of Return (IRR)	Payback Period
New Condition Machine	<b>IDR104,268,422,407</b>	<b>17.39%</b>	3 years 2 months
Used Condition Machine	<b>IDR48,963,134,390</b>	<b>17.01%</b>	3 years 1 months
Combined Condition Machine	<b>IDR77,013,802,459</b>	<b>16.77%</b>	2 years 2 monts

From the previous table, the investment of "New Condition Machine" is chosen because of the investment giving the greatest value for the company, the higher internal rate of return even with the longest payback

period. After giving the suggestion on which investment should be chosen by the company, the next step is to test the NPV and the IRR with sensitivity analysis and giving the advice about the risk management on doing the investment to the company.

## CONCLUSIONS

From this research paper, we can conclude that doing the investment activity, especially in a big company that having the billion of ready-to-be-invested capital is need a big attention. Because it will involved not just investment approach, but it will also involved the company internal and external analyzing approach, economical growth analyzing approach, until risk management approach.

This result could be done better, in the future, with considering more about the competition on “blue-ocean” market, and the economic value after doing the investment. Beside that, the research scope also could be expanded to not only buying new printing machine, but also on all of the investment that could be implemented on many project that the company assessed.

The practical implementation of this kind of research is making the proposal of the big investment project on a company, or evaluating the proposal assessed by the company. With implementing this kind of research before doing projects on a company means that minimalizing risk when doing the project and minimalizing cost on using or hiring external auditor to audit our project.

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# THE RELATIONSHIP BETWEEN ETHICAL COMMITMENT INDEX, DIVIDEND POLICY, AND STOCK RETURN OF INDONESIAN LISTED FIRMS

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## EXTENDED ABSTRACT

This study basically investigates the effect of Ethical Commitment Index to company dividend policy and stock return among listed firms in Indonesia. The primary data, questionnaire in 2017, were utilized as the main source of data collection and researcher also use data year 2016 for the secondary data since the annual report of 2017 have not been published yet. The multiple linear regression method was employed as a statistical technique for analysing the data collected. In this study, researcher finds that there is a significant positive association between Ethical Commitment Index, Ownership concentration, ROA, and Firm size to company dividend policy. While only firm size that affect company Stock Return.

**Keywords:** *Ethical Commitment Index, Dividend Policy, Stock Return*

## INTRODUCTION

Recently, business ethic has become a substantial national's issue and globally as well. The lack of business ethic leads many large companies in the world collapse such as Enron, WorldCom, Adolph, Cisco, and Lucent (William, 2002). There were a lot of factors that affect those bankruptcies. Bad implementation of corporate governance as the part of company's ethic is one of the major factors that affect this issue. In business ethic aspect, Indonesia classified as low work ethic country compared to the developed countries or even developing countries. It proofs from the result from Etos Kerja Bangsa (2002), where Vietnam has higher work ethic than Indonesia. Moreover, in 2016, Indonesia took the 90 least corrupt countries out of 175 countries ((Transparency International, 2016).

The issue about business ethic has become an attractive topic among institution and developed countries. They start to investigate the relationship between business ethic and company's performance. Pae and Choi (2011), researched about the relation between Ethics Commitment Index (ECI) in 248 South Korea's companies. The result shows there is a positive connection between business ethic and Company Financial Performance (CFP).

The importance of business ethic encourages the author to analyze whether ethic has an impact toward the financial performance or not. In this study, researcher not collects all the companies but only the companies, which marked as the active company in IDX and will narrow the effect of ethic into company dividend policy and stock return. The primary data, questionnaire, were utilized as the main source of data collection and researcher also use data year 2016 for the secondary data since the annual report of 2017 have not been published yet.

In the end of the research, researcher aims to get relation between Ethical Commitment Index (ECI) with dividend payout policy and stock return in Indonesia firms.

## LITERATURE REVIEW

According to Davies (1977), ethic will helps company to identify their vision and goals. Ethic also provides a guide for managerial in decision-making (Peppas 2002). The Ethical Investment reported that companies with high ethic tend to pay attention to the satisfaction of their stakeholders, where it will also relate to their financial results. On the other hand, lack of ethics in each person in the company will impact to a negative result in the financial performance.

One of the most influential studies between corporate governance and stock returns was the evidence from Gompers, Ishi, and Metrick (2003). They are constructing two extreme portfolios, to look at good versus bad corporate governance impact to stock return. At the end of the study in 1990s, they conclude corporate governance has strong relation with stock return.

In this paper, researcher want to test is there any effect of Ethic to the stock return. Based on the previous literature above, researcher expects to get a positive relationship between ethic and stock return. Moreover, ethic is a mode of managing morality (Rossouw & Van, 2003). Ethic includes compliance mode where company has a desire to have a good ethical reputation that focuses on a rule based approached to ethics

In 2000, Lapoerta, Lopez de Silanes, and Vinshi present there is a positive results between dividend policy and a country with higher legal protection of minority shareholders, in here shareholder protection represented by the corporate



governance where corporate governance is one of the ethic categorization. Based on the explanation before, corporate's ethic should explain the differences of dividend policy in the company. In here, while the protection of the country is an important factor in preventing stock's take over, ethic in company also should carry equal or greater importance.

## METHODOLOGY

- **Data Collection**  
This research used primary data. In this study, researcher spread the questionnaire into 305 of active companies that obtained from Indonesia Exchange (IDX). There are 11 questions that researcher ask about ethic in that company. Details of the questions will be shown on the table below.
- **Research Measurement**  
The measurement that researcher used is based on the previous literature. This study use Ethical Commitment Index (ECI) as the tool to observe and measure an ethic in the company. There are 11 questions that researcher use with "yes" and "no" answer where 'no' response scores 0 while 1 indicates 'yes'.
- **Data Analysis**  
The multiple linear regression method was employed as a statistical technique for analyzing the data collected. Since this study use at the same point of time, so it's going to be cross sectional data and to eliminate the data that are not passed classical assumption test, so this study would be tested by robust test.

### Independent, Dependent, and Control Variable for dividend policy

For the dependent variable, researcher used 3 proxies, which are cash dividend, dividend growth, and dividend earning. From the previous literature, Faccio et al (2001) and Bebczuk (2005) apply ratio of cash dividend to cash flows as the dependent variable. As stated, cash flows relate to measure of firm's disposable income and the result of the ratio captures the company's decision either to distribute the money to shareholders or not. For dependent growth, researcher used current cash dividend and dividend history. This study is using 2 years' data, which are year 2015 and year 2016. Dividend growth is computed by subtract cash dividend year 2016 with cash dividend year 2015 then divide it with cash dividend year 2015. For dividend earning, researcher gets the data from company annual report year 2016. Researcher used company net profit year 2016 to know company dividend earning.

Looking to independent variable, researcher employs from previous literature (Dwita Ayu, 2013). Ownership Concentration is the total percentage of shares of the three biggest shareholders. Ownership concentration is the concentration is the conditions where high percentages of shareholders monitor the company's performance (Shleifer and Vishny, 1986). In high ownership Concentration Company, manager will seek to encouraged company value and will give and effect to stock price (Jensen and Meckling, 1976). Therefore, researcher expects a positive relation between ownership concentration and dividend policy. Furthermore, ROA is used to see company's profitability. ROA is measured by company's net income to book value of assets. In here, the companies who have high profitability are more likely to generate free cash flow and it makes dividend payout higher. Based on the theory of life cycle, mature firms are more profitable and tend to pay the dividend. So researcher expects a positive relation between ROA and dividend policy. For firm size, it is computed by multiply company stock price and stock outstanding. In this study, researcher sees firm size from firm's total asset and market capitalization. According to Grullon et al (2002), size of the firm shows firm's maturity and its make an impact to company's dividend policy. In here, we assume large companies has well diversified so they are more likely to use free cash flow to pay out dividends than to invest in growth opportunities. Furthermore, company with more assets in place tends to have higher ratio of dividend payout (Smith and Watts, 1992).

### Independent, Dependent, and Control Variable for stock return

Based on the previous literature (Shabib, et al, 2015), researcher use stock of return as the dependent variable and for this study, the measurement of stock return is using Natural Log of current stock divided by previous current stock. For the independent and control variable, Debt to Equity is computed by subtract total asset and total liabilities then divide with market value of common equity. This ratio represented the claim of internal and outsider against the assets of firms. This ratio also purpose to know if the firm will be gone to bankruptcy or not. For the Book Market Value Equity, it is calculated by divided the book value of company and market value of company. The book value of firm measured by the company's internal accounting data. On the other hand, the market value measured by its market capitalization. This ratio is to determine whether the company was undervalued or overvalued. For sales to price, it is computed by divide the annual sales per share by market price of common stock. Sales to price ratio is used to measure company's sales on its stock price. Actually, this measurement could not accurate all the time since the stock price can gone up when the sales increased, then the shareholders had expectation about the sales less that the real sales. Otherwise, when sales of firms higher and price of the stock steady or reduce, then the shareholders had prediction about the sales better than the actual sales. For the firm size, researcher used 2 perspective, from Total asset and Market Capitalization. For the total asset, researcher get it from company annual report year 2016 and for the market capitalization, it is computed by multiply the log natural share price with outstanding shares of company.

## FINDINGS AND ARGUMENT

Table 1.1

	(1) Cash Dividend Model 1	(2) Cash Dividend Model 2	(3) Dividend Growth Model 1	(4) Dividend Growth Model 2	(5) Dividend Earning Model 1	(6) Dividend Earning Model 2
Ethical Commitment Index	1.55x10 <sup>11</sup> * (0.091)	-2.43x10 <sup>11</sup> * (0.125)	0.09 (0.117)	0.13* (0.053)	0.01** (0.05)	-0.003 (0.924)
Ownership Concentration	-2.22x10 <sup>12</sup> * (0.051)	3.53x10 <sup>12</sup> (0.261)	-0.69 (0.158)	2.63** (0.046)	0.04 (0.91)	0.09 (0.788)
Return on Asset	-8.91x10 <sup>11</sup> (0.667)	1.47x10 <sup>13</sup> *** (0.004)	2.21* (0.1)	0.17 (0.837)	1.06* (0.082)	0.93* (0.103)
Market Capitalization	0.03*** (0.000)		-3.27x 10 <sup>15</sup> *** (0.008)		-1.62x10 <sup>16</sup> (0.813)	
Total Asset		0.04*** (0.000)		-3.22x10 <sup>15</sup> * (0.062)		3.42x10 <sup>16</sup> (0.629)
Constant	-2.84x10 <sup>10</sup> (0.967)	-6.37x10 <sup>11</sup> (0.667)	-0.401 (0.335)	-0.34 (0.352)	0.084 (0.675)	0.079 (0.688)
R <sup>2</sup>	0.9592	0.7517	0.3241	0.1475	0.2898	0.2914
Observations	30	30	30	30	30	30

This table presents the regression result using Cash Dividend, Dividend Growth, and Dividend Earning as the dependents variable. Cash Dividend is the annual dividend that the company distributed to their shareholder in year 2016. Dividend growth is the result of subtraction between cash dividend year 2016 and 2015 divided by dividend year 2015. Dividend Earning is cash dividend divided by net income company year 2016. \* For significant at 1% level, \*\* for significant at 5% level, \*\*\* for significant at 10% level.

The result on table 1.1 shows, Ethical Commitment Index positive and significant relationship with Cash Dividend in model 1, Dividend Growth model 2, and Dividend Earning model 1. In Cash Dividend model 1, Ethical Commitment Index has 10% significant level with p-value 0.091 and positive coefficient 1.55e11. It means that if ethical commitment index increase by 1 point and the other variables are constant, then total cash dividend will increase by 1.55e11 points. Furthermore, Ethical Commitment Index positive and has significant relationship with Dividend Growth model 2. Ethical Commitment Index has 10% significant level with p-value 0.053 and positive coefficient 0.1248706. It means, if ethical commitment index increase by 1 point and the other variables are constant, and then total dividend growth will increase by 0.12487 points. In dividend earning, Ethical Commitment Index positive and has significant relationship with Dividend earning only in model 1. Ethical Commitment Index has 5% significant level with p-value 0.05 and positive coefficient 0.0016974. It means in model 1, if ethical commitment index increase by 1 point and the other variables are constant, and then total dividend growth will increase by 0.0016974 points.

	(1) Log Natural Stock Return Model 1	(2) Log Natural Stock Return Model 2
Ethical Commitment Index	-0.05 (0.49)	-0.04 (0.487)
Debt to Equity	10.01 (0.522)	-0.006 (0.485)
Book Market Value Equity	-0.03 (0.138)	-0.03* (0.092)

Sales to Price	-0.004 (0.228)	-0.004 (0.233)
Market Capitalization	-2.34x10 <sup>16</sup> (0.284)	
Total Asset		-8.61x10 <sup>16</sup> (0.127)
Constant	0.573 (0.87)	0.574 (0.89)
R <sup>2</sup>	0.1470	0.1612
Observations	30	30

This table presents the regression result using Log Natural Stock Return as the dependents variable. Log Natural Stock Return is the average of stock price in year 2015 and 2016. \* For significant at 1% level, \*\* for significant at 5% level, \*\*\* for significant at 10% level.

Ethical Commitment Index is expected to have positive relationship toward log natural stock return. However, the result on table 4.4.4 shows, Ethical Commitment Index not significance in all models. So, according to the result, researcher find that Ethical Commitment Index has not relation with Stock Return.

## CONCLUSIONS

The main goal of a firm is to maximize the company value. By having high ethic, it can help the firm to maximize the company value. The company that has high ethic tend to have more sustain business and help the company to enhance the company image. It will give a great benefit not only to the stakeholder but also for the company itself (Peter, Miller, & kyusk, 2011). Past studies in Korea, Pae & Choi (2011), found positive relationship between ethic and company financial performance. Past studies found positive relationship between Ethical Commitment Index to Dividend Policy and Stock Return. However, in Indonesia the researched about ethic to company financial performance has not conduct yet before. This research uses same method like in Korea with Ethical Commitment Index measurement but observe to different results.

This paper aims to know the relationship between Ethical Commitment Index (ECI) to company dividend policy and stock return in Indonesia active firm for period 2017. Multi linear regression analysis is conducted to analyse the relationship between independent and dependent variable. Dependent variable of this research uses 3 models: Dividend policy, Dividend Yield, and Stock return. While Independent variables of this research are ownership concentration, Debt to Equity, Book Market Value Equity, Market Capability, Total assets, Ethical Commitment Index, Return on Assets.

This research finds that Ownership Concentration, ROA, and Ethical Commitment index are positively and significantly related to the Dividend policy. While, only Firm Size that affect the stock return.

Researcher hopes this study can be useful for the company and absolutely the shareholder. By knowing the impact of ethic through dividend policy and stock of return, it will give information and help company to have more consideration in ethic. On the other hand, it also will help investor to pick, which companies they want to invest by consider the ethics of the company.

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# BOND INVESTMENT PORTFOLIO OPTIMIZATION FOR PENSION FUNDS USING BOND IMMUNIZATION METHOD : INDONESIAN PENSION FUNDS STUDY

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## EXTENDED ABSTRACT

In the recent year, the existence of pension funds institution has increased towards the Indonesian employee and employer as an option to design a retirement plan. This trend could make a pension funds become one of the strong fund resources at Indonesian Stock and Bond Market. Furthermore, pension funds institution has significant funds resources to determine their investment portfolio diversification in different type of assets. Therefore, the pension funds could make their portfolio suitable to their objective. However, since Indonesian Financial Services Authority (OJK) established Rules No.1/POJK.05/2016 that regulates about Government Bond Investment for Pension Fund in both EPF and FIPF, pension funds are struggling to fulfill 30% government bond portion requirement. Therefore, the methods that pension funds could take to prevent the interest rate risk affecting the bond price sensitivity is by matching the duration between liability and assets, in other words bond immunization. The result of the data analysis will show how these methods could prevent the loss in investment cost at any given interest rate condition in Indonesia. However, the result of interest rate changing for bond immunization method application to the 30% requirement of bond investment proven to be less effective than it should be. At certain range of interest rate change, the total asset has a deficit against total liabilities.

**Keywords :** Pension funds, asset & liability management, duration matching

## Introduction

In this era, pension fund is one of the available option for Indonesian people who actively working to get fund that they needed and planned when they are retired in the future. Pension Fund will provide its participant fixed income every month after their clients retired at given amount of period until the participant passed away. According to Indonesian Financial Services Authority (OJK), Pension Fund in Indonesia is divided into Employer Pension Funds (EPF) and Pension Funds of Financial Institution (FIPF). Overall, the amount of pension funds participant whether it is EPF or FIPF has increased years by years. Moreover, for larger economic scale (macroeconomic), the pension funds could generate larger fund sources on the capital market beside retail and securities company. However, since OJK released Rules No.1/POJK.05/2016 that regulates about Government Bond Investment for Pension Funds. Pension funds must adding their portfolio investment no less than 30%. For sharia principles, they must add the government bond no less than 20%. Moreover, Indonesian Pension Funds Institution (ADPI) recorded that almost 60% of pension funds institution are struggling to achieve 20% of government bond at the end of 2016.

The fluctuation of interest rate can affect the income that generated from deposit interest and bonds at the end of every year, which makes the pension fund institution uncertainty in terms of income generation. As we know, bond price inversely related to the bond yields (interest rate). In other words, the interest rate volatility affected expected return of the pension fund investment. Therefore, the method used to create optimal composition of the portfolio is by matching the liabilities and bond duration or can be called immunizing bond methods. This research aims to find the optimum investment portfolio by using bond immunization methods and held an interest rate change simulation to display the effectiveness of bond immunization methods application towards OJK regulation.

## Literature Review

According to Indonesian Government Policy Number 77 Year 1992, Pension Fund is a form of collector facilitator purposed to increase its participant welfare along with increasing society role in conserving national development that has progressive growth and sustainability. (Tanjung & Pratomo, 2013) said that Pension funds is a form of institution that officially established and operates to organize and manage retirement program for employee's welfare especially whom is retired. The purpose of pension funds institution existence in order that the workers and employees could spend their non-active period independently and qualitatively better with getting regular payment every month. There are two types of pension funds, defined benefit plans and defined contribution plans.

Government bond is one of the debt securities which issued by government and traded to other parties. In general, government bonds are guaranteed by its issuer to minimize the risk of default which makes these debt securities considered as an asset with no default risk. (Indonesian Stock Exchange, 2010)

A corporate bond is a long-term debt instrument indicates that a corporate gets an investment in forms of funds from investor with repay and interest payment promises in the certain periods. According to (Gajjala 2013), there are two distinct subgroup of investor. Namely institutional investors (banks, foreign institutional investor and mutual funds) and non-institutional investor (retail investor). Interest paid by corporate to the bondholder (investor) is called coupon-interest rate.

In general, all securities stated its interest rate as coupon rate. It is called coupon rate because a bond carries coupon for interest payment. Coupon rate referred as an annual percentage face value which paid constantly during bond's maturity period. Usually, the coupon will be paid twice a year (semi-annually) or once a year (annually) depends to a country that issued securities (Batista 2012). The yield to Maturity (YTM) refers to a rate that sets the bond price equal to the present value of the cash flows. Moreover, the bond price is determined by discounting its future cash flows to the initial value as indicates into two formula based on the coupon payment frequency. Usually, YTM is commonly use for bondholder as a decision benchmark because of its representative as aggregate return description of a bond.

Usually, the pension funds institution has liability data projection as a base for arranging its investment portfolio. All the cash flow projection that needed to satisfy on each period in the future will be drag in to its present value. To match the liabilities, the pension funds institution has several methods to arrange its assets in order to match the liabilities payment obligation. One of them is duration matching (bond immunization). Immunization process will eliminate interest rate changing to the securities price. Immunization maintains alteration of the future coupon rate value at the end of duration point will be equal with changing in current coupon value and principal at duration point.

### Methodology

In this research, there are two sets of data required to accommodate bond immunization method. Immunization methods requires duration on each data (liability and assets) to match on each other in order to find the optimum portfolio that immune towards interest rate fluctuation. The data consist of liabilities (series of payment of contribution benefit) in form of 15-years projection data which is arrange by Dana Pensiun BRI. Whereas, the assets data that consist of government and corporate bond that has investment grade of idAAA are gathered from IBPA (Indonesian Bond Pricing Agency).

In the liability data, the amount of cash flows on each period will be discounted by yield that occurs in the same years as a references to get its present value. The series of yield are taken from recorded daily yield at IBPA database. Then, next step is to find the weight for each cash flows period as an element to compute liabilities duration. After conducting this process, the duration of liabilities could be determine using duration excel function. Meanwhile, computing the duration of assets has different approach against liabilities data. The first step of processing the data is computing the price of the bond using bond valuation methods which in the excel, adding price formula. the instrument that is required on this research are daily basis with the range of issuing date are beyond April 2017.

In the final step of the method, the condition of the interest rate will be simulated by adjusting bps (basis point) which affected interest rate change.

### Findings

The liability data explained the amount of nominal value which the assets data must fulfilled in order to match the cash flow stream that might happen in the future. Moreover, the duration of asset data has match the duration of liability data as one of the terms to execute bond immunization. The calculation and result of liability data's NPV and duration can be seen as follows :

<b>Macaulay Duration</b>	6.000946384
<b>Settlement Date</b>	6-Apr-17
<b>Net Present Value</b>	IDR 4,847,336,159,777.20

Meanwhile, the asset data has parceling in the course of duration and total cost numeration. Because of the Rules No.1/POJK.05/2016 from OJK to meet minimum requirement of 30% government bond investment in the

investment portfolio, the asset data divided into government bond and corporate bond sections. Furthermore, because of the 30% government bond minimum requirement, the formula of asset' weighted average duration has to be :

$$D_{portfolio} = 0.3 D_1 + 0.7 D_2$$

Where  $D_1$  represent the duration of government bond. Then,  $D_2$  is the variable of corporate bond duration.  $\omega_1$  (0.3) and  $\omega_2$  (0.7) are the variable of government bond and corporate bond weight respectively. Using excel max function, all duration of each instrument from both data section was used in order to find the maximum duration that  $D_1$  and  $D_2$  can not exceed in the formula to avoid the interest-rate effect. The findings for asset data optimum duration can be seen as follows :

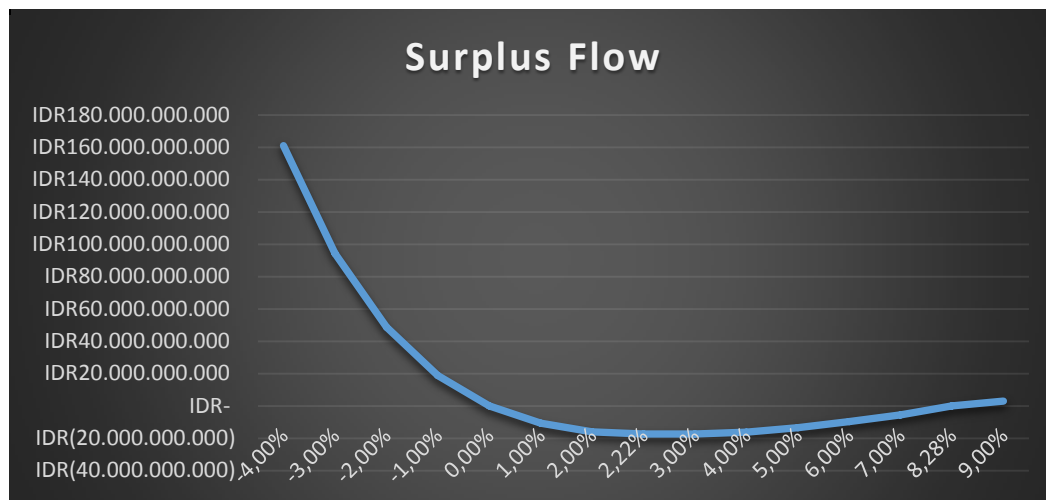
Variable	Weight	Opt. Duration	Liability Duration	Max Duration Value
Government	0.3	3.103937934	6.000946384	11.28886
Corporate	0.7	7.242521434		9.7905948

The simulation of interest rate change is the final step of this research in order to see whether the application of bond immunization has actually worked in terms of Rules No.1/POJK.05/2016. Duration matching between asset duration and liability duration aims to prevent interest rate risk affecting price sensitivity which in the end would disturb the liabilities fulfillment for pension funds institution. The table below display the interest rate change simulation :

Interest Change	Liabilities	Assets	Surplus
-4.000%	IDR6,197,286,277,015.58	IDR6,358,374,300,829.43	IDR161,088,023,814
-3.000%	IDR5,803,936,219,871.86	IDR5,898,159,534,920.47	IDR94,223,315,049
-2.000%	IDR5,451,028,993,062.55	IDR5,499,765,323,425.55	IDR48,736,330,363
-1.000%	IDR5,133,592,179,849.93	IDR5,152,370,265,730.69	IDR18,778,085,881
0.000%	IDR4,847,336,159,777.20	IDR4,847,341,007,113.36	IDR4,847,336
1.000%	IDR4,588,552,299,431.62	IDR4,577,749,865,593.73	IDR(10,802,433,838)
2.000%	IDR4,354,027,373,377.76	IDR4,338,004,859,695.03	IDR(16,022,513,683)
2.971%	IDR4,146,889,384,355.84	IDR4,129,481,760,199.04	IDR(17,407,624,157)
3.000%	IDR4,140,971,476,129.02	IDR4,123,564,929,052.08	IDR(17,406,547,077)
4.000%	IDR3,946,957,172,067.32	IDR3,930,719,914,180.25	IDR(16,237,257,887)
5.000%	IDR3,769,868,026,044.55	IDR3,756,419,911,267.74	IDR(13,448,114,777)
6.000%	IDR3,607,854,980,452.70	IDR3,598,142,390,046.18	IDR(9,712,590,407)
7.000%	IDR3,459,299,308,780.04	IDR3,453,788,287,085.84	IDR(5,511,021,694)
8.275%	IDR3,287,175,053,691.02	IDR3,287,175,053,691.03	IDR-
9.000%	IDR3,197,052,343,897.93	IDR3,200,099,052,602.21	IDR3,046,708,704

The result of the simulation shown that the bond immunization methods application to the regulation is not effective than it should be. T

here are some certain of interest rate point which total asset has a deficit from total liabilities. Moreover, in the certain point of interest rate afterwards, the amount of total asset exceeds total liabilities. The graph below shown the fluctuation between total asset and total liabilities :



The graph shown that the downward slopping was occurring during the interest rate change' simulation at level near 0%. The curve continued to decline and eventually desist at 2.98% increasing in interest rate change. But at that level, the asset experience deficit from liability. Nonetheless, the curve starts to upward until the interest rate increase up to 8.28% interest rate level. At 8.28% increment, the asset once again matching the liabilities. In the end, the upward curve continued beyond 8.28% and asset has surplus against liability.

## Conclusion

There are several number of conclusion which can be generated from this study are :

1. Based on the interest rate change simulation, the total asset has deficit against total liabilities at certain point of interest rate increment. This negative finding implies to the effectiveness of this method application to the OJK regulation. The bounce-back point at surplus graph below positive point (surplus) proven that bond immunization method application that should be prevent deficit is no longer works for Rules No.1/POJK.05/2016. In other words, the bond immunization methods become less effective than it should be.
2. The result of this research also shown the amount of fund that pension funds (Dapen BRI) must prepare in order to cover the deficit when the actual interest rate change reach deficit area. Although this method is not finding the maximum output to prevent deficit, this method could forecast the amount of fund needed in order to cover the deficit that might occur in the future.
3. Results of this research shown one of many reason why most of pension funds failed to meet 20% of bond government investment at the end of 2016. The deficit that might happen could be one of consideration for many pension funds institution to deal with.

## Recommendation

Although this study implies the effectiveness of bond immunization method that deficient when applies with requirement from Rules No.1/POJK.05/2016, the result of this study could be used for financial regulator in Indonesia to re-evaluate the rules in order to find better decision in the future. This study also shown the forecast of deficit that might be occur in given interest rate change for pension funds to study at.

Moving forward, there are some suggestions for other researcher to follow if they want to initiate the similar topic to their study. First, narrow the sample in order to maximize the optimum result of the weight. Moreover, to make better matching between total asset and total liability, other research could apply one constraint to the study. Convexity matching could one of the constraint to assist the duration matching in order to fulfill the future liability cash flow.

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## RE-EVALUATION OF INFILL WELL PROJECT ECONOMIC CASE STUDY ALPHA FIELD IN CENTRAL SUMATRA

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### EXTENDED ABSTRACT

Low oil price and PSC expiring are the major issues in Indonesia oil and gas industry nowadays. Contracts for as many as 27 oil and gas blocks are scheduled to expire within the next 4 years. Both situations prevent oil companies from increase the capital investment in the new projects. Oil companies tend to gradually decrease its investments by deferring or cancelling capital project that potentially could give extra revenue. This study case will provide an example of project economic re-evaluation that performed by company in the current business situation which the project is executed in the end of PSC.

The discounted cash flow method is used as economic evaluation method to analyze the project attractiveness. Current PSC scheme will be used as a model to develop the undiscounted cash flow which calculated using cost recovery mechanism. In addition, gross split scheme as just recently enacted by the government of Indonesia, will be exercised to see the opportunity of project execution in case the PSC is extended. The economic indicators show that continue the project execution in the end of PSC expiration and low oil price environment will resulting poor project economic which means poor investment by the company.

**Keywords:** discounted cash flow, cost recovery, gross split, economic indicators

### INTRODUCTION

International oil prices have plummeted since the mid of 2014 and continued their downturn until end of 2016. As of January 2017 the average of Indonesia crude price index (ICP) is \$50.1, which is down more than 50% from July 2014 average. This slide in price has caused oil & gas companies to re-evaluate their capital budgeting. Oil & gas companies are forced to decide whether to proceed, delay or cancel capital projects based on thin margins of economic viability. The reality is in Indonesia oil & gas industry exploration activity has stalled, drilling activity also declined significantly, downsizing has occurred across most companies, and oil & gas production continued to decline.

Another major challenge for oil and gas companies operating in Indonesia is Production Sharing Contract (PSC) expiries. The expiring PSC occurring at the same time as the period of lower oil prices which makes the near term capital project investments are not feasible. The uncertainty around PSC expiries arises due to new regulation that enacted by government through Ministry of Energy and Mineral Resources (MEMR) regulation No.08/2017 related the new fiscal scheme that applied for the contract extension of oil & gas block that are expiring in the next few years. The new fiscal scheme will replace the cost recovery system with gross split system, which means contractors no longer can recover capital and operating expenditures from the state.

In this case study, an infill well project in Alpha field will be re-evaluated to analyze the impact of low oil price and PSC expiration to the project economic. The aim is to provide recommendation regarding the next action that must be taken by company related with the continuation of project with the PSC will be expiries within the next 4 years. This project contains 12 wells that must be drilled in the Alpha field including its facility installation to support oil production and maintenance. This project is a part of Work Plan & Budget (WP&B) that estimated to complete within 18 months since the project start date, but due to permitting issue the project is one year delay. The current status are 8 wells already put on production and 4 wells remaining are ready for drilling since the site preparation works are completed. The outcome of the project economic re-evaluation is expected can answer the question whether the remaining wells are feasible to be proceed in the current business situation or not.

## METHODOLOGY

Discounted cash flow (DCF) method is used as a tool to measure the project economic under cost recovery and gross split mechanisms used by government of Indonesia. Net Present Value (NPV), Internal Rate of Return (IRR), payback period and Discounted Profitability Index (DPI) are outcomes that used as economic indicators for project investment analysis. Company's hurdle rate for project funding at DPI 1.3 is used as a bottom level for project to proceed. The key parameters necessary to do the analysis are the forecast oil production which predicted by petroleum engineer, forecast of oil price at which the production is expected to sold, project cost estimates and relevant operating expenses.

The development costs or capital investment amount technique used for this project performed by calculating cost components based on activities. There are 4 cost components in cost estimation process, those are: (i) land acquisition, (ii) road and location or site preparation, (iii) drilling and completion, and (iv) production facility. The cost component is distinguished into two types, tangible and intangible drilling cost that inherently for all activities. It is important to distinguish separately between tangible and intangible cost since different cost recovery methods are apply for those cost types. Depreciated cost recovery is applied to tangible cost, meanwhile intangible costs are full recovered after well put on production.

The handling of operation expenses is an important issue with for the economic calculation. Normally, economic calculations done for an individual project do not use all the relevant operating expenses. Only the incremental expenses are used. The argument for using only incremental expenses is valid. Many projects such as new infill well project do not required new processing facilities and will have minimal impact to the total operating expenses in the field. The problem is, that after the project is complete, all the future real financial costs will be burdened by the overall field expenses. The new barrel of oil will be charged the average operating expenses per barrel that the whole field sees. Therefore, using those costs in the economics during the planning stages, will be more accurately reflect what will be seen after the project is implemented.

Initial oil production from new well and well decline rate that predicted by petroleum engineer is necessary to calculate the oil volume that will be sold. The production profile is obtained from calculation of initial oil production and decline rate of new well. The production profile is needed to obtain the annual revenue, by multiplying with yearly average oil price forecast.

After all key parameters described are determined, the cash flow calculations are simulated using the PSC model under cost recovery and gross split schemes to obtain the undiscounted cash flow of each scheme. For Alpha field infill well case study, there are two scenarios that will be developed to calculate the undiscounted cash flow, that involving different key parameter values. First scenario is continuing the project under the cost recovery scheme. This scenario use four years number of periods which is the remaining PSC before expiration. Second scenario is to exercising the alternative if the contract is extended by government under gross split term. Ten years of contract extension is assumed for this scenario.

## DISCUSSION

Following the methodology outlined in the previous section, the data gathering process for key parameters are conducted by using deterministic approach. Table.1 displays the flow process to obtain the economic indicators for project investment analysis. Yearly average oil price forecast from World Bank is used as an assumption to calculate the revenue from oil sales. Cost escalation will be added to the cost estimate to accommodate the increase in price of goods and services in the future due to inflation, supply/demand effects, political effects, technological changes and miscellaneous effects. Historical average consumer price index (CPI) data as released by central Bank of Indonesia are used as an assumption for cost escalation.

Table 1. Project economic flow process

Input	Process	Output
<b>Technical input:</b> <ul style="list-style-type: none"> <li>Initial oil production</li> <li>Production decline rate</li> </ul> <b>Cost input:</b> <ul style="list-style-type: none"> <li>Capital investment (tangible &amp; intangible)</li> <li>Relevant operating expenses</li> </ul> <b>Assumption:</b> <ul style="list-style-type: none"> <li>Oil price</li> <li>Cost escalation/inflation</li> </ul>	<b>Methodology:</b> <ul style="list-style-type: none"> <li>Cost recovery terms</li> <li>Gross split terms</li> </ul>	<b>Outcome</b> Undiscounted cash flow
Undiscounted cash flow	<ul style="list-style-type: none"> <li>Discounted cash flow calculation (Payback period, NPV, IRR &amp; DPI)</li> <li>Sensitivity analysis</li> </ul>	Financial indicators for each scenario

Undiscounted cash flow calculation using cost recovery and gross split models are performed to obtain contractor and government take under each scheme. This undiscounted cash flow then used for economics calculation using DCF method. As displayed in figure 1 there are several distinctions between each PSC scheme. The gross split scheme eliminates the cost recovery system, investment credit, and also first tranche petroleum (FTP) system from the current PSC model. Meanwhile the domestic market obligation remains at 25% of the contractor entitlement/split, but in this new scheme the DMO is paid by the government at ICP.

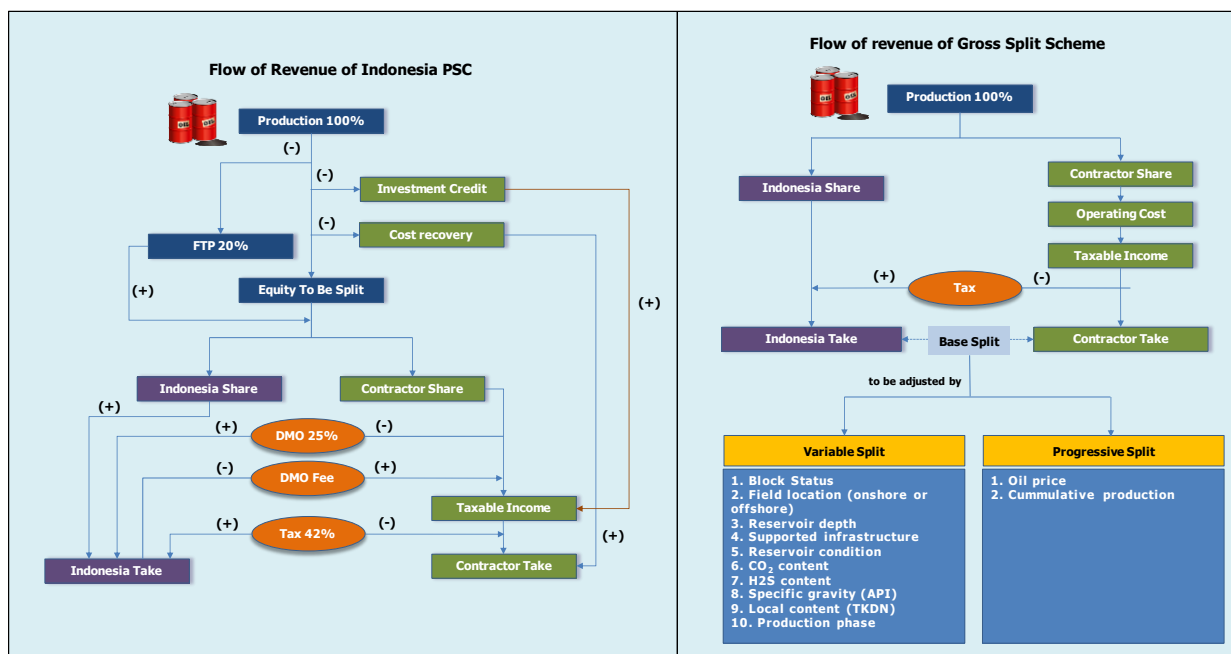


Figure 1. Cost recovery &amp; Gross split schematic

The calculation of undiscounted cash flow in the first scenario requires several parameters from PSC clauses. Specific for this case the split between government and contractor are 76.38% and 23.62% before taxes. This equity is after the deduction for FTP and cost recovery. Investment credit is not applied for this kind of project. As outlined before this project has 4 remaining wells undrilled (well #5, well#9, well #11 and well #12) from total 12 wells are planned. The economic re-evaluation is performed as a whole project instead of per single well. With this method the costs for rig and heavy equipment mobilization & demobilization, site preparation, surface facility installation will be lower since the wells location are adjacent each other. To prevent bias due to

the economics of completed wells affecting the undrilled wells, the evaluation is performed for undrilled wells only. The key parameters from the original WP&B will be used here as an input for evaluating process. It is assumed that no changes required for the key parameters and the data still valid to be used for current situation.

The second scenario is using the assumption of 10 years contract extension under gross split scheme. As stipulated in the MEMR's regulation No.08/2017 that the split between government and contractor are 57% and 53% respectively. This split is subject for income tax as regulate by ministry of finance. Adjustment to the base split will be made based on variable components and progressive components. The variable components are adjustments which take into account the status of work area, the field location, reservoir depth, supporting infrastructure, etc. The progressive components are adjustments which take into account oil price and cumulative production. Table 2 shows the split adjustment working area in this case study. This split adjustment will be added into contractor split before taxes.

. Table 2. Contractor split adjustment under gross split scheme

Variable Components		
Characteristics	Parameters	Split adjustment
Block status	No POD	0%
Field location	onshore	0%
Reservoir depth	$\leq 2,500$ m	0%
Availability of supporting infrastructure	well developed	0%
Reservoir type	Conventional	0%
CO <sub>2</sub> content	N/A	0%
H <sub>2</sub> S content	N/A	0%
Specific gravity (API)	$< 25$	0%
Local content (TKDN)	$30\% \leq x \leq 50\%$	+ 2%
Production phase	Secondary	+ 3%
Progressive Components		
Characteristics	Parameters	Split adjustment
Oil Price (US\$/barrel)	$55 \leq x \leq 75$	+ 2.5%
	$70 \leq x \leq 85$	0%
Cumulative production (MMBOE)	$\geq 150$	0%

The result of economic re-evaluation of infill well project in the Alpha field gives a clear indication that the second scenario is the best alternative. Longer project time frame and higher oil price are the main cause why the second scenario has higher NPV, IRR and DPI. The first scenario is considered not economic, even though this alternative still has positive NPV, which means this alternative can generate profit for company. The main reason why this alternative is not economic is due to the DPI below company's hurdle rate for project funding.

Table 3. Economic indicator result

Economic Indicator for Contractor				
Indicators		Original	Alternative-1	Alternative-2
Investment	US\$	\$ 17,065,038	\$ 5,583,104	\$ 6,114,426
Discount Rate		10%	10%	10%
NPV @10%	US\$	\$ 13,738,670	\$ 639,375	\$ 3,767,434
IRR		46%	8%	28%
PV Investment @10%	US\$	\$ 15,245,069	\$ 5,075,549	\$ 6,756,476
DPI		1.90	1.13	1.64
Payback period	Yr.	1.43	2.93	3.79
Contractor share	US\$	\$ 18,715,029	\$ 1,909,971	\$ 9,025,018
Government share	US\$	\$ 210,163,394	\$ 24,960,627	\$ 37,084,404

Sensitivity analysis are performed to see which parameter that most influencing the outcome of the economic analysis and to check the impact of the uncertainty of each parameters to the final decision. Four independent parameters are selected since these parameters have higher uncertainties in the future, the parameters are: oil

price, oil volume, total tangible cost and total intangible cost. The sensitivity analysis result shows that oil price is the most sensitive parameter that may change the final decision.

## CONCLUSIONS

Reducing capital expenditure is a natural response to low oil price, as demonstrated by many oil & gas companies deferring or cancelling capital investment in the current oil price environment. As explained in the Alpha field's infill well case study, continue the project execution in the low oil price condition plus the PSC expiration in the next four years will resulting poor project economic with DPI below the company hurdle rate. In the situation like this, delay the project execution until the oil price return to above US\$70 and company has longer period to gain profit from production lifting is the better option. The crucial element, though, is the ultimate oil incremental recovery from the project.

The gross split scheme used for the second scenario seems will provide higher return compare to the first scenario, but in the absence of cost recovery system it take longer for PSC contractor to recover its investment cost, it is showed by longer payback period for this scenario. But still, this is the best alternative that company can take in case the PSC is extended.

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# ECONOMIC FEASIBILITY ANALYSIS OF EXECUTIVE Z AIRPORT LOUNGE REFURBISHMENT AND EXPANSION PROJECT BY PT ABC

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## EXTENDED ABSTRACT

In follow-up to the rising number of aircraft passengers in Halim Perdana Kusuma Airport, PT ABC, an aviation service private company, intended to boost their income source with the plan to refurbish and expand its current airport lounge, Executive Z Lounge. However, the company will need to assess the business' economic feasibility of this project to get to know whether the project is worth doing or not for future investment, given that the project will potentially incur huge investment and the increased future lease rate and consignment rate. Throughout the paper, the author would like to analyze the economic feasibility using assessment tools as Net Present Value, Internal Rate of Return, Payback Period, and Profitability Index. Moreover, a Value Based Management (VBM) approach would also be conducted considering the requirement of a more efficient allocation of firm's capital. VBM as a new system of indicators is a management within the basis of value, and management to increase market value. The VBM indicators are Economic Value Added and Cash Value Added.

**Keywords:** : *Feasibility Study, Economic Feasibility, Airport Lounge, Net Present Value, Internal Rate of Return, Payback Period, Value Based Management, Economic Value Added, Cash Value Added, Cash Flow Return on Investment*

## INTRODUCTION

In follow-up to the rising number of aircraft passengers in Halim Perdana Kusuma Airport, PT ABC, an aviation service private company, intended to boost their income source with the plan to refurbish and expand its current airport lounge, Executive Z Lounge. In addition, the plan was also a reaction to the emerging demand from their private flight passengers to have a more exclusive and tailored services from the lounge. The general commercial flight customer also has also been demanding the direct access to their boarding zone via the Executive Z Lounge, since the actual general pathways to the boarding zone in Halim Perdana Kusuma Airport is more far and inconvenient. The refurbishment and expansion project is desired to be a good business in attracting more customers with the escalated charge rate from the improved services. Although it can be considered as a promising business project by considering the fact that PT ABC is the only on-demand charter airlines company which is granted the rights to have their own executive airport lounge open for public, the project will potentially incur a big amount of investment. Moreover, the future lease rate and consignment rate agreement will be changed by PT XYZ into an escalated one. Therefore, the company will need to assess the business' economic feasibility of refurbishing the lounge to get to know whether the project is worth doing or not for future investment. The desired output of this research is to assess and analyze the economic feasibility of the lounge refurbishment. The author would like to use several assessment tools to see if the project is worth doing or not for PT ABC. The author would like to use the tools as Internal Rate of Return (IRR), Net Present Value (NPV), Payback Period (PP), and the Profitability Index (PI). Moreover, an approach within the Value Based Management (VBM) could be applicable as well considering the requirement of a more efficient allocation of firm's capital. VBM as a new system of indicators is a management within the basis of value, and management to increase market value (Bukvic, 2014). The VBM indicators are Economic Value Added (EVA) and Cash Value Added (CVA) The author would also like to give suggestions to the company regarding the initial investment and the strategic pricing policy of both projects.

## LITERATURE REVIEW

### Feasibility Study

A business feasibility study can be best defined as a 'disciplined process to identify problems and opportunities, defining objectives, describing situations, defining successful outcomes and analyzing the costs and benefits

associated with several alternatives for solving a problem' (Thompson, 2005). The aim of this process is 'to analyze the viability of a proposed project, product, or service' (Overton, 2007).

### **Economic Feasibility**

Economics Feasibility has the purpose as a tool of doing an assessment with purpose to measure the economic benefits to an organization within a project to embark in the future. The study is emphasizing on data analysis to figure out the profitability rate of one project. The cost/benefits analysis is attributed to the assessment. In specific, there are number of instruments that are suitable to measure the economics feasibility such as Internal Rate of Return (IRR), Net Present Value (NPV), and the Profitability Index (PI). The output of this study is to bring out the best conclusion and suggestion toward a company's decision-making process on a project.

### **Net Present Value**

The Net Present Value (NPV) can be obtained by subtracting a project's initial investment from the present value of cash inflows discounted at an equal rate to the firm's cost of capital. When using NPV, managers should take both inflows and outflows to be measured. It is about the aggregate of the present value of outflows and the present value of inflows. According to Gitman (2013), managers should accept the project if the NPV is greater than \$0 otherwise they should reject the project.

### **Internal Rate of Return**

According to L. Fung on his book "Financial Management" (2013) defined the terms Internal Rate of Return as "the annualized effective compounded return rate or discount rate that makes the net present value (NPV) of all cash flows (both positive and negative) generated from a particular investment equal to zero". The decision rule stated to accept a project or investment if its IRR is higher than the cost of capital.

### **Payback Period**

Referred to Gitman (2013), "payback period is the amount of time required for the firm to recover its initial investment in a project, as calculated from cash inflows." The method to find the payback period is by dividing the initial investment by the annual cash inflow.

### **Profitability Index**

The Profitability Index terms can be referred as the ratio of discounted benefits over the discounted costs (Gurau, 2012). It purposed as the evaluation tools of the profitability of an investment to be compared with other investments which are under considerations (Gurau, 2012). Profitability Index (PI) is a variation of the NPV rule. The PI defines the relationship between NPV and investment funds that produce NPV volume (Gurau, 2012). The PI can be obtained by dividing the present value of cash inflows by the initial cash outflow.

### **Value Based Management**

VBM itself is a practice of management that uses value as its base, and management to increase market value (Dimc, 2005). It is a relatively simple framework to determine the objectives of particular business decisions that may add the firm's economic value in both short and long-term periods. The firm's value can be defined as a purpose of expected future cash flows that accordingly discounted with its relation to corresponding risk. Bukvic (2014) stated several indicators included in value based management. They are Economic Value Added (EVA), Cash Value Added (CVA), Cash Flow Return on Investment (CFROI), and Shareholder Value Analysis (SVA).

### **Economic Value Added**

Economic Value Added (EVA) is defined as 'an estimate of true economic profit or the amount by which earnings exceed or fall short of the required minimum rate of return that shareholder and lenders could get by investing in other securities of comparable risk (Sharma and Kumar, 2010).

### **Cash Value Added**

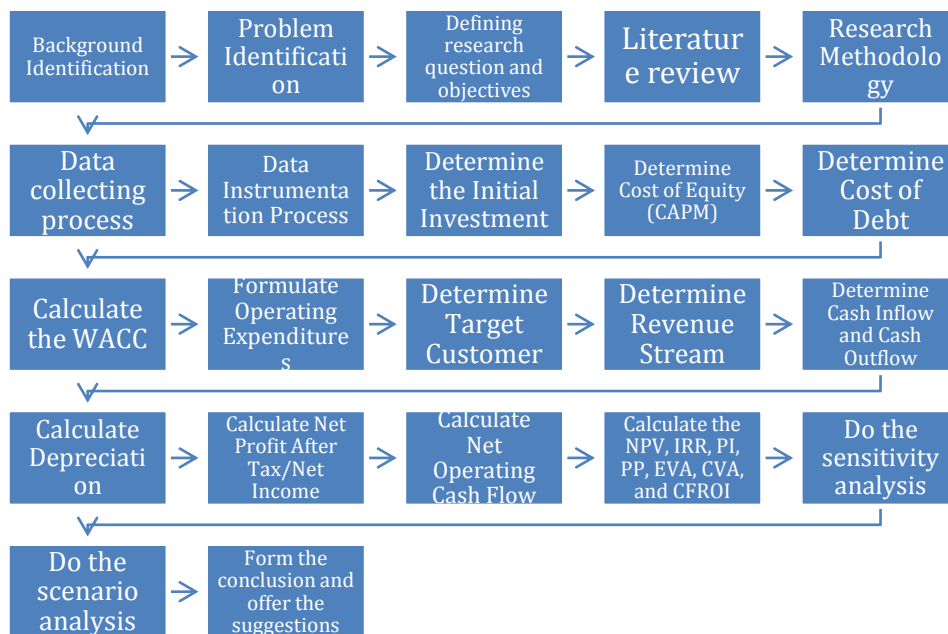
According to Weissenrieder (1998), Cash Value Added (CVA) can be defined as 'a Net Present Value model that periodizes the Net Present Value calculation and classifies investments into two categories, Strategic and Non-Strategic Investments.

## **METHODOLOGY**

### **Research Design**



Throughout this research, the author has an objective to assess the economic feasibility of the Executive Z Lounge refurbishment project by considering several aspects that will measure its value for future investment growth and sustainability. The author would carry out the research within these following steps on the flowchart.



### Data Analysis

After the required data has been collected and instrumented into a suitable data processing templates, the author would need to explain the project planning overview and market analysis before doing the financial data analysis. The next step is to form the initial investment cost that is needed to embark the refurbishment and expansion project of the lounge. After the total initial investment cost figured out, it will be structured out by the sources of capital, debt and equity, to calculate both of cost of debt and cost of equity. Afterwards, the Weighted Average Cost of Capital is required to be determined as the expected return or the discount rate. The next step is to formulate the targeted operational expenditures and targeted guest traffic for the upcoming 20 years, then, the revenue stream could be made under the targeted guest traffic circumstances.

Once the revenue stream and expenditures has been formulated for the upcoming 20 years, the author would need to create a cash inflow and outflow projection for the upcoming 20 years as well so the Net Profit After Tax and the Net Cash Flow can be determined. Using Net Cash Flow and the discount rate that is formulated using WACC, the author would need to calculate the Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index (PI), Payback Period (PP), Economic Added Value (EVA), Cash Value Added (CVA), and the Cash Flow Return on Investment (CFROI). After the assessment tools of feasibility analysis has been conducted, the author would need to do a scenario analysis and sensitivity analysis. A scenario analysis would assess the feasibility condition using another capital structure scenario assumption, with or without debt financing. A sensitivity analysis would show which calculation component would move the feasibility result most significantly.

### FINDINGS AND ARGUMENT

After conducting the projected calculation for the upcoming 20th year of the project, the author come up with several results from each indicator. Since the project is an all-equity financed project, the author would like to compare the economic feasibility result with debt financing scenario of 50%. The author would proceed with the capital structure as 50% debt and 50% equity since it would produce the minimum rate of WACC. The total investment that amounted to IDR 15,403,134,547 will be splitted up to half portion for both debt and equity amounted to IDR 7,701,567,273.510. The bank lend rate that used in the calculation is 9.95% per annum with 10 years loan period. The corporate tax that is applied is 25%, generating the cost of debt of 7.46%. The use of bank loan could improve the overall indicator of the economic feasibility analysis. The NPV is escalated to IDR 24,525,604,683 from IDR 21,125,361,550.48 previously after issuing 50% debt. The IRR also improved to

14.99% from 14.13%. Profitability index is raised to 2.59 from 2.37 and the Return on Investment is improved to 59% from 37%.

The calculation result is depicted by the following table:

No	Measurement	All-Equity	50% Debt
1	WACC	8.56%	8.01%
2	IRR	14.13%	14.99%
3	NPV	IDR 21,125,361,550.48	IDR 24,525,604,683
4	Payback Period	18.21 years	17.73 years
5	Profitability Index	2.37	2.59
6	Return on Investment	37%	59%
7	EVA (on 20 <sup>th</sup> year)	IDR 8,856,468,072	IDR 8,847,095,307
8	CVA (on 20 <sup>th</sup> year)	IDR 8,601,387,043	IDR 8,562,313,883

### Sensitivity Analysis

The sensitivity analysis will enable us to discover which variables used as a measurement components have the most significant impact in affecting the economic feasibility analysis result. The calculation will be under three major circumstances of optimistic, pessimistic, and most likely projection. The current calculation had showed us the most likely to occur projection. The variables that we are going to use in the sensitivity analysis are:

#### 1. Investment cost

Investment cost is checked by increasing it by 10% to show the pessimistic condition and reducing it by 10% to have the optimistic condition.

#### 2. Guest target

The annual guest target for VIP, Non-VIP, Access, Spa, and VVIP Meeting Room Package are to be increased by 10% for the optimistic and decreased by 10% for the pessimistic condition.

#### 3. Charge price

The charge rate growth is increased by 2% into 6.33% annually for the optimistic and decreased by 2% into 2.33% for the pessimistic.

#### 4. Operational cost

The annual operational cost is set to be increased by 10% for the pessimistic and decreased by 10% for the optimistic.

#### 5. EBITDA multiple

The EV/EBITDA multiple is increased by 2 point into 8.19 for the optimistic condition and decreased by 2 point as well into 4.19 in order to have the pessimistic condition.

No	Variable Change	Condition	NPV at 20 <sup>th</sup> year (IDR)	IRR (%)	PP (Year)	PI	ROI (%)
1	Investment Cost Increased by 10%	Pessimistic	20,140,324,199.76	13.66	18.72	2.18	19
2	Investment Cost decreased by 10%	Optimistic	23,220,951,109.16	14.9996	17.20	2.67	68
3	Target Guest Increased 10%	Optimistic	34,207,397,524.21	17.28	14.08	3.22	122
4	Target Guest decreased 10%	Pessimistic	8,818,542,031.24	11.002	19.44	1.57	-43
5	Charge price increase 6.33%/year	Optimistic	53,846,729,045.25	19.02	13.50	4.49	250
6	Charge price increase 2.33%/year	Pessimistic	-2,826,072,645.14	7.45	Above 20	0.94	-118
7	Op. Expense Increase 10%	Pessimistic	12,615,817,485.26	11.87	19.29	1.82	-18
8	Op. Expense decrease 10%	Optimistic	30,450,284,999.22	16.45	14.75	2.97	98
9	EBITDA multiple 8.19	Optimistic	27,308,930,073.78	15.11	17.97	2.77	77
10	EBITDA multiple 4.19	Pessimistic	16,052,345,235.14	13.32	17.97	2.04	4

### CONCLUSIONS

After considering 7 indicators that had been previously calculated on the previous chapter, all of the indicators were fully sufficient in fulfilling the decision rules for an acceptable project. Therefore, the Executive Z Airport Lounge renovation and expansion into a Business Jet Terminal project is economically feasible to be embarked by PT ABC's management.

### Recommendation

Based on the calculation on the previous chapter, the project is economically feasible to be conducted and the author would suggest PT ABC's management to embark this project. However, the author would like to express some recommendations regarding the project's development process. The recommendations are as follows:

1. The pricing policy for the charge rate is fundamental since it is the most sensitive variable to affect changes in the indicator's result. The author would suggest the management to set up a higher price since it is the most contributing factor to the higher NPV, IRR, Profitability Index, ROI, and a shorter payback period. A good growth in price could be set up by exceeding the inflation rate of 4.33%. Considering that the Executive Z Lounge is the main public access for the charter flights' hangar and departing zone, it has a strategic advantage to set a higher growth in charge rate without being really concerned with the future demand. In addition, Executive Z Lounge is the only public lounge which services is addressed for general scheduled commercial airlines passenger, while the other available airline lounges in the airport are restricted only for their passengers. Therefore, it is likely for the Executive Z Lounge to attain a good number of guests.
2. The guest target rate projection should be escalated considering a significant advance in profitability could be achieved. The desired annual guest target rate could be increased by 10%. Achieving a higher target could be done by a more aggressive marketing and advertising effort, creating an appealing promotions, offer guest memberships, seeking partnerships with bank for membership cards, collaborating with other airlines for bundling price, adding extra services and maintaining the lounge's services quality.
3. According to the scenario analysis, the author would suggest the management to consider issuing debt. By financing the 50% investment through bank loans, the project would generate a higher NPV, IRR, Profitability Index, and ROI compared to the all-equity financing, despite the prolonged payback period it might take with the debt issued.

### Further Research

For future researches, the economic feasibility analysis would need to be accompanied by other feasibility analysis assessment such as operational, market, and political, in order to gain a more comprehensive understanding about a project's feasibility. The future researches also expected to have a indicator tool comparison in determining which tools is the most accurate in giving feasibility insight.

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## Sin Stock Proportion and Investment Manager Education Background in Indonesian Equity Funds

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### EXTENDED ABSTRACT

Socially responsible investment is an emerging concept of investment, conducted in negative and positive screenings. Negative screening which has the principle of sin stock exclusion becomes the main concern of this research. Investment managers also have been considered as one of the factors that influence portfolio decision and lead to fund performance. In studies about equity fund performance, education background has been examined as one of the significant factors. Related to individual investors education that has generated positive result in social responsible behavior, we examine the relationship between investment managers education level and sin stock proportion as the indicator of negative screening through holdings analysis. Scope of this research includes conventional equity funds, highest NAV holder in professionally managed fund and generates 154 observations from 2013 until 2016 in Indonesia. Proportion is used as calculation of investment managers' characteristics in equity funds. Fixed effect model is used as panel data regression method and finds that negative relation exists between sin stock proportion in asset allocation and education level of investment managers. The research contributes to the literature on sin stocks in Indonesia and among the first that observe all holdings in financial reports.

**Keywords:** sin stocks, investment managers, education, equity fund.

### INTRODUCTION

One of the current emerging investment criteria is socially responsible investment (SRI). This is caused by increasing concern of investors due to issues mentioning sustainability and ethical investment. The concept of SRI is started from mentions of controversial business in religious concepts and incidents happened in sustainability (The Social Equity Group, 2017). SRI is one of the way to ensure that investors' value comes along with financial return, therefore investors do not need to sacrifice their value. The traditional measure of socially responsible investment is negative screening – controversial business exclusion called sin stocks, while the new concept is positive screening – evaluation of social performance (Humphrey, Warren and Boon, 2016). One of the guidelines used in identifying the screening method is MSCI KLD 400 Social Index, which has guidelines started from business sector identification until social performance measurement.

In Indonesia, SRI has take place in index, called as SRI-Kehati Index. This is resulted from the cooperation between Bursa Efek Indonesia and Yayasan Keanekaragaman Hayati Indonesia (KEHATI). This index has 25 companies that satisfy criterias made and selected through positive and negative screening. However, the investment universe is far smaller compared to whole stocks available in Indonesia Stock Exchange (539 stocks as per 2017), when it is used in institutional investors who made up most of stock market participants. In Indonesian equity fund, the main investment objective highlights financial performance of the firm and just few stating social performance.

To fill the gap in the literature on sin stocks in Indonesia, this study aims to observe the relationship between investment managers' education level and sin stock proportion in equity fund. Institutional investors are chosen since they compose most of indonesian capital market participants. In previous studies regarding the relationship between individual investors' education background and socially responsible investment, some of them are gaining significant positive result. In this study, we choose sin stock proportion as the measure of negative screening done by fund managers and also the effect they can bring to funds' portfolio. In the literatures, sin stocks exclusion can reduce the financial performance of the firm because of the less diversified portfolio and the forgoing opportunity of sin stock as monopoly business. Holding analysis is taken as measure since the weight put on particular reporting date is representing fund managers' action and opinions (König, 2014).

The research is conducted for 2013 until 2016 conventional equity fund performance due to the non constraint portfolio can be constructed, unlike sharia equity funds which have several regulations and monitored by Sharia Advisory Board. Secondary data analysis is used since the datas are already available and represented the decisions and characteristics of investment managers through holdings and prospectuses. Proportion is used as scoring method for team characteristics. Education background including education level, financial advisory, and international graduation are used as main concern in research. Meanwhile equity allocation, gender of investment managers and management fee are used as control variables. Furthermore, panel data regression is conducted since collected data consist of 154 observations within the range of 4 years.

## LITERATURE REVIEW

Sin stocks in general are stocks that consist of company's equity that are either directly involved or associated with unethical or immoral activities. Based on MSCI KLD 400 Social Index, there are eight related business sectors included in sin stocks. The business sectors are alcohol, gambling, tobacco, military weapons, civilian firearms, nuclear power, adult entertainment and genetically modified organisms. From our analysis of public companies in Indonesia, there are only two sectors exist; tobacco and alcohol. Regarding two related business sectors, Indonesian government has made some regulations about restrictions and distribution processes.

Due to the strict regulations creating high entry barrier in sin stock business, monopoly advantage is earned. This gives benefit and excess return, to outperform the market. Trinks and Scholtens (2017) argue that there will be cost of considering social value in investment compared to highlight on financial performance only. Similar result on financial return is also being a possible outcome, considering the statement of Humphrey and Tan (2014) that negative screening will neither gain nor loss. Risk adjusted factor of conventional and SRI also has similar result according to Statman (2000). However, there are some specific investors that are willing to pay more for their concern in social value (Renneboorg, 2007).

In gaining financial return, the impact of sin stock exclusion has not generated certain conclusion. Technically, sin stock exclusion is one of the restriction that can narrow investment universe and thus leading to higher idiosyncratic risk in portfolio (Barnett and Solomon, 2006). This statement is also supported by Adler and Krizman (2008) stated that constrained portfolio will be more likely to underperform others that do not. In research done in islamic equity funds, underperformance occurred when compared to conventional ones, except in crisis (Nainggolan, How, Verhoeven, 2015). In the study done by Fabozzi, Ma, and Oliphant (2008) screening out sin stock has been least way to accomplish financial wealth.

Due to the uncertainty in whether including sin stocks or not in a portfolio and the impact may be given to financial goal, therefore they all depends on the consideration made by investment managers. In the pioneer studies by Berkowitz and Lutterman (1968) and Anderson and Cunningham (1972), socially responsible product consumers are categorized as female, pre middle-aged, high level of education and above average socioeconomic status. The research was done by using questionnaire of Social Responsible Scale developed by Dale B. Harris (a professor of psychology in charge of the educational-developmental section in the Pennsylvania State University). More recent research by Tamer A. Awad (2011) also found that age, income, and education level are generating significant result in differentiating customers to their concern in environmental issues.

Research of individual investors relation to SRI is generated from the assumption of general SRI consumers. Rosen, Sandler, and Shani (1991) supported the argument in general SR consumers that investors with higher education level will prefer socially responsible investment. This is because higher educated investors perceive less risk in screening since they are more informed and more concerned about social and ethical values.. Jonas Nilsson (2009) proposed a clustering method of socially responsible investors and get the result that mostly women and better educated investors made up 'primarily concerned about social responsibility'. In contrast, McLahlan and Gardner (2004) argued that American Investors' education level are not having significant effect with SRI since not only high educated investors doing ethically, but lower also do.

In this research, we observe investment managers as a team in equity fund portfolio building, different with previous studies that observe individual investors. Model of this research is using similar method with

Nainggolan, Faturhman, and Firmialy (2016) in the research regarding relation of women fund managers with social responsible investment preferences. The difference will be the change of independent variable that becomes education level and the dependent variable from positive screening performance to be sin stock proportion that indicates negative screening. Naidenova, et.al (2015) has found that education level (including technical, economic, and study in Moscow), CFA certificates and fund manager's experience has significant positive result in alpha indicating better performance fund financially. For panel data usage, Khalil, Hasan, and Qamar (2016) has done study in relation between managerial attributes effect and fund performance. This resulted that managers' qualification, age and total experience giving positive and significant relation to fund performance. All of the studies are using dummy variables in categorizing investment manager characteristics.

## METHODOLOGY

### Data Collection

All data used in this research are categorized as secondary data, collected from asset managements' websites. All available data are obtained from conventional equity fund (CEF) to examine the clearly measured performance of equity funds in 2013 until 2016. Dependent variable in this research is sin stock proportion in equity fund's holdings data contained in financial performance report. Sin stock is defined based on the business category restriction in MSCI KLD 400 Social Index 2015. Holding analysis is conducted and expected to reflect the decisions made by investment managers in constructing their portfolio. Meanwhile, independent variables is measured by using proportion of investment manager who owns master degree or above, graduate from foreign university and own financial advisory certificate. Independent variables are chosen because they are related to investment managers education background and influences fund financial performance. Control variables in this research are proportion of female investment managers, total percentage of asset allocated to equity, and management fee. Average scoring in calculation of team characteristics have also been done by the previous literatures regarding fund financial performance.

### Data Analysis

In order to find the relation between investment managers education level and sin stock proportion, panel data regression method is applied. Panel data analysis is used since data are available in both time series and cross sectional. Prior to the regression analysis, classical assumption tests are conducted. The tests include: heteroscedasticity, multicollinearity, and autocorrelation. Normality test is not conducted due to the number of observations is more than 100 (Gujarati and Porter, 2009). Furthermore, hausman test is done to evaluate which panel regression model fits the assumption, whether Fixed Effect Model or Random Effect Model.

Below is the regression model of this research:

$$Sin = c_1 + \beta_1 TH_{it} + \beta_2 EDU_{it} + \beta_3 INTL_{it} + \beta_4 FEM_{it} + \beta_5 ADV_{it} + \beta_6 FEE_{it} \varepsilon_i$$

The hypotheses are as follow:

H<sub>0</sub>: Education background of investment manager has no significant relationship with percentage of sin stock in equity fund's holdings.

H<sub>1</sub>: Education background of investment manager has a significant relationship with percentage of sin stock in equity fund's holdings.

## FINDINGS AND ARGUMENT

This research has 154 data contains of performance from 33 CEFs in 2016, 55 CEFs in 2015, 28 CEFs in 2014 and 28 CEFs in 2013. The number has included available data from companies publishing their reports and prospectuses. Equity funds have average of 5% investment in sin stock compared to the total of their asset allocation to equity. Moreover, there are some equity funds that are not putting any investments in sin stock despite having no concern of investment restrictions (20 observations noted). Specifically, there are four companies being invested by equity funds that are categorized as sin stocks operates in alcohol and tobacco. Summary statistic of the data is presented in the following table:

**Table 3. Statistical Summary of Indonesian Equity Fund in 2013 until 2016 Performance**

Variable	Observation	Mean	Std. Dev	Min	Max
Sin	154	0.0538429	0.0396695	0	0.1604
TE	154	0.9354974	0.0507561	0.8017	1
Female	154	0.1784618	0.1808141	0	0.5

EduLevel	154	0.5193573	0.2514795	0	1
IntlGrad	154	0.4816947	0.327816	0	1
FinAdv	154	0.1958154	0.2492286	0	1
Fee	154	0.0293857	0.008935	0.0125	0.05

Classical assumption tests (heteroscedasticity, multicollinearity, and autocorrelation) are conducted to examine the variables. The measurement for classical assumption has passed all criterias. The p value of Breusch-Pagan test is 0.4098 and therefore the null hypothesis of homoscedasticity is accepted (Gujarati, 2009). Multicollinearity conducted by authors also generates result of tolerable correlation between variables, since the mean VIF is 1.43 and the highest VIF (international graduation) is 1.98. In Gujarati (2009) the maximum of VIF allowed is 10, while the rule of thumb has maximum number of 5. Meanwhile autocollinearity is measured using Wooldridge test (0.9185) for panel data and generates the result of no first order serial correlation.

**Table 4. Fixed Effect Model Regression Result ( $\alpha$ : 0.05)**

Prob > F = 0.0054				
	Coefficient	Std. Error	t-stat	Prob.
TE	0.0293932	0.1274042	0.23	0.818
Female	-0.0146976	0.0417002	-0.35	0.725
EduLevel	-0.0946861	0.0384347	-2.46	0.016
IntlGrad	-0.0584801	0.035211	-1.66	0.101
FinAdv	0.0114356	0.026386	0.43	0.666
Fee	3.7584831	1.478261	2.54	0.013
Constant	-0.0062636	0.1389196	-0.05	0.964
R-square	Within = 0.2146 Between = 0.0063 Overall = 0.0000			

Result from Hausman suggests that the regression should be conducted in Fixed Effect Model (FEM). The result is presented in Table 2. FEM means that the intercept in regression model is allowed to differ among individuals in recognition of the fact each individual, or cross-sectional, unit may have some special characteristics on its own and time invariant (Gujarati and Porter, 2009). F-test of regression generates probability of 0.0054 which is significant compared to alpha of 0.05, it indicates a significant regression model. The R-square used for FEM is R-square within, generate the value of 21.46% fitness of the model. It means that independent variables used in model can explain 21.46% of the dependent variable, while the remaining 78.54% is caused by factors unexplained in the regression model. The unexplained factors can be fund characteristics and some external factors like market sentiments and economic condition.

The t-test result suggests that there are significant variables, which are education level (0.016) and management fee (0.013). Education level is being the only significant independent variable in education background analyzed in this research and generating negative relation. The result is consistent with individual investors previous researches regarding the education level of investors with preference of SRI (Rosen, Sandler and Shani (1991), Tippet and Leung (2001), Junkus and Berry (2010)). Statements of positive relationship with SRI means that higher education level will ideally inversely related to sin stock proportion, shown in this research regression result. Management fee has significant positive relation since it influences the portion of return to managers. With higher fee, managers expect to increase the return by optimizing risk of sin stock investment in their portfolio.

## CONCLUSIONS

From the regression result, it is evident that negative relation exists between sin stock proportion in asset allocation and investment managers education level. Higher educated managers will put lower proportion of sin stocks investment in their portfolio. This result is consistent with previous studies stating that education level has significant positive relation with SRI. The other education background have no significant relation with sin stock investment despite their significant relation to fund performance. Fixed effect regression model also implied that this becomes distinct characteristic of investment managers and generate time invariant effect. This research is limited to the datas of equity funds' holdings in annual report, therefore it may be further examined for more frequent holdings reports. Majors and university ranking of investment managers also can be taken into consideration since they generate significant result with fund financial performance. Other market condition and

fund characteristics in corresponding time period also can influence the decisions taken by investment managers for their portfolio composition.

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## EDUCATION BACKGROUND OF FUND MANAGERS AND EQUITY FUNDS PERFORMANCE IN INDONESIA

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### EXTENDED ABSTRACT

Investment is one way for individuals to maximize their wealth and earn more profit from investment instrument. The mutual fund is one of the most popular investment instruments that can attract a lot of investors. This is because the system of the mutual fund have a good prospect for small investors who don't have enough data and abilities to manage their fund to obtain a better portfolio diversification, through the expert fund managers. The fund performance can be affected by several factors, one of them is fund manager characteristics. Previous studies reveal that fund manager characteristics are significantly influenced fund performance. The focus in this research of fund manager characteristics is education background of fund manager in Indonesia capital market. The fund performance measurement used Sharpe and Treynor that perform a risk-adjusted return. The data were obtained in this research is 147 equity mutual fund in Indonesia during period 2014-2016. The results conclude that there is a significant relationship between education background and fund performance. Fund managers with higher education degree and financial advisory certificate corresponds to higher mutual fund performance. Based on this results, investors can choose mutual fund with this consideration and expect a better mutual funds performance.

**Keywords:** Equity Mutual Funds, Fund Performance, Fund Manager, Education Background

### INTRODUCTION

Nihar & Murty (2010) states that the last few years, the trend of investor shifts from conventional types to creative investment types has brought mutual funds to be the best option of investment instruments. Indonesia is also aligned with this trend. Based on the data obtained from OJK, the Net Asset Value (NAV) in Indonesia always increase from year to year. In 2014 the NAV is 894 and rose to 1.425 in 2016. For the Net Asset Value of mutual funds in 2014 is Rp241.571 billion and grew to Rp338.749,81 billion in 2015 and 2016 respectively.

NAV is the one of measurements to calculate the fund performance. Performance measurement that uses NAV represents risk-adjusted return that has influence fund's fee, price to book ratio, and well-established funds. This result make investors realize that the difference in risk-adjusted return consists of many factors that make investors being more selective in investments (Kiyamaz, 2015). Another study of Masood & Sergi (2009), provides that nowadays the relationship between performance and the characteristics of fund managers is an important issue in developing markets, therefore, the external condition of a country will affect fund manager's characteristics and their behaviors.

Other studies are also agree with this statement. Naidenova, Parshakov, Zavertiaeva, & Tomé (2015) states that the performance of mutual fund depends on manager's skills and competencies to determine assets allocation for the investor. Moreover, capabilities of manager to conduct the best strategy will earn a higher result, and influence investors to choose investment manager. Khalil, Hassan, & Qamar (2016) point out that to achieve the investment company's goals, an excellent investment managers are required to make their efficient portfolio for investors. The different result of each investment manager influenced by the different education, culture, the intelligent quotient (IQ), managerial skills, and sense to select investment instruments (e.g. to choose the stock for the investor). Study by Hasanpour & Khoshshima (2014) mentions that the success of the performance is based on education level of the manager. Moreover, the higher the education level, the longer working period and experienced in managing asset allocation of fund manager will lead to a better portfolio with the higher return, (Cheng, Wang, & Tsai, 2014).

Due to the important relationship between education background and fund performance, we are interested to examine this relationship in Indonesia. This study is expected to contribute in mutual fund literature, spesicially the education background of fund manager in Indonesia. As far as the authors knowledge, this is the first study that investigates this particular issue.

### LITERATURE REVIEW

Khalil, Hassan, & Qamar (2016) writes that several factors affect the performance of mutual funds, one of them is fund manager characteristics. The more knowledge of fund manager as well as manager experiences that have been traversed in investor funds, then an understanding of the market will be more obviously to improve their ability in this industry.

Golec (1996) examines the relationship between fund performance and fund manager characteristics. The criteria of fund manager characteristics are manager age, tenure, educational attainment, and MBA degree. In this research also examine the management fee. The chosen of fund manager characteristics that define in this research related to the concept of human capital that will perform better performance and received a greater fee that they have a high quality of human capital. The educational attainment and MBA degree prove the quality of the knowledge of investment manager. Management fees represent the risk of the investment management which manages by the investment manager.

In previous research, Khalil, Hassan, & Qamar (2016), use managerial attributes to evaluate the Pakistan open-ended mutual fund performance such as age of manager, qualification of manager, experience of manager, and others independent variable there are management fee and age of fund. They determine the qualification of manager from professional certification like CFA, ACMA, CA of PIPFA. The performance measurement uses an annual return of mutual fund, and the technique to define the correlation is used fixed effect panel regression. There is a correlation between age, qualification, and experience of manager with fund performance. The results indicate that the older their age they have good ability to control the market, investment manager has the different level of skills in investment management, the higher the level of competence they have it can make the manager perform better than otherwise. The management fee is the part of an investment manager, and it attracts the investor and the impact of the investment manager payment.

Another previous study from Taiwan, (Cheng, Wang, & Tsai, 2014), its focus on the education background of fund managers, that were examined use monthly return-on-investment, quarterly return-on-investment, half-yearly return on investment, annual return-on-investment, risk-adjusted performance, risk, rate of change, and the Sharpe as performance measurement of mutual fund. The education background criteria are the place for study in Taiwan or abroad, the degree of fund managers, the studied field of the investment manager, and working background. The results indicate the manager that graduated outside of Taiwan has better performance than the manager graduated from Taiwan. Another result of the different level of education, especially that manager with an undergraduate has better performance than with a graduate or a postgraduate degree. In this research also find that manager that graduated from another department of the business department more excellent perform to their portfolio of the fund. Also, the manager that has worked in accounting firm has more consistent fund performance.

It is same with Naidenova, Parshakov, Zavertiaeva, & Tomé, (2015) that was already done to evaluate fund performance with fund manager's characteristics equity mutual fund in Russia, that focus on intellectual capital. Intellectual capital is the quality of manager such as capability and intelligence of market that can involve on their strategy of the fund. Three indicators used in their study there is the field of education, CFA certificates, and experience in fund management which were obtained use cross-section regression. The performance measurements are Jensen's alpha and CAPM beta in the previous year. The findings of that study prove that the three indicators used in this study have a significant influence on alpha.

Based on literature review, this study concern to examine the correlation between education background fund manager and fund performance in Indonesia capital market used different performance measurement there are Sharpe and Treynor. The education background criteria that used in this research are the degree of the fund manager, received education in abroad and financial advisory.

## METHODOLOGY

This research use data obtained from the prospectus of mutual fund. The prospectus collected from mutual fund website, Infovesta website (<http://www.infovesta.com>), Bareksa website (<http://www.bareksa.com>), and PasarDana (<http://www.pasardana.id>). The collected data starting from 2014-2016 with the total amount is 147 equity mutual funds that meet the needs. The data that needed are mutual fund name, investment objective, investment manager data, and net assets value. The data of investment manager are the name, gender, education degree, international graduation, financial advisory such as CFA certificate, working background, and nationality. Since this research uses the data with cross section and time series, the model that appropriate is panel data regression.

This research is studying the relationship between the fund manager characteristics and fund's performance. The variables are:

### - Dependent Variables:

The dependent variable (Y) is fund performance. This researcher use two methods of fund performance, there are:

#### 1. Sharpe

Grau-Carles, Sainz, Otamendi, & Doncel (2009) writes that Sharpe is measurement of excess return gets from a reduction of the returns of the portfolio with the risk-free rate return. The higher the Sharpe ratio indicates that the well turned of portfolio investment, and vice versa, the lower indicates the poor performance. The formula as follow, (Bodie, Kane, & Marcus, 2011):

$$S_p = \frac{\overline{R_p} - \overline{R_f}}{\sigma_p}$$

## 2. Treynor

Grau-Carles, Sainz, Otamendi, & Doncel (2009) state that performance measurement based on Treynor is expected on market risk, its slope, which represents as beta. The result of this measurement is riskless investment per unit of market risk from excess return divided by beta. The formula as follows, (Bodie, Kane, & Marcus, 2011)

$$T_p = \frac{\bar{R}_p - \bar{R}_f}{\beta_p}$$

### - Independent Variable:

The independent variable (X) based on investment manager data. The data uses of education background there are fund manager degree (1=master degree or Ph.D; 0=bachelor degree), graduates from the international education (1=overseas education; 0=not), and financial advisory (1=hold financial advisory; 0=not). The data computed using the dummy variable then make the proportion education background of the investment manager. The control variables are the proportion of women fund manager (1=women; 0=male) and management fee percentage.

This research observes the relationship between mutual fund performance and education background, based on the following models.

#### 1. Model 1 (Sharpe)

$$Sharpe_{it} = c_1 + \beta_1 edulvl_{it} + \beta_2 inter_{it} + \beta_3 finadv_{it} + \beta_4 women_{it} + \beta_5 mngfee_{it} + \varepsilon_i$$

#### 2. Model 2 (Treynor)

$$Treynor_{it} = c_1 + \beta_1 edulvl_{it} + \beta_2 inter_{it} + \beta_3 finadv_{it} + \beta_4 women_{it} + \beta_5 mngfee_{it} + \varepsilon_i$$

Where  $Sharpe_{it}$  and  $Treynor_{it}$  is the value of fund performance of fund management that calculates use Sharpe and Treynor method that varies with time and funds,  $edulvl$  is education degree of fund manager,  $inter$  is the place of education,  $finadv$  is manager that receive certificate like CFA, and  $women$  is describe the fund manager that manage by woman that varies with time and funds.

According to Gujarati & Porter (2009), classical assumption test are needed before performing regression analysis. There is four assumption test that must be done to a regression model is normality test, heteroscedasticity test, multicollinearity test, and autocorrelation test. In the regression, data should be normal, if there is data that is not normal or have a problem with normality then its need to be treated with some measurement in statistics. However, the normality test is not conducted this study because the number observation is higher than 100. Hausman test is required to choose between fixed effect or random effect. Based on the result of hausman test, the regression analysis is conducted using fixed effect model.

## FINDINGS AND ARGUMENT

The following table present descriptive statistics that shows the number of observation, mean, standard deviation, minimum, and maximum of the fund manager characteristic and fund performance.

**Table 5 Descriptive Statistics of Fund Manager Characteristics**

Variable	Obs	Mean	Std. Dev.	Min	Max
edulvl	147	.5205796	.2604295	0	1
inter	147	.479998	.3335313	0	1
finadv	147	.3226912	.2684013	0	1
women	147	.1496932	.1684422	0	.5
mngfee	147	.0290503	.0087752	.0125	.05
sharpe	147	-.2891116	.9955699	-1.9277	1.7659
treynor	147	-.0693898	.1677152	-.408	.3641

Table 1 shows a summary of the statistic for the fund manager characteristics from 2014-2016. Total data were observed is 147 of equity mutual fund in Indonesia. The highest mean is education level, which is the education level of the fund manager that had master degree reach 52% and that 48% of all fund manager graduate in outside Indonesia. The average of the fund manager who has financial advisory such as CFA, CAIA, FRM is 32%. In equity mutual fund in Indonesia, the investment companies that manage by woman manager only ranges 15%. The means of Sharpe and Treynor ratio during 2014 until 2016 are negative. It shows that on average mutual fund performances of equity mutual fund both of Sharpe and Treynor have a negative on average, indicates that performance in 2014-2016 was less successful due to the global economic crisis throughout the year 2014-2016 that affect the fluctuation of NAV of equity mutual fund. Although based on Sharpe and Treynor have negative on mean, not all the sample that were observed had negative Sharpe and Treynor, the majority of negative Sharpe and Treynor in 2014 and 2016.

Fixed effect panel data regression results are shown in Tabel 2. Based on the results, education level and financial advisory have statistically significant relationship with mutual fund performance. The findings in this research are education level and financial advisory like CFA, CAIA, FRM have to influence on fund performance both of Sharpe and Treynor method. The Prob > F is acceptable in this regression the value for model 1 is 0.0109 and 0.0165 for model 2. In the fixed effect panel

data regression used R-sq within which is represent the relationship between the dependent variable and the independent variable of the model. The R-sq of model 1 and model 2 are 0.2051 and 0.1914 respectively. It means that the values suggest of Sharpe and Treynor amounted to 20.51% and 19.14% respectively. Although, the rest influenced by the other variables outside this regression model. The p-value of education level and financial advisory used Sharpe method are 0.018 and 0.020 respectively. The results are consistent with the result that used Treynor ratio the education level is 0.027 and the financial advisory is 0.019. The finding is consistent with previous research that is already done by Khalil, Hassan, & Qamar (2016) that state CFA certificates influence on fund performance. The result of education level is inconsistent with Cheng, Wang, & Tsai (2014), proves an undergraduate degree has better performance than a graduate (master degree) or a postgraduate (doctor degree). This result related with the previous study of Golec (1996), Naidenova, Parshakov, Zavertiaeva, & Tomé (2015), and Khalil, Hassan, & Qamar (2016) that explains about the quality of human capital. If the results elaborate with the Indonesia current condition, the quality of human capital has affected an investment manager in allocating the assets. It can be concluded that the education background of fund managers in Indonesia affected to equity fund performance which the higher quality of education background will lead to performing better risk portfolio with providing the highest return for an investor.

**Table 6 Fixed Effect Panel Data Regression**

		Table 6 Fixed Effect Panel Data Regression							
		Coef.		Std. Err.		t		P>	t
		sharpe	treynor	sharpe	treynor	sharpe	treynor	sharpe	treynor
	edulvl	3.718922	0.5671534	1.300768	0.2125141	2.86	2.67	0.006	0.010
	inter	0.3264696	0.0465585	1.33107	0.2174648	0.25	0.21	0.807	0.831
	finadv	2.712255	0.4413639	1.112993	0.1818363	2.44	2.43	0.018	0.018
	women	2.200179	0.354496	1.55035	0.2532898	1.42	1.40	0.161	0.167
	mngfee	-7.862643	-0.6780696	30.88214	5.045398	-0.25	-0.13	0.800	0.894
	_cons	-3.371565	-0.5657644	1.142373	0.1866363	-2.95	-3.03	0.005	0.004
		sharpe	treynor						
R-sq:	Prob > F	0.0149	0.0229						
	within	0.2051	0.1914						
	between	0.0331	0.0180						
	overall	0.0445	0.0364						

## CONCLUSIONS

The performance of mutual funds is affected by several factors which one is fund manager characteristics specifically in education background. The research was fulfill the gap in determine the correlation between the characteristics of fund managers and the performance of the funds in Indonesia during the 2014-2016 as the research data observation. The result of this research supports the issue that background of fund manager influences on the performance of fund management. The criteria of education background that used are education level, international graduation, and financial advisory. The findings reveal that there are two variables of education background that has an influence on equity mutual fund performance in Indonesia. The higher degree and has professional certificate provide a significant positive result on the performance of the funds, the higher quality of investment manager performs better than the others and also well-managed of portfolio investor, and hence the risk that affected to investment management can be handled by the manager.

Further research can expand this research whether in performance measurement or add the criteria of investment manager in this research. The performance measurement in the mutual fund replaced with information ratio, M2, or others measurement that specific relate with the investment manager performance. Also deepen the background of fund manager criteria such as the major of fund manager such as technical education or economic education, top rank school, age of fund manager, specific working background, and others. Since in Indonesia to get information of fund managers is limited so it can be extend the data by interview of each investment manager. This result also implied for fund management to select the high quality of investment manager.

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# COST ANALYSIS OF DOCUMENT MANAGEMENT SYSTEM FOR FACILITY ENGINEERING AS MANDATORY INVESTMENT CONTRACT

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## EXTENDED ABSTRACT

The Company must do property transfer to Government of Indonesia (GOI) at the end of the Production Sharing Contract (PSC) period. The transferred asset must be accompanied by accurate and up-to-date facility engineering documentation. Currently many documents are missing and not updated. The engineering documentation effort will not be maximized without the support of reliable Document Management System (DMS). The Company decided to implement Document Management System. Discounted Cash Flow (DCF) will describe which is the alternative will give more positive operating cash flow to the Company. The selected alternative with is the total capital expenditure 1,401,420 USD to generate 1,633,616 USD of NPV in span of 1.67 year PBP with IRR around 52.1% and DPI 2.17 is more feasible to run. The next step after the selection alternative id the budget approval, develop the project execution plan, execute the project and operate the Document Management System on end of 2017.

**Keywords:** investment, positive-operating-cash-flow, DCF, PSC

## INTRODUCTION

The Company uses much kind of facilities for crude oil lifting, processing and shipping. Facing the end of PSC in 2021, the Company need to provide all facility engineering document as part of asset property transfer that is part of PSC term. Unfortunately many documents are missing and not updated currently.

The root cause of inaccurate and losing the facility engineering document based on Five-Why approach triggered there is no sufficient system to store facility engineering document and not available a governance to manage facility engineering. And the solution for this root cause is establishing a governance for document control and established a good document management system that support facility engineering governance.

Project team generated two alternatives to develop and implement the system. The first is adopt corporate system and the second is create local system. Both alternative have same total capital expenditure but different total operation expenditure and budget spending schedule. Revenue of the project come from saving cost in searching or validating document, and cost avoidance cause reworking or recreate document of the existing facility can eliminated.

Scope of this research will be focus in finance technical analysis such as NPV, IRR, DPI and PBP for implement facility engineering document management system. And some limitation is considering as research out of scope: the first is production scale of declining reserve issue. In this research, we assume that declining reserve will not impact to the project benefit until of the end of the contract period. The second is technical aspect of facility engineering document system such as device model, software and result of the system also will consider as given data in this research study. The third, procurement hardware such as storage and server is done using leasing and it is given from management. The fourth, this research is adopting internal survey result on improved searching time and enhance engineering efficiency but the method, questionnaires and process of the survey is not part of this research.

This paper use Discounted Cash Flow method to determine financial indicators (NPV, IRR, Dpi and PBP) under cost recovery/PSC net split scheme. The process to get best result of the performing the project on this paper will be analysing using the follow flow process:

- a. Collect data of project investment and operation cost estimation.
- b. Analyzed project cost and benefits
- c. Cash flow calculation for Alternative-1 and Alternative-2 using several parameters: Investment project analysis using discounted cash flow (DCF)by following parameter: (i) Net Present Value – NPV (ii) Internal Rate of Return – IRR, (iii) Payback period – PBP, (iv)Discounted Profitability Index – DPI

- d. Sensitivity analysis related with key uncertainty input parameter
- e. Compare the outcome between Alternative-1 and Alternative-2
- f. Decided which alternative will be executed due to the Company hurdle rate and benefit of the best alternative.

The outcome from this study is proposing best alternative which gives most benefits to the company using Discounted Cash Flow method such as NPV, IRR, DPI and PBP.

## METHODOLOGY

Project investment analysis on this case has been analyzed by using Discounted Cash Flow (DCF) method under Cost Recovery or PSC net Split Scheme. Financial indicators are as the outcome of this analysis which are Net Present Value (NPV), Internal Rate of return (IRR), Discounted Profitability Index (DPI) and Payback Period (PBP). Feasibility and effectiveness of this project is perceived from the comparison of financial indicators outcome among alternatives and with the company hurdle rate.

The development costs or capital investment amount technique used for this project performed by calculating cost component based on activities. There are three components in cost estimation process, those are: (i) capital cost, (ii) operating cost that consist: development, operation and maintenance, (ii) project management cost. The cost component is classified into two types, tangible and intangible cost. Distinguishing separately between tangible and intangible cost is important because the difference cost recovery method. For tangible cost is applied cost recovery method, meanwhile intangible cost is fully recovered when system put on production (in services).

Depreciation on production sharing contract in Indonesia is following the Statement of Financial Accounting Standard (Pernyataan Standar Akutansi Keuangan/PSAK) principle. For a software to support operational activity, scheme of cost recovery for depreciation stated in PSC is covered 5 years starting on first year operating and using declining balance method for first year until fourth year with depreciation rate is 25%. The rest of depreciation will be recovered in fifth year.

## FINDINGS AND ARGUMENT

Following the methodology outlined previously, the data gathering for key parameter are done by using deterministic approach. Figure 1 explain the flow of input, process and output to obtain the economic indicators for project investment analysis and altrenative selection. World Bank forecast of average oil price annually is used as an assumption to calculate the revenue.

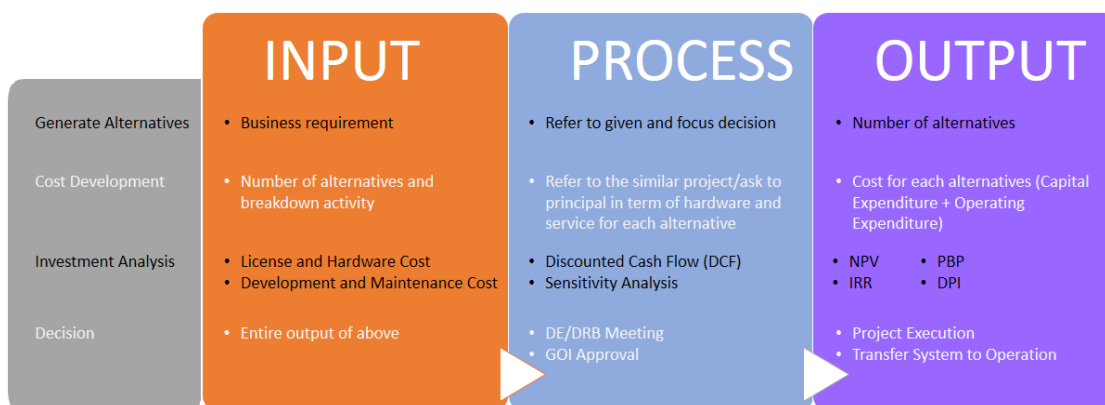


Figure 1 Input Process Output Flow Chart

The benefit calculation split between company and GOI use production sharing contract scheme for the oil field block is calculated using DCF calculation flow as shown in Figure 2.

Cost recovery is the amount of cost that can be recovered (reimbursed) by GOI/SKK Migas to contractor under PSC scheme, which consists of all cost expensed by contractor in term of crude oil valued at annual weighted average price (WAP). The schematic diagram of cost recovery in PSC Net Split as below.



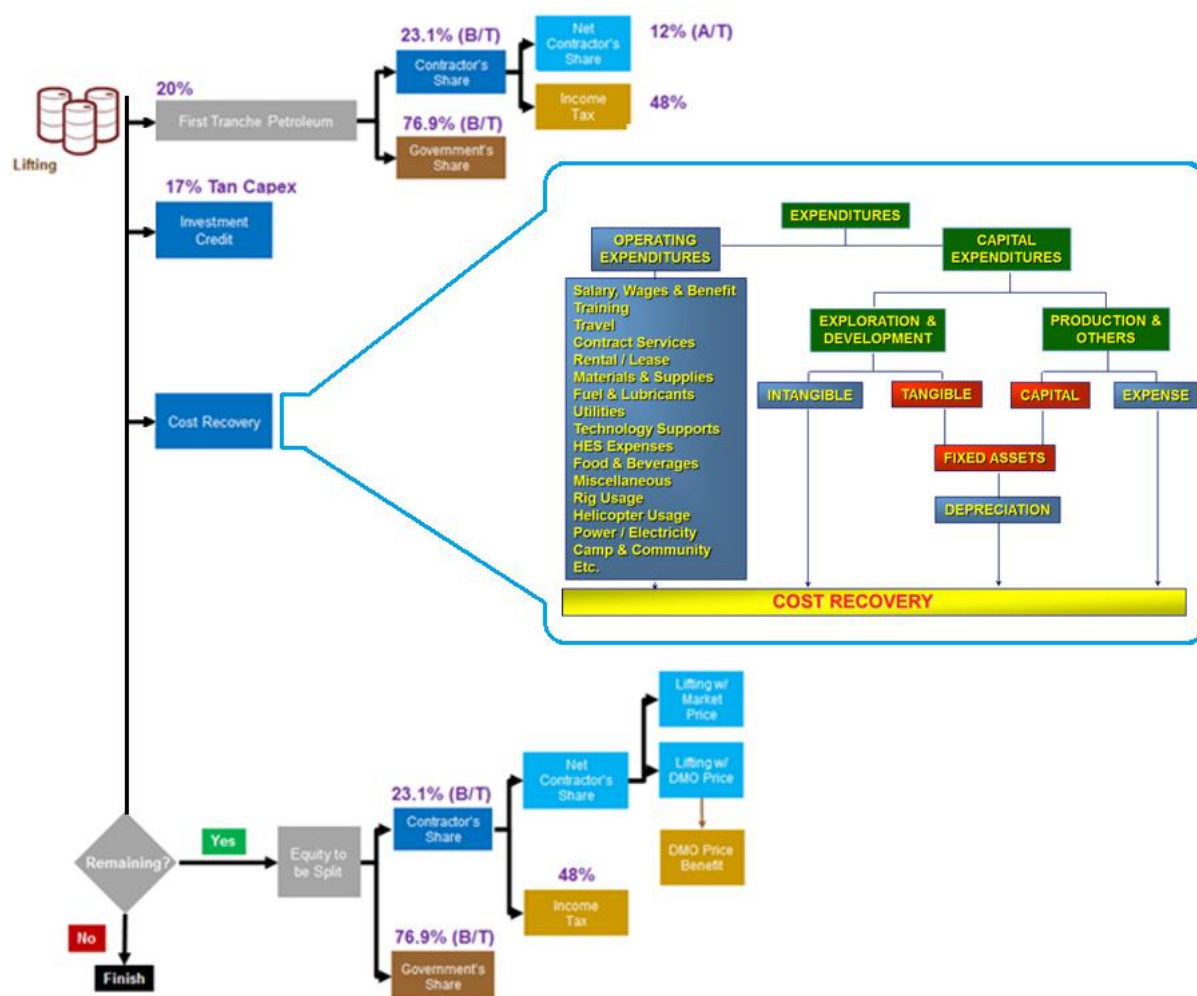


Figure 2 PSC Net Split Scheme

There are two alternatives in this research:

Alternative-1 is adopt the corporate system, copy the corporate system configuration, use their support and pay a certain of amount as system support fee.

Alternative-2 is create local solution, develop own configuration that is specific used in Indonesia, conduct assessment and business requirement gathering related to facility engineering document, develop and configure the system, and maintain the system using local business partner.

Cost spending, revenue for Alternative-1 and Alternative-2 can find on the table below.

Description	2017	2018	2019	2020	2021	2022
CAPEX	1,401,420	0	0	0	0	0
OPEX (Alternative-1)	1,024,908	1,640,256	1,640,256	1,640,256	1,640,256	1,075,128
Revenue (Alternative-1)	0	7,932,572	8,130,886	8,315,979	8,527,514	8,725,829
OPEX (Alternative-2)	544,908	1,330,536	1,470,816	1,470,816	1,470,816	735,408
Revenue (Alternative-2)	0	3,966,286	8,130,886	8,315,979	8,527,514	8,725,829

Table 1 Cost Spending and Revenue for Alternative- and Alternative-2

The result DCF calculation for each alternative using PSC Net Split (cost recovery) calculation flow including depreciation of capital for each alternative:



**Alternative-1:** NCF after 5 Production Year 1,850,169 USD, Discounted Rate 10%, Net Present Value 1,633,616 USD, Internal rate of Return 52.10%, Discounted Profitability Index 2.17, Payback Period 1.67 years

**Alternative-2:** NCF after 5 Production Year 2,614,255 USD, Discounted Rate 10%, Net Present Value 1,419,340 USD, Internal rate of Return 43.20%, Discounted Profitability Index 2.01, Payback Period 2.07 years

After get base calculation for each alternative, the next step is do sensitivity analysis. Oil price, total capital expenditure and project duration are considering as key uncertainty for this project. This step is needed to identify which key uncertainty has more impact to each alternative. The scenario sensitivity analysis for each alternative is describe at table 3.

Key of Uncertainty	Alternative-1			Alternative-2		
	Low	Base	High	Low	Base	High
Oil Price	90%	100%	110%	90%	100%	110%
Total Capital Expenditure	90%	1000%	110%	90%	100%	110%
Project Duration	3 months	6 months	9 months	9 months	12 months	15 months

Table 3 Scenario Sensitivity Analysis for Alternative-1 and Alternative-2

Based on above scenario, oil price is the most sensitive factor to all parameter in both alternative.

## CONCLUSIONS

Based on DCF analysis outcome, Alternative-1 with total expenditure 1,401,420 USD give result NPV 1,633,616 USD, IRR 52.1%, DPI 2.17 and PBP 1.67 years. The DCF analysis for Alternative-2 with total capital expenditure 1,401,420 USD give result NPV 1,419,340 USD, IRR 43.2%, DPI 2.01 and PBP 2.07 years. Despite the NPV is positive and the IRR > discount rate 10% which means the project will give profit to company and he DPI is greater than company hurdle rate that is stated as 1.20

Even though the DPI for both alternative is better than company hurdle rate that is stated as 1.20, Alternative-1 give more benefit for company because Alternative-1 have NPV, IRR and DPI bigger than Alternative-2. The PBP calculation result also show that Alternative-1 is more profitable because the payback period is faster than Alternative-2. So, based on the DCF analysis outcome, the company should be run Alternative-1.

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## ETHICAL PERFORMANCE: EVIDENCE FROM ISLAMIC EQUITY FUNDS AROUND THE WORLD

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### EXTENDED ABSTRACT

This paper investigates the ethical performance of an international sample of Islamic equity funds (IEFs). Using the stringent set of screening criteria of Morgan Stanley Capital International (MSCI) Islamic Index as the ethical benchmark, we find only about a quarter of the equities held by IEFs pass the benchmark. We find no evidence that funds with a more competent and religiously diverse Shariah advisory board (SAB) score higher on ethical performance. In contrast, funds with a highly interlocked SAB have lower ethical performance, supporting the adverse consequence of a busy board, as do larger and older funds. Our research calls for the adoption of unified ethical screening norms across jurisdictions, and for the strengthening of Shariah governance at the fund and country levels so as to mitigate Shariah non-compliance risk concerns.

**Keywords:** : Ethical investment; Ethical performance; Islamic equity funds; Shariah advisory board; Stock screening

Over the past few decades, ethical investment or more broadly socially responsible investment (SRI) has become a major stream in the fund management industry.<sup>9</sup> Despite the joint emphasis on ethical and financial objectives, previous studies have focused primarily on whether taking a principled approach has a systematic impact on the fund's financial performance (Bauer et al., 2005; Hassan et al., 2005; Renneboog et al., 2008a,b; Ashraf and Mohammad, 2014; Kamil et al., 2014; Nainggolan et al., 2015; Ashraf, 2016). Results of these studies have been mixed to say the least.

Whilst the managers of ethical funds have the moral responsibility to the many investors to do the right thing, the measurement of the fund's ethical performance remains a complex and under-considered issue, not the least because of *ambiguity* in the setting of *appropriate benchmarks*. Nevertheless, rating the ethical performance of the funds is fundamental to the legitimacy of this approach to investing since without it, ethical funds are essentially indistinguishable from conventional ones.

In this paper, we aim to fill the void in the literature by rating the ethical performance of a class of ethical funds that are grounded in Islamic law – Islamic equity funds (hereafter, IEFs). Since IEFs are a more coherent group of funds with an identical theoretical ethical foundation based on Islamic law, their ethical performance can be more accurately calibrated relative to other SRI funds. The calibration is facilitated by the fact that IEFs are the only ethical funds that employ a set of explicit business and accounting screens which are entirely exclusionary.

In this paper we impose a litmus test of the ethical performance of IEFs by applying the screening criteria of the Morgan Stanley Capital International (MSCI) Islamic Index. While ethical indices can sometimes cause confusion, they provide a useful benchmark for investors as to what can be considered an “ethical investment”. Our choice of MSCI Islamic as the ethical benchmark is aligned with the growing literature on the importance of harmonizing Shariah regulation and supervisory framework for the sustainability of Islamic products (Vinnicombe, 2012; Htay et al., 2013; Sarea and Hanefah, 2013). In support of this, the Shariah Advisory

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<sup>9</sup> The global sustainable investment market has risen from USD13.3 trillion in 2012 to USD21.4 trillion in 2014, and from 21.5 percent to 30.2 percent of the professionally managed assets. See [http://www.gsi-alliance.org/wp-content/uploads/2015/02/GSIA\\_Review\\_download.pdf](http://www.gsi-alliance.org/wp-content/uploads/2015/02/GSIA_Review_download.pdf).

Council of the Securities Commission (SACSC) in Malaysia has recently increased the stringency and robustness of its Shariah screening methodology to incorporate screens similar to those of MSCI Islamic.<sup>10</sup>

MSCI Islamic has developed strict Shariah compliance criteria for both business activity and accounting screens (liquidity, interest, debt, and non-permissible income) under the supervision of some of the most highly respected and prominent scholars from various Islamic schools of thoughts.<sup>11</sup> The screens are conservative and can be applied consistently across markets and over time, with clearly articulated threshold levels defining what is and what is not acceptable under Islamic law.<sup>12</sup> Further, the index uses the preferred total assets rather than market capitalization<sup>13</sup> as the ratio divisor (El-Gamal, 2006). Since Shariah screening criteria are key to identifying what is permissible and what is not, we consider funds whose holdings pass more of the MSCI Islamic stock screening criteria as having a higher degree of permissible activity and thus have better ethical performance.

Our second aim is to examine whether Shariah governance at the fund level is related to the ethical performance of IEFs. In the Islamic governance model, the Shariah advisory board (SAB) plays a key role in directing, reviewing, and monitoring fund activities for the purpose of Shariah compliance, including assuring *zakat* (purification fees) obligation (AAOIFI, 2009; IFSB, 2009).<sup>14</sup> Arguable, due to variations in the interpretation of Islamic law (*fiqh*), the greatest concern to investors is *fatwa* risk (Kuran, 2004; Iqbal et al., 2009).<sup>15</sup> We predict that funds with a more effective and diverse SAB in terms of size, competency, religious diversity, and board have better ethical performance.

Based on a sample of 126 IEFs domiciled in 15 countries in 10 investment regions in 2009, we find only about a quarter of the equities held by IEFs pass the screening criteria of MSCI Islamic. The total debt to total assets ratio screen poses the biggest hurdle, with an average passing rate of just over 40 percent. This finding suggests that IEFs are more liberal in their screening on the debt ratio relative to the MSCI Islamic benchmark. Kuran (2005) also notes that most members of the Organization of Islamic States consider interest as permissible in their financial system, effectively ignoring the call to follow a more rigorous interpretation of Islamic financial rules. In terms of the governance role of SABs, we find no evidence that funds with a more competent and religiously diverse SAB score higher on our ethical performance measures. Funds with a highly interlocked SAB, measured by the number of cross board memberships, score lower on our ethical performance measures, supporting the adverse consequence of board busyness. Finally, larger and older funds score lower on our ethical performance measure, perhaps due to the lack of strictly Shariah-compliant investment opportunities for these funds.

Our research provides the following important contributions. First, we provide the first evidence on the ethical performance of IEFs around the world, thus contributing to the thin literature on the ethical performance of IEFs in particular and of SRI funds in general. We find that a sizeable fraction of stocks held by IEFs do not

<sup>10</sup> This revision is in line with the Securities Commission's initiatives to further enhance the Shariah-compliant equity and investment management segment as well as to expand the Islamic capital market's international reach, as outlined in the Capital Market Masterplan. For details on the revised Shariah screening methodology by the Securities Commission, see <http://www.sc.com.my/frequently-asked-questions-on-revised-shariah-screening-methodology/>.

<sup>11</sup> The scholars include Dr Hussain Hamid Hassan (Egypt), Dr Mohamed Elgari (Saudi Arabia), Dr Ali AlQaradaghi (Qatar), Dr Abdul Sattar Abu Ghuddah (Saudi Arabia), and Dr Mohamed Daud Bakar (Malaysia).

<sup>12</sup> Other prominent Islamic indices, including DJ Islamic, FTSE Islamic, S&P Islamic, and Russel-Jadwa Shariah, apply fewer accounting screens and are thus less stringent. Some of these indices do not explicitly state the compliance threshold levels and leave what is considered "acceptable" and "appropriate" to be determined by Shariah principles and commonly accepted philosophies (through *fatwa* opinions issued by SABs). For a discussion on Shariah **compliant equity screening practices**, see Derigs and Marzban (2008).

<sup>13</sup> Total assets are preferred to market capitalization since all transactions in Islamic finance must be asset backed. See Section 3 for further details.

<sup>14</sup> Delorenzo (2007) argues that the functions of the Shariah board include consumer advocacy, portfolio purification in terms of fiscal and moral matters, and with regard to screening stocks, portfolio monitoring of management, fees, funds, documentation, the industry, product development and *zakat* in the context of Islamic mutual funds.

<sup>15</sup> *Fatwa* risk refers to the possibility that the Islamic ruling is ambiguous and not understood by all but those with expert knowledge. This includes the setting of minimum compliance criteria which, while excluding companies in serious breach, provide fund managers a reasonably large investable universe.

meet the screening criteria of MSCI Islamic, suggesting that there are significant discrepancies in the screening norms and/or compliance monitoring across Islamic funds (Khatkhatay and Nisar, 2006; Derigs and Marzban, 2008; Rahman et al., 2010; Htay et al., 2013). Our research underscores the need for a standardized Shariah screening framework and an effective centralized Shariah board with the purpose of harmonizing the diverse Shariah opinions. It thus supports calls for strengthening Shariah governance at both the fund and country levels to mitigate potential Shariah non-compliance risk of Islamic investments. More generally, we call for further research into the development of conceptual frameworks for *calibration ethical* performance.

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# UNDervalued STOCK WITH OUTSTANDING PERFORMANCE: STOCK VALUATION OF PT WASKITA KARYA TBK IN INDONESIA'S ECONOMIC REBOUND

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## EXTENDED ABSTRACT

Gross Domestic Product growth is often related with the economic standing of a nation. In the past few years, Indonesian GDP growth has been declining with no signs of rebound. Following previous researches that state GDP growth is closely related to infrastructure growth, this paper aims to study one of the big four players in infrastructure industry following the government and foreign support towards the sector. PT Waskita Karya Tbk is currently the market leader of the mentioned sector, overtaking the previous leader PT Pembangunan Perumahan Tbk in 2016. This thesis examines the financial performance of PT WSKT using several methods such as industry, CAGR, cross-section, DuPont, and other financial analysis followed by estimation of WSKT.JK intrinsic value using both relative valuation and Discounted Free Cash Flow to Equity Model. The data needed to analyze in this research are based on the data available to public in the company's website and third party financial institutions. It was found that the financial performance of PT WSKT has been superb with few flaws compared to its competitor. According to relative valuation, the company is undervalued. It was also supported by the intrinsic value estimates using DCF-FCFE that concluded the current stock price of WSKT.JK is undervalued with the upside potential of 61.8%.

**Keywords::** Infrastructure industry, financial performance, DuPont, Discounted Cash Flow Method, Relative Valuation, Sensitivity Analysis

## INTRODUCTION

Through years of development, Indonesia has been listed as one of the members of G20 countries. Reputable analysts in the world have projected that Indonesia is expected to keep its momentum and expand to become one of the major players in the global economy. To ensure the continuity of economic growth in Indonesia, the governments have issued a policy back in 2011 called Master Plan for Acceleration and Expansion of Indonesia's Economic Development also known as MP3EI. MP3EI is a plan made by the governments to accelerate the realization of the expansion of economic development and equity distribution to be enjoyed equally among Indonesia's citizens through the rapid expansion of infrastructure. President Joko Widodo promised to carry out the previous President's plan under the name of *Rencana Pembangunan Jangka Menengah Nasional (RPJMN)*. Since his election, Indonesia has In the last two years, the government has constructed 2,225 kilometers of roads, 132 kilometers of toll roads and 16.5 kilometers of bridges or 160 bridges. The growths during these two years are considered to be Indonesia's greatest infrastructure growth in history. Allocation of funds towards infrastructure has grown 123.4% since 2014 (APBN, 2017). Therefore, it is undeniable that President Joko Widodo prioritizes the growth of Indonesia's infrastructure.

PT Waskita Karya is a leading state-owned company in Indonesia which operates in construction industry since 1961. The company did their Initial Public Offering (IPO) under the lead of M. Choliq in 2012 in order to strengthen capital structure and business development with majority of ownership, 68%, held by Indonesia's Government. The company published a 118% increase in contract value in 2016 followed by 68% increase in overall revenue (Waskita Karya, 2016). Waskita overtook the previous market leader, PT Pembangunan Perumahan (PTPP) with the increase of contract value with approximately 29.37% market share.

## Company Profile

Established on January 1st, 1961, Waskita Karya is the nationally leading companies in Indonesia that plays a key role in development of the nation. In the beginning Waskita Karya was only involved on works related to water, including reclamation, dredging, and irrigations. Currently, PT Waskita Karya (Persero) owned business

in wider range of construction field, concrete precast, property, energy, and the rising star – toll road. PT Waskita Karya started doing on works on a set of high technology wide projects. Technology transfer was done through business alliances, in the form of joint operation and joint business with various leading foreign companies.

1. Construction is the main business line of Waskita Karya that have existed since its establishment that contributes the most towards the company's annual income.
2. Concrete Precast is the second business line established in 2013 that approximately contributes 5% to the company's annual income.
3. Toll Road is the promising business line that was established in 2015. As a considerably new business line, the contribution towards annual income is low, but is expected to grow throughout the years.
4. Property is a complementary business line built in October 2014.
5. Energy is the last business line, established in March 2016, and is an investment company.

## LITERATURE REVIEW

(Kotler & Keller, 2009) Mentioned that PESTLE analysis is an analysis used to know the macro condition of a company. The use of PESTLE analysis is encouraged by the fact that through this analysis, managers and leaders are able to gain knowledge of a comprehensive picture of the environment around the business from such external aspects: Politics, Economics, Social, Technology, Legal, Environment (David, 2007). On the other hand, to know the current condition of the company, SWOT analysis is often used. The purpose of the analysis is to identify the Strengths, Weaknesses, Opportunities, and Threats in the internal of the company (Hunger & Wheelen, 2010).

According to Damodaran in Applied Corporate Finance, the fundamental approach to valuing a firm is discounted cash flow valuation, which extends the present value principles that author developed to analyze projects to value a firm. The value of a firm can be written as the present value of the expected cash flow during the high-growth period and a terminal value at the end of the period

(Damodaran, *Investment Valuation: University Edition*, 2012) Mentioned the usage of Free Cash Flow to Firm (FCFF) and Free Cash Flow to Equity (FCFE) with almost no difference. In the state where a company's debt is zero, the valuation through FCFF and FCFE is expected to be equal. FCFF is used when the company's debt ratio is changing overtime, whilst FCFE is used when the company's future debt ratio is expected to be constant. (Stow, Robinson, & Pinto, 2007) Mentioned that FCFF is the after tax operating income available to both creditors and shareholders.

(Damodaran, *Investment Valuation: University Edition*, 2012) Mentioned the usage of Price Earnings Ratio (PER) to compare the performance of company with its competitors in the same field by evaluation its Earnings per Share (EPS). Prior literature has examined how the P/E ratio can be used to estimate the cost of equity capital (Easton, 2004) to explain stock prices (Schreiner & Spremann, 2007) and to predict future earnings (Wu, 2013). This method is used by comparing each company multiples according to the expected optimum point of the industry's PER.

(Damodaran, *Investment Valuation: University Edition*, 2012) Enterprise multiple (EV/EBITDA) is a ratio used to determine the value of a company through the calculation of enterprise value divided by the company's earnings before interest, tax, and depreciation. The use of EV/EBITDA is considered effective for transnational comparisons because it ignores the distorting effects of individual countries' taxation policies. However, it is affected by the variety of each industry as it is highly related with industrial average.

## METHODOLOGY

The data for the current research was gathered from official government websites, the national statistic center, Waskita Karya's official website, IHSG, BI rate, Waskita's competitors' financial reports.

There are three steps in this research. The first analysis was done towards the macro conditions of Indonesia followed by industrial outlook by using PESTLE analysis and Porter's 5 forces. Followed by the analysis of Waskita's internal situation with SWOT analysis to gain general knowledge of opportunity to grow or dangers of threats.

The next step of the research is the valuation of the company. Discounted cashflow valuation (DCF) of FCFE, Price Earnings Ratio (PER), and Enterprise Value to Earnings (EV/EBITDA) are the financial approaches used to estimate the intrinsic value of the company.

$$DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_n}{(1+r)^n}$$

CF = Cash Flow

r = discount rate (WACC)

$$\text{Price to Earnings Ratio} = \frac{\text{Current Stock Prices}}{\text{Earnings Per Share}}$$

$$EV/EBITDA = \frac{\text{Enterprise Value}}{EBITDA}$$

The last step is to conduct Monte Carlo simulation to test the deviation of valuation result with the changes of important factors such as Terminal Growth and Risk-free rate.

## UNFINISHED FINDINGS



According to the Porter's 5 Forces analysis, the potential industrial threat towards Waskita Karya most likely will be from competitive rivalry. It was well-known that in this industry, the companies are having low Net Profit Margin (below 10%). Therefore, prices between competitors are really close that leads to competitive environment. However, due to recent company strategy, Waskita has been successful in reducing their cost of goods which may lead to lower price (constant NPM) or higher profit (growing NPM).

Based on the valuation method of Discounted Free Cash Flow to Equity (FCFE) and other financial multiples it was found that:

Cost of Equity	
Yield	7.28%
Beta	1.5
Market Return	11.6%
<b>Rs</b>	<b>13.4%</b>

Relative Valuation	
PER	2443
EV/EBITDA	2584
Fair Price based on Relative Valuation	2513
DCF Valuation	
FCFE	3,640

Based on the valuation, author considered that the price of IDR 2.550 per share Waskita as of 31<sup>st</sup> December 2016 is undervalued. Author expected a great increase of 42.75% in share price by the end of 2017 based on the valuation. Author believe that the contract value of Waskita will continue to increase following the previous year's number of 118% and the potential growth of Waskita Toll Road which currently undertook more than 400 kilometers of toll road in Indonesia followed by the press release of government decision to build more than 1000 kilometers of toll road in 2017.



## CONCLUSIONS

Author signal a strong buy recommendation to long-term investors to invest in PT Waskita Karya. Author believe that Waskita Karya is currently the best amongst its peers and have a vast amount of growth potential in the future.

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# ETHICAL PERFORMANCE, R&D INVESTMENT, FINANCIAL PERFORMANCE AND DEA-EFFICIENCY BASED MODEL (CASE OF INDONESIA MARKET)

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## EXTENDED ABSTRACT

There are still limited numbers of study related the topic of companies' ethical performance and efficiency perspective, moreover with R&D investment as the mediator variable. As far as the authors' concern, there have been no studies regarding this topic in Indonesia.

The purpose of this paper is to explore the relationship between R&D investment, ethical performance, financial performance and firms' efficiency. We employ a sample of 69 companies listed as "SOCs" firms for five year period (2011-2015) and control with another set of 69 similar-sized, "non-SOCs" firms for the same period.

**Keywords:** Ethical performance, Corporate social performance, R&D, investment, financial, performance, DEA, efficiency

## INTRODUCTION

There are still limited numbers of study related the topic of companies' ethical performance and efficiency perspective, moreover with R&D investment as the mediator variable. As far as the authors' concern, there have been no studies regarding this topic in Indonesia. The main reason as to why this incurred, aside from the data availability problem and lack of government control over firms' regarding a reporting system for R&D investment, is because many companies in Indonesia still had not seen R&D investment as an effective way to increase their efficiency. In Indonesia itself, this study can be pointed as the initial point to discuss about the relationship of these said variables. This study is a further step after our initial preliminary study regarding R&D investment in Indonesia (Firmialy and Utama, 2016) and ethical performance of Indonesian companies (Firmialy and Nainggolan, 2016; Firmialy, Nainggolan and Fathurohman, 2016). Here in this study we propose our two main argument the first one stated that a socially responsible companies able to operate more efficiently than the irresponsible ones, in terms of managing all their strength and concerns, hence their association with financial performance is stronger.

The second of our argument focus on the role of R&D investment and R&D intensity as the mediator that will help companies to reach its goal in terms of being efficient. We argue that the association between ethical performance and financial performance is stronger if a firm invest more in their R&D activities. Another contribution of this paper, we took the initial step to evaluate SOC's versus non-SOC's companies. Our third argument stated that SOC's companies are more socially responsible than non-SOC's, hence operate more efficiently and more stable financially. In this paper, we took the initial step to answer this question by investigating the relations between R&D investment, ethical performance and companies' efficiency and financial performance for 22 listed SOC's versus 22 listed non-SOC's with the same size and age, between the year of 2008-2015. We measure CSP scores based on framework developed by Firmialy and Nainggolan (2016) and efficiency with DEA Method input-based and output-based. For R&D investment and R&D intensity, we will follow Hall *et al.* (2010) and for efficiency we will follow Chen *et al.* (2010).

## LITERATURE REVIEW

*Ethical performance, financial performance and efficiency*

Rais and Goedegebuure (2009) examine stakeholder relations as a solid measure of ethical performance, and its impact on firm performance and firm competitive position. They found that ethical performance based on stakeholder relations adds significant effect to financial performance and competitive position. Socially responsible companies are able to do their businesses more effectively. Evidence that socially responsible companies are able to operate more efficiently were being offered by Jacobs *et al.* (2016). They found that

companies able to increase their social performance by operate more efficiently and thus increase their financial performance as well. Based on this explanation, we stated our first hypothesis as follows.

Ha<sub>1</sub> : The association between ethical performance and financial performance is stronger if a firm able to operate more efficiently

#### *Ethical performance, financial performance and R&D investments*

CSR activities strengthen managers' competency in responding to external changes, thereby facilitating efficient product and process innovation (McWilliams and Siegel, 2001), and increasing the potential output from innovative R&D investments. Because CSR facilitates forward thinking (e.g., Porter and Kramer, 2006; Orlitzky et al., 2003), firms with higher CSR performance are less likely to behave myopically. Consistent with this argument, Kim et al. (2012) find that socially responsible firms are less likely to manipulate real activities, which includes cutting R&D and other discretionary expenses to boost current period accounting earnings. A strong commitment to CSR reduces concerns over management's myopic view in R&D investment decisions, and accordingly encourages investors to positively value the firm.

CSR creates a reputation that a firm is honest and reliable, adding financial value to the firm (Schnietz and Epstein, 2005; Lantos, 2001; McWilliams and Siegel, 2001). If a firm treasures its reputation, the desire to protect that reputation can inhibit managers from engaging in socially unacceptable activities. Socially responsible firms are found to be more ethical (Phillips et al., 2003; Donaldson and Preston, 1995; Jones, 1995; Carroll, 1979) and transparent in corporate dealing (Economist Intelligence Unit 2008),<sup>3</sup> have an incentive to be honest, trustworthy, and ethical in their business activities, and adhere to a high standard of behavior (Kim et al., 2012). Hence, these firms are less likely to abuse R&D investment decisions, which help improve investors' perception about the value of R&D. These qualities of being ethical, transparent, and honest help reduce information asymmetry, alleviate the agency problems associated with R&D investments, and contribute to a stronger relationship between R&D investments and firm value.

We presented our research model in Fig.1 below. Based on the preponderance of evidence supporting a positive relation, we state our second hypothesis as follows.

Ha<sub>2</sub> : The association between ethical performance and financial performance is stronger if a firm invest more in their R&D activities

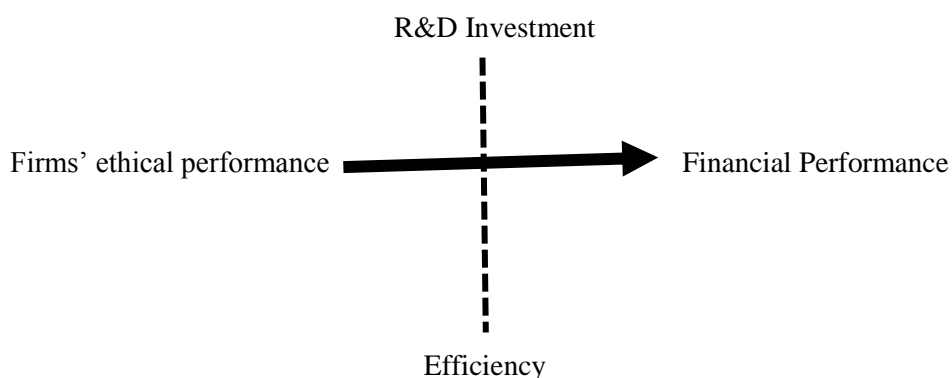


Fig.1 Research Model

## **METHODOLOGY**

In this study, we chose selected sample, from SOC's vs non-SOC's. We employ a sample of 69 companies listed as "SOC's" firms for five year period (2011-2015) and control with another set of 69 similar-sized, non-"SOC's" firms for the same period. We then measure the corporate social performance (CSP) for the sample following the methodology by Firmialy and Nainggolan (2016). They combined several guidelines from Wood (1991), Clarkson (1995), Hopkins (1997), Steg (2003), Dommerholt (2009) to represent CSP framework from academics and CSP framework from KLD, SAM, Calvert, Sustainability, FTSE4Good, Vigeo, Oekom, DJSI, GRI, SRI-KEhati, ISO 26000, and IFC to represent social rating agency. They select these rating agencies based on the availability and transparency of data and methodology in the internet, and then modified it so it

will be better suited to match Indonesia's business environment. Their final CSPF consist of three main dimensions which are social, environmental and economic. The first dimension consists of 7 observable indicators and 47 observable sub indicators. The second dimension consists of 5 observable indicators and 23 observable sub indicators, and the third dimension consists of 5 indicators and 23 sub-indicators. Overall, their proposed CSPF model will cover 3 dimensions, 17 indicators and 93 sub-indicators.

They divide their framework to strength and concern, whereas company's strength link with their positive behavior, whereas company's concern link with the company's negative behavior. The sum of all aspects fell categorized under company's strength can be defined as "strength disclosure score", STR, while sum of all aspects under company's concern category were translated as "concern disclosure score", CON. The sum of strength and concern score represents composite "total disclosure scores". They employed content analysis on their sub-indicators data as the coding basis and count each word frequency to measure extensiveness of the information disclosed. For CSP score estimation, the disclosure score for each item and dimension in the CSPF were converted to the range of scale between 1-3, with the score of 3 represent firms that disclose relatively detailed evaluation criteria in the annual report, sustainability report or corporate websites, whereas a score of 2 represents companies that disclose an average amount of information, and finally a score of 1 if it disclose a very brief textual description. Company whose disclose nothing fall into this latter category.

We measure efficiency score (EFFSC) by following Chen and Delmas (2011). They computes an efficient frontier by using DEA method and selected points that represents the best performers in a peer group. The DEA CSP score represents the distance of a firm to the efficient frontier and the extent to which a firm can reduce its current concerns, given its strengths relative to those of the best performers. The DEA score represents the distance to the efficient frontier and is easy to interpret.

These features help compare firms' CSP both within and across industries. In the DEA methodology, efficient firms are those that use minimal inputs to produce maximum outputs. DEA evaluates a firm's multi-factor performance by a composite efficiency index with a value between zero and one, with "one" representing the efficient firms and are located on the frontier, whereas firms with a score lower than one are considered inefficient (i.e., they should further reduce their concern levels). They consider CSP concerns as inputs (i.e., factors to be minimized) and CSP strengths as outputs (i.e., factors to be maximized). Thus the DEA score can account for the trade-off between positive and negative CSP indicators. We use an input-oriented DEA model, where the objective is to minimize CSP concerns (the inputs) given current CSP strengths (the outputs).

For R&D investments (RDINV) we follow the method based on Hall *et al.* (2006). They use the ratio between R&D expenditure to total number of tangible assets plus intangible assets to describe R&D investment. For financial performance (FIN), we measured profitability as measured by return on assets (ROA) and market value as measured by Tobin's q (TBIN). We control for variables which, according to prior literature, are statistically related to ethical performance, R&D and financial performance. R&D intensity (RDIN) from the ratio between R&D expenditures to sales in the previous year, and all firms that did not report R&D expenses are assumed to have zero R&D intensity. R&D intensity is a common control measure for firm performance because R&D can produce more successful products, and higher performing firms tend to spend more on R&D. R&D has also been argued to be an important variable when considering the companies social performance and financial performance relationship (McWilliams and Siegel 2001).

The second control variable is advertising intensity (ADVIN). This indicator is another common control variable for firm performance and has recently been linked to companies ethical performance (Servaes and Tamayo 2013). Advertising intensity is measured as advertising expenses divided by sales, and all firms that did not report advertising expenses are assumed to have zero advertising intensity. Next, we control for firm size (SIZE) with the log of the firm's total employees. In addition to the above three factors, we also control for year-specific effects (YEAR) and industry-specific effects (INDUSTRIES) using dummy variables. Here below is our regression model formulation:

$$FIN = \alpha_0 + \alpha_1 STR + \alpha_2 CON + \alpha_3 EFFSC + \alpha_4 ADVIN + \alpha_5 SIZE + \alpha_6 INSID + \alpha_7 INST + \sum \alpha_8 YEAR + \sum \alpha_9 INDUSTRIES + u_j$$

Whereas : FIN = financial performance indicator; STR = strength score, based on Firmialy and Nainggolan (2016); CON = concern score, based on Firmialy and Nainggolan (2016); EFFSC = efficiency scores, based on DEA; ADVIN = advertising intensity; INSID = Insider ownership, percent of total shares outstanding held by all inside owners, INST = Institutional ownership, percent of total shares outstanding held by institutions, YEARS = Dummy variables for years 2011-2015, INDUSTRIES = Dummy variables for industries based on two-digit SIC code category.

## CURRENT FINDINGS AND EXPECTED RESULTS

The purpose of this paper is to explore the relationship between R&D investment, ethical performance, financial performance and firms' efficiency. Here in this study we propose our two main arguments the first one stated that a socially responsible companies able to operate more efficiently than the irresponsible ones, in terms of managing all their strength and concerns, hence their association with financial performance is stronger.

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## WHAT AFFECTS PROFITABILITY OF INSURANCE COMPANIES? A STUDY IN MALAYSIA

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### EXTENDED ABSTRACT

This study examines determinants that can contribute to profitability of insurance companies in Malaysia. Data were gathered using secondary data collection method from Bursa Malaysia annual report, Bank Negara Malaysia and Thompson Reuters from year 2000 until 2015. Six public listed insurance companies namely; Syarikat Takaful Malaysia Berhad, LPI Capital Berhad, Manulife Holding Berhad, MAA Group Berhad, MNRB Holding Berhad and Pacific and Orient Berhad were chosen as sample of study. Data were analyzed using SPSS. From the analysis, two determinants; age of company and volume of capital were identified as the most important determinants that influence insurance companies' profitability. These determinants were also found to have positive and significant impact towards profitability. In contrast, leverage is negatively but significantly related with profitability while liquidity is found to have negative and insignificant impact towards profitability of insurance companies in Malaysia.

**Keywords:** : Profitability, Leverage, Liquidity, Age of Company, Volume of Capital, Insurance

### INTRODUCTION

Profitability has been widely used as an indicator of companies' success. For a company, earning a profit is crucially important because it is one of the determinants that attract investors to fund its operations and grow its business. In Malaysia, profit earned by insurance companies was marked at RM2.5 million in year 2015. The figure is slightly higher in 2014, which is RM2.7 million. In addition to that, investment income was reported higher in 2015, which is RM1.9 million compared to RM1.4 million in 2014 (Bank Negara Malaysia, 2015).

There are few gaps this study would address. First, in finance related studies, there are a lot of researches focused on determinants affecting banks profitability rather than insurance companies especially in Malaysia. Second, in understanding determinants affecting companies' profitability, most research commonly used Return on Assets (ROA) as an indicator of profitability. Very little research considered Return on Equity (ROE) as an indicator. This study thus, takes an initiative to examine determinants that can contribute to profitability of insurance companies in Malaysia. The profitability will be identified using two indicators; ROA and ROE.

This study will be beneficial to three different parties. First, by understanding determinants contributing to the profitability, the regulators could play a vital role in helping insurance companies to expand their market share. Second, investors will be benefited in choosing their investment places. Third, this study will give an indicator for a customer in selecting the best insurance companies for their insurance protection.

### LITERATURE REVIEW

Insurance can be defined as a service that provides a benefit upon the occurrence of a risk (Derbali, 2014). Insurance is important as it protects an individual financial loss or responsibility due to an unfortunate emergency, accident or negative unforeseen event. Profitability and growth are very important for businesses, including insurance companies. Measuring profitability and understand the determinants for profitability are the

most important measure of the success of the business. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment.

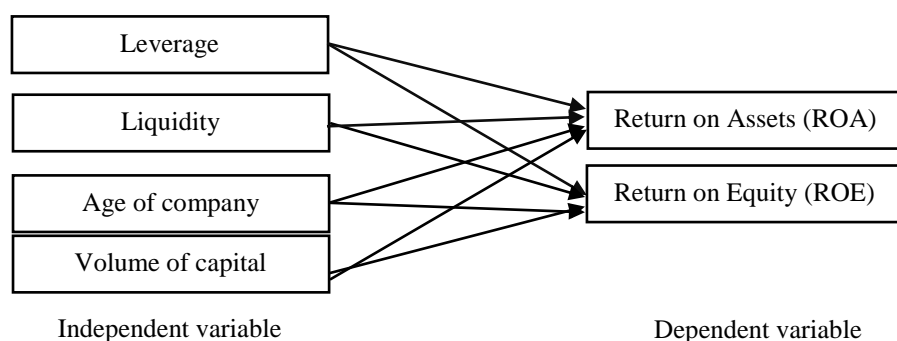
Profitability can be viewed from two major perspectives; accounting and economic. Accounting profit (also known as net income) is the monetary costs a business pays out and the revenue a business receives. Accounting profits provide businesses with an intermediate view of the viability of its operation and business. On the other hand, an economic profit is calculated based on the difference between the revenue received from the sale of an output and the opportunity cost of the inputs used. Economic profits provide businesses with a long-term perspective of their business. Profitability can also be measured using ratios. The most commonly ratios used to measure profitability are return on asset (ROA) and return on equity (ROE).

Several researchers such as Lucy et al. (2016), Mwangi and Murigu (2015), Derbali (2014), Mehari and Aemiro (2013) and Malik (2011), and have highlighted the determinants of insurance companies' profitability in several countries including Pakistan and Tunisia. For example, Malik (2011) explores determinants of insurance companies' profitability in Pakistan by measuring the relationship between age of company, firm size, leverage ratio, volume of capital and loss ratio regressed towards ROA. The result shows that there is a positive and significant relationship between firm size and volume of capital towards profitability, while leverage and loss ratio has negative and significant relationship with profitability. In addition to that, Malik found that there is no relationship between age of company and profitability. In another study, Derbali (2014) found that ages and premium of growth has positive and significant relationship, while leverage, liquidity risk and tangibility of assets has no significant relationship with profitability in Tunisia.

Several determinants of profitability has been explored by other researchers; Ullah (2016), Mwangi and Murigu (2015), Chen-Ying (2014), Meaza (2014), Samabasivam and Ayele (2013), Charumathi (2012) and Malik (2011). For instance, Mwangi and Murigu (2015) explore the relationship between leverage, equity capital, management competence index, size and ownership structure, retention ratio, liquidity, underwriting risk and age on profitability. Chen-Ying (2014) discover the relationship of underwriting risk, reinsurance usage, input cost, return on investment (ROI) and financial holding group towards profitability, while Ullah (2016) explore the relationship of underwriting risk and company size with profitability. In addition to that, Charumathi (2012) used leverage, size, liquidity, equity capital and premium growth in an attempt to measure its relationship with profitability, which was determine by company's ROA. Based on the result, only firm size and liquidity have found to have positive and significantly relationship.

## METHODOLOGY

Data for this study were gathered using secondary data collection method. The data consist of profitability, leverage, liquidity, age of company and volume of capital for six public listed insurance companies namely; Syarikat Takaful Malaysia Berhad, LPI Capital Berhad, Manulife Holding Berhad, MAA Group Berhad, MNRB Holding Berhad and Pacific and Orient Berhad. The data were collected from annual report, from year 2000 until 2015, from Bursa Malaysia, Bank Negara Malaysia and Thompson Reuters. The research model used in this study is visually shown in Figure 1.



**Fig.1. The Research Model**

This study used multiple regression analysis to examine the impact between company's profitability; ROA and ROE as proxies, with the leverage, liquidity, age of company and volume of capital. The regression models used in this study are as the following:

$$\text{ROA} = \alpha_0 + \beta_1(\text{LV}) + \beta_2(\text{LQ}) + \beta_3(\text{AGE}) + \beta_4(\text{VOC}) + \varepsilon \quad (1)$$

$$\text{ROE} = \alpha_0 + \beta_1(\text{LV}) + \beta_2(\text{LQ}) + \beta_3(\text{AGE}) + \beta_4(\text{VOC}) + \varepsilon \quad (2)$$

Where:

ROA and ROE = dependent variables;  $\alpha$  = constant value;  $\beta$  = regression coefficient; LV = leverage;

LQ = liquidity; AGE = age of company; VOC = volume of capital; and  $\varepsilon$  = residual term

Based on the preceding discussion, Hypothesis 1 and Hypothesis 2 are developed:

H<sub>1</sub>: There is a positive and significant impact between leverage, liquidity, age of company and volume of capital towards ROA of insurance companies in Malaysia.

H<sub>2</sub>: There is a positive and significant impact between leverage, liquidity, age of company and volume of capital towards ROE of insurance companies in Malaysia.

## FINDINGS AND ARGUMENT

Table 1 presents the multiple regression analysis, in which to examine the impact between ROA and four independent variables. Based on the table 1, age of company (p-value = 0.000, t = 8.393) and volume of capital (p-value = 0.003, t = 2.312) were found to be positively and significantly related to ROA. These results were supported by Derbali (2014), Sumaira and Amjad (2013), Samabasivam and Ayele (2013); and Malik (2011). On the other hand, leverage (p-value = 0.000, t = -9.687) was found to be negatively and significantly related to the ROA. It was confirmed by findings in Meaza (2014); Charumathi (2012); and Malik (2011). Liquidity (p-value = 0.652, t = -0.452) was found to have negative and insignificant relation to ROA. This result is consistent with previous study done by Mwangi and Murigu (2015); Meaza (2014); and Derbali (2014).

Adjusted R<sup>2</sup> value for ROA is 0.611 indicating that 61.1 percent of the variation of determinants affecting profitability of insurance companies in Malaysia could be explained by the four independent variables.

**Table 1. Regression Results for ROA**

Variables	B	t-value	p-value
Leverage	-5.252	-9.687	0.000
Liquidity	-0.122	-0.452	0.652
Age of company	8.393	4.710	0.000
Volume of capital	2.312	3.013	0.003
R <sup>2</sup> = 0.611			
Adjusted R <sup>2</sup> = 0.594			

Table 2 presents the multiple regression analysis, in which to examine the impact between ROE and four independent variables. Based on the table, age of company (p-value = 0.000, t = 6.333) and volume of capital (p-value = 0.002, t = 3.260) were found to be positively and significantly related to the ROE. On the other hand, leverage (p-value = 0.000, t = -8.716) was found to be negatively and significantly related to the ROE while liquidity (p-value = 0.460, t = -0.741) was found to be negatively and insignificant related to the ROE.

Adjusted R<sup>2</sup> value for ROE is 0.605 indicating that 60.5 percent of the variation of determinants affecting profitability of insurance companies in Malaysia could be explained by the four independent variables.

**Table 2. Regression Results for ROE**

Variables	B	t-value	p-value
Leverage	-4.982	-8.716	0.000
Liquidity	-0.008	-0.741	0.460
Age of company	13.117	6.333	0.000
Volume of capital	2.739	3.260	0.002
R <sup>2</sup> = 0.605			
Adjusted R <sup>2</sup> = 0.587			

## CONCLUSIONS



The purpose of this study is to examine determinants that contribute towards profitability of insurance companies in Malaysia. Four variables were identified; leverage, liquidity, age of company and volume of capital. Based on the findings, age of company and volume of capital were found to have positive and significant impact towards profitability of insurance companies in Malaysia. On the other hand, leverage was found to have negative and significant impact towards profitability. The negative relationship between leverage and profitability are consistent with prior studies (Akben-Selcuk, 2016; Dogan, 2013; Basti et al., 2011; Gurbuz et al. 2010). However, liquidity was found to have negative and insignificant impact towards profitability of insurance in Malaysia.

By understanding determinants of profitability, few strategic moves can be taken. First, insurance companies need to have a large volume of capital throughout their business life. Thus, it is necessary of the finance manager in insurance company to monitor their capital adequacy test frequently. Second, older firms have better financial performance and profitability because they are more experienced and enjoy the benefits of 'learning by doing' (Coad et al. 2013, Vassilakis 2008). Thus, throughout the business years, insurance companies should have strategic plans and be competitive in the market.

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# DOES FAMA FRENCH THREE FACTOR MODEL IMPACT THE EXCESS RETURN? EMPIRICAL EVIDENCE IN INDONESIA STOCK MARKET

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## EXTENDED ABSTRACT

Capital market is a place that allows investors to diversify investments, forming a portfolio in accordance with the risk they are willing to bear with the expected return. There are many method in forming a portfolio, one of them is formed by Fama and French. Arguing the Capital Asset Pricing Model (CAPM) by Sharpe (1964), Lintner (1965) and Black (1972), Fama French stated that firm size and book to market value is also contributed in making excess return for the investors. The purpose of this study is to examine the impact of Fama and French three factor model to the excess return in Indonesia Stock Market. We extended our study by further relate the initial condition with Indonesian condition during financial crisis (2008-2010). Our observed datasets contains of 15-years data observation for 45 listed companies in LQ-45, constructed in two datasets, namely Pre-Crisis (2002-2008) and Post-Crisis (2010-2017). Two-stages least squares and paired t-test were conducted to answered our research questions, with expected findings argue that there is a relationship between financial crisis and the ability of Fama and French three factors model to explain the variation of excess return in Indonesia.

**Keywords:** Fama French Three Factor Model, book to market, firm size, financial crisis, LQ45, Indonesia Stock Market

## INTRODUCTION

Currently, there are many choices of investment instruments offered such as real assets or financial instruments. Certainly, in each investment option has risks and returns. Risks to be received by investors will be higher than investing in the real sector for financial investment. In choosing a model to estimate return is one of the most important things investors need to do. The concept of high risk high return explains that the risk is proportional to the returns follows by the characteristics of each investor. In 1992, the study of Fama and French titled *'The Cross-Section of Expected Stock Returns'* found that market equity and the ratio of book equity to market equity contributes the cross section of average stock returns. The finding argued the Capital Asset Pricing Model (CAPM) by Sharpe (1964), Lintner (1965) and Black (1972) which has been dominating the relationship between risk and return. Thus, the purpose of this study is to examine the impact of Fama and French Three Factor Model to the excess return in Indonesia stock market. Based on the background description, the research questions are:

- Does the variation of excess return in Indonesian' LQ-45 stocks can be explained by Fama and French three factors model?
- In relate to the financial crisis, does the variation of excess return in Indonesian' LQ-45 stocks, before and after financial crisis, can be explained by Fama and French three factors model?

## LITERATURE REVIEW

Fama and French formed to test the CAPM Model whether the model is appropriate enough in estimating the rate of return by considering risk (required rate of return) in accordance with industry risk and also the market (equilibrium model). Attention to this equilibrium model has been continuously developed. Some of them are

Sharpe (1964) and Treynor (1961) who developed mean-variance formulation. This formulation was further developed and clarified by Lintner (1965), Mossin (1966), Fama (1968) and Long (1972). In addition, Treynor (1965), Sharpe (1966) and Jensen (1969) have developed a portfolio evaluation based on the Asset Pricing Model.

In 1992, Fama and French stated that market beta is not able to explain the stock return, on the contrary, the size of the firm and book-to-market equity is able to explain. Fama-French (1992,1996) uses three factors that explain stock portfolio returns based on firm size and book to market equity. Fama-French (1998) found that companies with high book-to-market equity (value stock) gave higher returns than low book-to-market equity (growth) in 12 capital markets and companies with small stocks higher than the large stocks in 11 capital markets.

Fama-French Three Factor sees the relationship of risk and return based on three factors: Market return, firm size and book to market equity. The study began with the observation that two classes of stock which tend to perform better than the overall market: beta and book to market ratio. Thus, the proposed factors as variables affecting portfolio returns are book-to-market and firm size.

## METHODOLOGY

### 3.1. Data collection

This study focused on analyzing the effect of Fama and French Three Factor Model to the excess return. Data we used in this study consists of 15 years historical data of 45 listed company in LQ45 over the period February 2017 to July 2017. LQ45 stocks are selected based on the consideration that stocks which listed in LQ45 are highly liquid stocks. In this study we also used dummy variable to represents the years of global financial crisis 2008-2010 in the analysis. We will separate our sample panel data sets into two sets, namely control set and treatment set. Control set represent condition before global crisis, specifically between the year of 2002-2008, and treatment set represent condition after global crisis, specifically between the years of 2010-2017. We select the initial period based on the solely purpose to observe the effect of Fama French three factor model to the excess return in two condition, economic stability and economic crisis. Details of our observed sample companies can be seen in Table 1 below. In order to improve our model accuracy, as well as follow the same parameters as Fama & French (1993), we exclude certain variables from the sample:

- Financial Companies.
- Companies that did not have consecutive monthly quotations during the 12-month period from the formation of the portfolios.
- Companies that did not present market value at December 31 and June 30, with a tolerance of five days.
- Companies that did not present Positive Net Equity on December 31, with a tolerance of five days.

**Table 1. Listed Companies in LQ45 (February – July 2017)**

No.	Ticker Code	Companies
1.	AALI	Astra Agro Lestari Tbk.
2.	ADHI	AdhiKarya (Persero) Tbk.
3.	ADRO	Adaro Energy Tbk.
4.	AKRA	AKR CorporindoTbk.
5.	ANTM	Aneka Tambang (Persero) Tbk.
6.	ASII	Astra International Tbk.
7.	ASRI	AlamSutera Reality Tbk.
8.	BBCA	Bank Central Asia Tbk.
9.	BBNI	Bank Negara Indonesia (Persero) Tbk.
10.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.
11.	BBTN	Bank Tabungan Negara (Persero) Tbk.
12.	BMRI	Bank Mandiri (Persero) Tbk.
13.	BSDE	BumiSerpongDamaiTbk.
14.	BUMI	Bumi Resources Tbk.
15.	CPIN	Charoen Pokphand Indonesia Tbk.

16.	ELSA	ElnusaTbk.
17.	EXCL	XL AsiataTbk.
18.	GGRM	GudangGaramTbk.
19.	HMSF	H.M. SampoernaTbk.
20.	ICBP	Indofood CBP SuksesMakmurTbk.
21.	INCO	Vale Indonesia Tbk.
22.	INDF	Indofood SuksesMakmurTbk.
23.	INTP	Indocement Tungal Prakarsa Tbk.
24.	JSMR	JasaMarga (Persero) Tbk.
25.	KLBF	Kalbe FarmaTbk.
26.	LPKR	LippoKarawaciTbk.
27.	LPPF	Matahari Department Store Tbk.
28.	LSIP	PP London Sumatra Indonesia Tbk.
29.	MNCN	Media Nusantara Citra Tbk.
30.	MYRX	Hanson International Tbk.
31.	PGAS	Perusahaan Gas Negara (Persero) Tbk.
32.	PPRO	PP PropertiTbk.
33.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk.
34.	PTPP	PP (Persero) Tbk.
35.	PWON	PakuwonJatiTbk.
36.	SCMA	Surya Citra Media Tbk.
37.	SMGR	Semen Indonesia (Persero) Tbk.
38.	SMRA	SummareconAgungTbk.
39.	SRIL	Sri RejekiIsmanTbk.
40.	SSMS	SawitSumbermasSaranaTbk.
41.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.
42.	UNTR	United Tractors Tbk.
43.	UNVR	Unilever Indonesia Tbk.
44.	WIKA	WijayaKarya (Persero) Tbk.
45.	WSKT	WaskitaKarya (Persero) Tbk.

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Source: Indonesia Stock Exchange, 2017

In this study, we will choose the three-factor model of Fama and French (1993) due to its superiority to the CAPM and is able to explain a big portion of the expected return on assets. Yet, we are fully aware of the contribution of CAPM and the two factor model, and here in this study we will examine the relations in separate hierarchical manner. We will build four models, CAPM Model (Equation 1), The Two factor model – with inclusion of SIZE factor (Equation 2), The two factor model – with inclusion of BE/ME factor (Equation 3), and The Fama French three factor model (Equation 4), which described as follows :

$$R_{ci} - RF_i = a + b (RM_i - RF_i) + \varepsilon_i \quad (1)$$

$$R_{ci} - RF_i = a + b (RM_i - RF_i) + sSMB_i + \varepsilon_i \quad (2)$$

$$R_{ci} - RF_i = a + b (RM_i - RF_i) + hHML_i + \varepsilon_i \quad (3)$$

$$R_{ci} - RF_i = a + b (RM_i - RF_i) + sSMB_i + hHML_i + \varepsilon_i \quad (4)$$

Where  $R_{ci}$  is the portfolio's expected rate of return,  $RF_i$  is the risk free rate and  $(RM_i - RF_i)$  is the market return,  $SMB$  and  $HML$  describes the historic excess returns of small capitalization over big capitalization of value

stocks over growth stocks,  $s$  is the slope of the size factor premium, and  $h$  is the slope of the BE/ME factor premium.

As established by Fama & French (1993), the dependent variables of the regression consisted of the monthly excess returns on portfolios of stocks based on the BE/ME risk and size factors in relation to the risk-free rate. However, this study differs from Fama & French (1993) in terms of the number of portfolios. While Fama and French (1993) used 25 portfolios, we employed only nine portfolios per data set. Due to our main objectives, to evaluate the temporal effect of financial crisis, we constructed 18 portfolios in total. The nine portfolios were obtained through the intersection of three grouped portfolios based on the BE/ME and three index portfolios grouped based on the size factor. This adaptation was necessary due to the fact that our study will focus on limited stocks (i.e. LQ-45). Due to rebalancing LQ-45 stocks that happen twice per year (i.e. February –July and August-January), we extracted shares data start from July of each year  $i$ . The construction of the nine portfolios based on market value and BE/ME was made in July of each year  $i$ . Details of the 18 portfolios that we will build or rebalanced can be seen in Table 2 below.

**Table 2. Details of Portfolios**

<b>Before Financial Crisis</b>	<b>After Financial Crisis</b>
BSL (Before crisis, Small and Low)	ASL (After crisis, small and low)
BSM (Before crisis, Small and Medium)	ASM (After crisis, small and medium)
BSH (Before crisis, Small and High: Shares with low market value and high BE/ME index)	ASH (After crisis, Small and High: Shares with low market value and high BE/ME index)
BML (Before crisis, medium and low)	AML (After crisis, medium and low)
BMM (Before crisis, medium and medium)	AMM (After crisis, medium and medium)
BMH (Before crisis, medium and high)	AMH (After crisis, medium and high)
BBL (Before crisis, big and low)	ABL (After crisis, big and low)
BBM (Before crisis, big and medium)	ABM (After crisis, big and medium)
BBH (Before crisis, big and high)	ABH (After crisis, big and high)

We weighted the monthly return of all nine portfolios by the market value of the shares that compose them. After the construction of the nine portfolios, it was possible to calculate the excess returns. We calculated the excess monthly return of the 18 portfolios by subtracting the monthly return of each portfolio from the 1-month term Indonesian Bank Securities (SBI). We used the SBI as a proxy for the risk-free rate because it matches the negotiated rate on transactions between banks. In this paper, we will analyze our data in two steps. The first step, we will use non-parametrical method with 2-stages linear regression with separate hierarchical manner, for each data set, to observe the effect movement thoroughly. For the second step, we will employ a related t-test analysis, to observe the difference before and after financial crisis for each paired portfolio.

## EXPECTED FINDINGS AND ARGUMENT

This study aims to determine the effect of risk premium, size and book to market equity on stock return of the company. Therefore, the expected results of linear regression results that will be done, it is expected that risk premium has a positive and significant effect on stock excess returns, both for long term and short term period of investment. Size and book to market equity also have positive and significant effect to stock return. The larger the size of the firm, the greater the stock return to be earned. However, due to financial crisis, several inconsistencies may happen in the results, with Fama and French three factor models can explain the variations of excess return of LQ-45 stocks in IDX.

## CONCLUSIONS

The purpose of this study is to examine the impact of Fama and French three factor model to the excess return in Indonesia Stock Market. We extended our study by further relate the initial condition with Indonesian condition during financial crisis (2008-2010). Our expected findings argue that there is a relationship between financial crisis and the ability of Fama and French three factors model to explain the variation of excess return in Indonesia.

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## **REAL OPTION OF NEW ROUTE EXPANSION (CASE STUDY OF GARUDA INDONESIA)**

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### **EXTENDED ABSTRACT**

After the FAA announce the rating of Indonesia aviation, Garuda Indonesia immediately plan the expansion investment to the United States after absent more than two decades. And every new investment needs a valuation before it is executed. The real options model is one of the ways to evaluate investment project instead of traditional NPV since the later method lack of uncertainty in the calculation. The method that will be used in this study is Black-Scholes model that consider five variables into the calculations including uncertainty level that is missing from traditional NPV model. The initial finding in this research show that the fare that Garuda offer for this price is unable to cover all the expenses. After the writer takes initiative to calculate Break Even Price, it shows that the fare should at least \$781.00 per flight in order to get positive cash flow. After the price adjustment, the Black-Scholes Model shows that the NPV of this expansion plan is \$394,639,710.93. It is higher than the result of traditional NPV. With the result above, the writer suggests Garuda Indonesia to revise the fare price. The other suggestion is to find alternatives suppliers or partners to reduce the costs.

**Keywords:** : garuda indonesia, expansion, real option, black-scholes model

### **INTRODUCTION**

After more than nine years absent on the aviation business in Europe and United States, the aviation condition in Indonesia slowly back on its track. On August 15<sup>th</sup> 2016, Federal Aviation Administration announced that Indonesian aviation's rating has been granted into Category 1 (Press Release – FAA Announces Aviation Safety Rating for Indonesia, 2016). This announcement means Indonesian airlines can fly out to the US. According to Chief Executive of Garuda Indonesia, Mr. Arif Wibowo the company is planning to start a new route to the US in 2017 after receiving formal statement from FAA. Garuda Indonesia starts to propose the new investment plan which expected to accommodate almost 50,000 annual passengers that fly from Indonesia to the US and vice versa from the total of 400,000 passengers. After conducted the comprehensive study, the company decide that the flight have to stop at least once at Tokyo (NRT) and in hope to get benefit from the ability to carry local passengers between the Japan and the US.

Just like every new business investment, there would be a choice made regarding the opportunity. Either the option to continue the investments if a project is successful, the option to abandon a project if the project is not successful, or the option to wait before investing in order to gain a better outcome. All of those options have its own uncertainty. And that is the time when real option valuation comes to takes account of the uncertainty of cash flows and ability of top management to react to the different circumstances.

In real option valuation, there are several methods that can be used. In this study, the author will employ Black-Scholes Model for answer the problem about the best suggestion to Garuda Indonesia regarding their expansion plan. This model is adopted by European option where options can be exercised only at expiration. Black-Scholes Model is the limiting case of the binomial model. According to Damodaran, *Black-Scholes model emerges when the limiting distribution is in the normal one and consider that the price process would be continuously*. (Damodaran, 2000)

For wide use, this case would be an example of the use of Black-Scholes Model to decision-making process of new investment especially in expansion of the business. While for Garuda Indonesia, the result would give a new perspective that can be considered regarding their decision about the future expansion.

### **LITERATURE REVIEW**

#### *Real Option Definition*

Real option is a form of alternative that appear as the inability of traditional NPV method to submit management flexibility as one of the variable to valuing a project. According to Trigeogris (1996), in order to make a right decision regarding the

investment, there are two elements that should center of attention, which are standar value and option premium. The term of Real Option itself was introduced by Stewart Myers in 1977. He was observing the use of option pricing theory in the decision making of a new investment. More than a decade later, many academics pay attention to his model and develop the application of Myers thought.

#### *Traditional NPV vs Real Option*

The use of traditional NPV would cause troubles in calculation a strategic option since the model is used for static decision making. The traditional NPV assumes a fixed outcomes, and all decisions are made in the beginning of investment time without the chance to change as the time fly. While, the real options approach using multiple decision pathways as a consequence of high uncertainty. Therefore, the manager have the ability to change the course mid-time in order to make strategy corrections.

Johnathan Mun (2002) in his book, *Real Options Analysis: Tools and Techniques for Valuing Strategic Investments and Decisions* stated:

*“Traditional approaches assume a static decision-making ability, while real options assume a dynamic series of future decisions where management has the flexibility to adapt given changes in the business environment.”*

There are several models to assess the Real Options. The main two models used to evaluate real options, the binomial model and Black-Scholes model. Both of the models based on the idea of develop portfolio of financial assets subject to the same risks, that generates the same cash flows and the same value of the portfolio's return (Dinica, 2011).

#### *Black Scholes Model*

The Black-Scholes option pricing formula is a pricing algorithm by using European style. The formula was first published in 1973 by Fisher Black and Myron Scholes. The Black-Scholes option pricing formula is the pioneer and still the most accurate pricing models since this model allows the researcher to compare the price resulting from supply and demand with the analytical value of an option. Below is the formula of Black-Scholes Model:

**The Black-Scholes Option Pricing Formula**

$$c = SN(d_1) - Xe^{-rT}N(d_2)$$

$$p = Xe^{-rT}N(-d_2) - SN(-d_1)$$

$$d_1 = \frac{\ln(S/X) + (r + \sigma^2/2)T}{\sigma\sqrt{T}}$$

$$d_2 = \frac{\ln(S/X) + (r - \sigma^2/2)T}{\sigma\sqrt{T}} = d_1 - \sigma\sqrt{T}$$

$S$  = Stock price.  
 $X$  = Strike price of option.  
 $r$  = Risk-free interest rate.  
 $T$  = Time to expiration in years.  
 $\sigma$  = Volatility of the relative price change of the underlying stock price.  
 $N(x)$  = The cumulative normal distribution function.

**Figure 20. Black Scholes Model**

Below are the variables that should be added in order to calculate the future value of investment by using Black-Scholes Model (Tang & Song, 2012):

1. ( $S$ ) - is the value of the underlying asset or the present value of the cash flows that will be earned if the company invest in the expansion option. (Ray S. , 2012)
2. ( $\sigma$  or  $s$ ) - since there is uncertainty in every investment option, there is the variance in order to calculate the expansion option.
3. ( $X$  or  $K$ ) - is the cost that occurs in advance. The cost equal to strike price.
4. ( $t$ ) - is the time remaining until the expiration date. Usually expressed as the percentage of the remaining year. The remaining time is quite hard to determine since there is no standard to calculate it and normally generated up to the preferences of the company.
5. ( $r$ ) - is annualized risk-free rate that the company has to pay every year until the expiration date.

## **METHODOLOGY**

For the data collection in this research, the author needs the secondary data that come from the Initial Feasibility Analysis that has been conducted by Garuda Indonesia regarding this new route. The data cover this information:

- Cash flow projection of Garuda Indonesia plan to United States.
- Estimation of investment needed for new project.

After all the data already collected, the author start to analyze the data in order to find the research answer. Below are the steps to analyze the data:

1. Present all the assumptions and data needed
2. Make analysis of the project's cash flow
3. Calculate the Present Value of the project by using discounted cash flow method



4. Identify the project's volatility from the seasonality of the passengers
5. Calculate the real option value of the project by using the Black-Scholes Model

This model is a closed form type that means the options can be priced on a calculator instead of a computer and the influence of individual factors on price can be calculated analytically instead of experimentally. Black-Scholes model itself was developed in 1973 by Fisher Black, Robert Merton, and Myron Scholes. The model needs five input variables: the strike price of an option (K), the current stock price (S), the time to expiration (T), the risk-free rate (r) and the volatility (s).

6. Analyze the result of the option and give the suggestion to Garuda Indonesia regarding the project.

## FINDINGS AND ARGUMENT

In Real Option analysis, one of the critical thing to do is to set the assumptions as accurate as possible. Therefore the result can be implement in the real life case. Below are several assumptions that will be used in Black-Scholes calculation:

1. The corporate tax is 25%
2. Beta of Garuda Indonesia is 0.09, taken from finance reuters as in May 24, 2017
3. The risk free rate for this project is 5.87%, taken from the government yield curve for 1 year maturity
4. The Return ISHG will be used as the market risk. The index is 23.33% as in May 24, 2017. The index is taken from Jakarta Stock Exchange Composite Index
5. The project is expected to generate cash flow until infinity with the stable growth start in the second year. Also this plan would be exercised in September 2017 which means it has 6 months period before implementation
6. The weight of equity of Garuda Indonesia is 53.55%, while the weight of debt is 46.45% according to the portion of long term debt and equity of Garuda Indonesia in 2016. The cost of equity is 7.47% from the calculation by using risk free, risk market, and beta of Garuda Indonesia. Below is the calculation of cost of equity:

$$rs = \text{risk free} + \text{beta} \times (\text{risk market} - \text{risk free})$$

$$rs = 5.87\% + 0.09 \times (23.55\% - 5.87\%)$$

### Equation 1. Cost of Equity Calculation

While the cost of debt is taken from the yield of corporate bonds of Garuda Indonesia which is 8.55% as in April 2017 and then multiply it with (1-tax) to get the cost of debt of 6.41%

7. The weighted average cost of capital (WACC) of Garuda Indonesia is 6.97% from the calculation of the weight of debt and equity, cost of debt and equity, also the tax proportion
8. Initial cost of \$31,825,007.30 and depreciation of \$23,085.00 per year

For the cash inflow, the revenue is generated from passengers revenue and freight revenue. According to the initial feasibility study of Garuda Indonesia, each passenger would be subjected to average fare of \$471 per flight. Following is the forecasted passengers number of this route in the first year:

**Table 7. Projected Passenger of CGK-LAX in Year 1**

September	October	November	December	January	February	March	April	May	June	July	August	TOTAL
2,498	2,949	2,754	4,680	4,561	1,825	2,498	2,461	3,297	4,015	6,120	3,674	41,331

From the table above, it can be seen that the number of passengers are vary based on the seasonality of this route. The peak season for this route is in July because of summer break in USA, while in Indonesia there is school break. Also in December and January because of winter break. For the freight revenue, the proportion will parallel with the movement of the passengers number. There are four factors that form cash outflow for this route. They are direct cost, indirect cost, fleet cost, and overhead cost. The direct cost is the variable cost, while the rest are fixed costs. According to the initial feasibility study, the cost for this is higher than the revenue. Especially for the direct cost of this route. The cash flow projection is built from the profitability projection per flight return.

From initial projected cash flow in year 1, it conclude that the cash flow for year 1 is (-\$6,254,889.1). One of the main reason is because of the direct cost that take 70.74% of the total cost. Since direct cost is a variable cost that will parallel with the revenue stream, then it would always be negative even if there is increase in the number of passengers. With the note that there is no change in strategy to make this cash flow better. The other reason is the fare that Garuda Indonesia's offer for this flight is relatively cheap than the other competitors.

Currently, there are five airlines which open the CGK-LAX route through Narita International Airport. All of them offer various price that fall around \$1,000 until \$2,200 (Google Flights, 2017) while Garuda Indonesia's fare is \$471 according to the initial feasibility study. With those comparison, then the author take the initiative to calculate the Break Even Point (BEP) Price for this route in order to make improvement for this plan before it is executed with the assumption that the number of passengers is equal to the projection and the freight revenue is not considered.

The Break Even Price calculation show that the fair fare for this flight is \$781 that is \$310 higher than the fare that Garuda Indonesia set. Beside, this price is also lower than competitors that make it become competitive advantage of Garuda Indonesia without sacrificing the financial side of this route. Therefore, the author continue to calculate the Black-Scholes Model with this fare as the base.

After calculate using the new adjustment price, in the first year operation, Garuda Indonesia will earn around \$3,353,075.0. In second year operation there will be 113.25% growth. The growth come from the benchmark with other

airlines with the same route that have those number of growth in the first year of their operation of this route. The cash flow show the increase of \$12,939,805.20. And after that, the growth would be constant until infinity. Therefore, we can calculate the present value for year 3 until infinity. The result show that value of OCF year 3 until infinity is \$470,752,224.59.

Since every 5 years, Garuda have renew its permits, then the value from equation 3 should be subtracted with the cost of renewal. the amount of renewal is equal to the amount to the book value in amortization calculation which is \$115,425.00. However, since the time of operation is expected until infinity, so the renewal cost should be calculated from this formula:

$$PV = C \left( \frac{(1+g)^5}{(1+r)^5} + \frac{(1+g)^{10}}{(1+r)^{10}} + \dots \right)$$

Where,

C = renewal cost

g = US Inflation = 1.9%

r = WACC = 6.97%

$$PV \frac{(1+r)^5}{(1+g)^5} = C \left( 1 + \frac{(1+g)^5}{(1+r)^5} + \dots \right)$$

$$PV \frac{(1+r)^5}{(1+g)^5} = C (1+x)$$

$$PV \frac{(1+r)^5}{(1+g)^5} = C + PV$$

$$PV \left( \frac{(1+r)^5}{(1+g)^5} - 1 \right) = C$$

$$PV = \frac{C}{\frac{(1+r)^5}{(1+g)^5} - 1}$$

#### Equation 2. Renewal Cost Calculation

From equation 4, the result is \$420,399.93. Then, the value from equation 3 is subtracted with the result in equation 4 to get the terminal value. The terminal value is \$470,331,824.66. After that, in order to get the total OCF in year 2 then we need to sum the terminal value with the OCF of year 2 (Gitman & Zutter, 2012). The result would be \$483,271,629.85.

After calculate the OCFs total for the first and second year then it is time to find the present value of those OCFs. The formula to find this step is by dividing the cash flow with the discount rate. The discount rate that will be used is the WACC which is 6.97%. The present value of the cash flow that Garuda Indonesia might earn from this route is \$425,510,306.42. This result would be the variable S or value of the underlying asset in the Black-Scholes Model calculation.

If we calculate by using the traditional NPV then we should subtract those result with the initial cost to get the final answer of \$390,550,591.55. For traditional NPV method, this step would be the last step to find the result since they do not consider the uncertainty of the project. While by using real option, the uncertainty would be one of the variable to determine the final result.

The next variable is volatility. The volatility itself is calculated by determine the monthly standard deviation of the projected passenger numbers that already available in Table 1. After the calculation by using Excel, then it is concluded that the monthly standard deviation is 35.49%. This result should be adjusted into yearly standard deviation by multiply it with square root of 12 as there are 12 months a year. So, the yearly standard deviation is 122.93%. This percentage would be the  $\sigma$  variable in the Black-Scholes Model calculation.

This is the last step to construct the Black-Scholes Model. In order to do that, then 5 variables should be submitted before the formula calculation. Below are those variables:

1. The value of underlying asset (S) or in this case is present value of cash flow from this route which is \$425,510,306.42.
2. The strike price (K) or the cost that may occur in the beginning of the investment which is initial cost. The amount is \$31,825,007.30.
3. The volatility ( $\sigma$ ) is 122.93%, taken from the calculation of yearly standard deviation of projected passengers.
4. Time before the option is exercised (T) is 6 months or 0.5 year considering that the route would be opened at September 2017 and this research is written at March 2017.
5. The risk free rate is 5.87%, taken from the government yield curve for 1 year maturity.

After that, enter those variables to the Black-Scholes formula to calculate the call option. Based on the calculation, the  $d_1$  is 3.4514 and  $d_2$  is 2.5822. then, find the normal distribution of both of them. The result show,  $N(d_1)$  is 0.9997 and  $N(d_2)$  is 0.9951. The last step is to enter those calculation to the call value formula to get the Black-Scholes result and it show \$394,639,710.93. Since the result of normal distribution is really close to 1 and the maturity is quite short then the result of Black-Scholes is not really far from the traditional NPV but it has difference to show that the uncertainty does make a difference to a project.

## CONCLUSIONS

This research show several findings that can provide some insights to Garuda Indonesia before implement their plan. The first finding is that with price that Garuda set which is \$471 would be insufficient to cover all the expenses of this flight even if there is the increase in passenger numbers since the portion of direct cost which classified as variable cost take 70.74% of total cost. Then the writer takes an initiative to calculate the Break Even Price and shows that Garuda should charge at least \$ 781.0 in order to get positive cash flow.

With the new price adjustment under the Black-Scholes Model, Garuda Indonesia will have the route's NPV of \$394,639,710.93. It is \$4,089,119.38 higher than the traditional NPV which has \$390,550,591.55. The difference is called as the option's value. From this calculation, the managers in Garuda Indonesia can see the potential value of this route based on their initial study.

Regarding the research, the writer suggests Garuda Indonesia to readjust their current fare price since the price do not cover all the expenditures. They may consider use the price that the writer suggest before or set it up to \$1,100 since they still get the competitive advantage from the price side without harm the financial area. Garuda Indonesia also can find alternative suppliers or partners in order to reduce the direct cost. Even if this route is for long haul and the company also consider other things like the networking side or whether this route can support the other routes, but the financial side also crucial since the financial condition of Garuda Indonesia still not stable.

In this research, the writer assumes that there is no dividend payment and the project can not be exercise before the maturity time. If there is a research in the future with the related topic, they may consider to use the possible adjustment to the calculation.

For further research, the writer suggests the corporate to consider use this method before execute the new investment beside using profitability projection or traditional NPV. Therefore, the company can get better insight from the financial area with considering uncertainty that always going to happen in a project.

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# PEER-TO-PEER (P2P) LENDING BUSINESS PLATFORM: FROM INFORMATION ASYMMETRY PERSPECTIVE

## A Critical Review

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## EXTENDED ABSTRACT

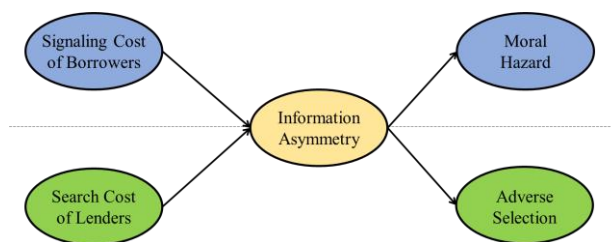
Peer-to-peer lending arranges the origination of unsecured loans outside of the traditional financial intermediaries by connecting borrowers directly with lenders through online platform. While the growth projections for this platform are promising, information asymmetry becomes one of the major challenges that could not be denied. In this paper, we take an information asymmetry perspective to analyze how P2P lending platform takes several important actions in response to reduce moral hazard and adverse selection. Several applied features such as credit risk scoring, social networking service, provision fund, and escrow account will be seriously investigated. We will also discuss pros and cons of existing features as well as possible improvements. This paper suggests that practitioners should have to enhance symmetric information by managing key features in P2P lending platforms. P2P businesses are also recommended to manage communication and relationship with their current and potential stakeholders in order to maintain reputation and trustworthiness level. We also believe that collaboration between industry, academia, and government is necessary for achieving P2P lending business platforms' sustainability. Further study should provide evidence of how P2P lending platforms effectively implement the collaboration to sharpen their key features in facing information asymmetry challenges.

**Keywords:** peer-to-peer (P2P) lending platform, information asymmetry, moral hazard, adverse selection

## 1. INTRODUCTION

Peer-to-peer or person-to-person lending ("P2P lending") arranges the origination of unsecured loans outside of the traditional financial intermediaries by connecting borrowers directly with lenders through online platform (Morrison & Foerster LLP, 2016). Since the first online P2P lending platform Zopa was founded in the United Kingdom in 2005, this new financial business has been growing rather rapidly in United States, China, India, and other countries (Chen & Han, 2012). While the growth projections for peer-to-peer lending are promising, the journey to that destination isn't easy. One of the major challenges that could not be denied is information asymmetry. Information asymmetry could be occurred when lending some money to SMEs due to insufficient financial information and record-keeping, poor business management knowledge, and lenders' lack of confidence (Mawocha & Nafack, 2015).

In contract theory and economics, information asymmetry deals with the study of decisions in transactions where one party has more or better information than the others. To overcome this information asymmetry problem, Yan et al (2015) observes that the borrower signals and conveys information about him/herself and the investment project's characteristics, whilst the lender searches credit information and screens the loan applicant. However, the economics of information theory suggests that a lender would only search information until to the point where its marginal cost matches with the marginal benefit (Goldman & Johansson, 1978; Stigler, 1961). In the same way, the borrower would not convey complete information because of signaling cost issue (Milde et al, 1988; Sharpe, 1990; Spence, 1973).



**Figure 12. Economics of Information in the Lending Business**

As shown in Figure 1, *signaling cost of borrowers* and *search cost of lenders* possibly cause an imbalance of power between the parties involved in the transaction. This *information asymmetry* of the lending business can lead to two main consequences such as *adverse selection* and *moral hazard* (Akerlof, 1970; Stiglitz, 1975; Claesson & Tengvall, 2015). Adverse selection is suffered by lender when he is not capable of distinguishing among borrowers' loan with different credit risks when making funding decision. Moral hazard arises if the borrower applies the loan funds to different investment projects than those agreed upon with the lender, who is hindered by his lack of information and control over the borrower (Bebczuk, 2003). Without managing these implications carefully, P2P lending business platform will be going to face the risk of default.

In this paper, we take an information asymmetry perspective to analyze how P2P lending platform takes several important actions in response to reduce moral hazard and adverse selection. Several applied features which are strongly related with this problem will be seriously investigated. We will also discuss pros and cons of existing features as well as possible improvements. In the context of lending business, we will finally propose the solution and further research.

## 2. P2P LENDING FEATURES

### 2.1. Credit Risk Scoring

Credit scoring is useful to recognize certain characteristics that distinguish between good and bad credits, such as forecasting the likelihood of borrowers to default with their repayments (Lee & Chen, 2005). In traditional banks, credit rating is typically constructed on FICO score standard that consists of payment history, debt burden, length of credit history, types of credit used, and number of inquiries. However, P2P platforms currently go beyond FICO and depend on big data consists public sources of data, past loan data, and heuristic factors to define the potential risk of a loan and then publish these credit rating scores. By doing this, a more complete composite of a borrower can be analyzed and presented to potential lenders (Davis, 2015). They also create the unique P2P lending credit rating score with different factors, risk level, and interest rate.

### 2.2. Social Networking Service

Peer-to-peer lending business platforms provide the functions of social networking services in different approaches. The first approach is to give access to participate in groups and friends (Freedman & Jin, 2008; Lin et al, 2012; Chen & Han, 2012). A non-borrowing individual can become a group leader to foster a "community" environment, so the group members feel social pressure to pay the loan on time. However, the situation is slightly different with the second approach: friendship network and discussion forum. Discussion forum is more like a bulletin board, where any members can post comments and reply to other members' comments. The third approach is to connect lenders' social media to identify connection score with the potential borrowers. According to Collier and Hampshire (2015), this community-based reputation system may also minimize risk assessment problems by setting lenders and borrowers in the societies that are grounded on particular criteria such as university alma maters, current employers, and faith-based communities.

### 2.3. Provision Fund

Several P2P lending business platforms have launched provision funds to replace any losses that lenders may incur (Assetz Capital, 2014). The amount of available cash pot is typically a percentage of the loans outstanding and should be greater than either the historic loss rate or the predicted one. Commonly, this buffer fund is gained in the form of a borrower fee, when a small amount of money is paid at P2P agreement. Although this provision fund program can vary from one platform to another in specific time period, it provide a degree of protection to lenders against loan default risk at the cost of a lower return rate from the cost of holding capital (Oxera, 2016). At the worst case, P2P lending platform will give discretionary action if the fund runs out. In some model the lender faces the loan default risk of their portfolio, while in other models the loan default risk for individual

loans is shared across all lenders. It is important that lenders correctly understand the risks of underlying assets and its impacts.

#### **2.4. Escrow Account**

Several P2P lending platforms create an escrow account to regulate fund payment in a given transaction. Transaction between borrower and lender becomes more secure by trusting a third-party to collect, hold, and only disburse fund when all of the terms of an agreement are satisfied. Some leading P2P platforms engage with an escrow agency which has been registered with Financial Service Authority to independently and safely manage investors' funds. By doing this, lenders can be assured the money is going to the borrowers they intended to help grow. Borrowers can also be sure that the money went back to the lenders and not to the business platform itself to offset certain expenses or pay of previous investors (zero misappropriation of funds). In some cases, it is also possible for P2P platforms to collaborate with local bank which has high reputation level for executing this financial arrangement.

### **3. DISCUSSION**

Information Technology (IT) transforms the way financing services are offered through a new perspective. Different with banks which act as an intermediary between savers and borrowers (*one-to-many relationship*), P2P platforms directly match lenders with borrowers via online sites (*one-to-one relationship*). Deloitte (2016) even provides strong evidence that P2Ps have been able to differentiate themselves by offering an attractive customer experience both for borrowers and lenders. Borrowers use this platform due to its easy application process, fast decision-making, competitive rates, and repayment flexibility. In the meantime, lenders are also increasingly attracted to several intrinsic qualities of P2P model such as better return on investment, ability to choose borrower, intuitive dashboards, and potential risk diversification.

Nonetheless, P2Ps generally do not take in deposits and lend to consumers and businesses by themselves. They take no risk onto their own balance sheets, and generate income from commissions received from borrowers and lenders. P2P platforms also typically target high-risk retail borrowers where traditional institutions do not have the risk appetite to participate. All of these situations may possibly initiate information asymmetry problem which leads to serious implications such as moral hazard and adverse selection. It is important for P2P platforms in forming sustainable risk management by activating key features that can retain this consequences.

We argue that these four existing P2P features – credit risk scoring, social networking service, provision fund, and escrow account may have significant role in answering this problem. Even so, P2P lending business platforms should pay attention in some critical points that will be addressed. First, credit risk scoring system in P2P may be recognized as something new and different with traditional bank. The credit risk scoring is recommended to be clearly explained in detail, so the borrowers and lenders could be easy to understand this technology innovation's methodology and function. Besides that, the accuracy of credit risk scoring should be certified by reputable partners to manage lenders' trust toward borrower loans. Without proven track-record, the scoring credibility will be questioned.

Second, we examine that social networking service function provide enormous benefit for due diligence enhancement between lenders and borrowers relationship. By strategically connecting them within community, borrowers' credibility could be fairly assessed and evaluated by lenders. On the other hand, this feature may be conflicted with the secrecy and privacy of borrowers and lenders' information in some extent. For managing this controversial issue, P2P platforms should creatively develop limited-access system to guarantee confidential information protection. The disclosure of selected information, users' prior approval, and cybercrime prevention may also be needed for applying this community-based feature.

Third, we think that provision fund may support lenders' trust and confidence toward the risk of funding loan. This feature could be executed by collaborating with reputable insurance company. When a borrower fails to repay their loan, these provisions are typically used to pay lenders the money they are owed. Though, this feature function cannot be misunderstood as full guarantee for their whole funding transactions. In certain situation, this fund shield may only cover some portion of loan funding amount. P2P platforms are advised to give better explanation for the terms and conditions that may be apply in the future. The effect of discretionary action for the stakeholders has to be fully considered and evaluated.

Forth, we agree that escrow account can sharpen P2P risk management processes by allowing both borrowers and lenders to deposit funds in a bank account held by the platform. By doing this, the platform perform its automatic services for disbursing the right amount to the right people. Lenders' loan funding selection will directly goes to the borrowers' account, while borrowers' repayment will be straightly remitted to the lenders' account. Anyhow, this current situation is really difficult to be proved. Both lenders and borrowers commonly do not have access to discover this mechanism beyond them. P2P platforms are recommended to transparently open this process for curbing malpractices.

In addition, we found out that regulatory framework should be put in place to encourage P2P lending's utility and benefit as well as reduce its potential risks (Wei, 2014). For upgrading P2P lending's supplementary function to the formal financial sector, two regulatory instruments can be introduced: bottom-line regulation and classification regulation. Bottom-line regulation suggests the regulators to set up a new administrative licensing system or adopt a registration system in order to legalize internet financing sector, while classification regulations explains that the establishment of specialized consumer protection and monitoring system are essentially required. By doing this, only selected businesses are permitted in testing their innovative products, services, business models and information transfer mechanisms in the real market, with real consumers. P2P platforms are also supervised to provide information access, risk mitigation, and security system for both lenders and borrowers. Balancing fundamental principle of customer protection between transparency, fair treatment, reliability, data security, and dispute resolution should be well-executed.

#### 4. CONCLUSION

In summary, this paper suggests that practitioners should have to enhance symmetric information for avoiding moral hazard and adverse selection by managing key features in P2P lending platforms. Each single feature – credit risk scoring, social networking service, provision fund, and escrow account – should be assessed in order to recognize its implications in improving quality of financial transaction as well as influencing lenders and borrowers' behavior. P2P businesses are also recommended to manage their communication and relationship with their current and potential stakeholders in order to maintain reputation and trustworthiness level. Partnering with the traditional financial institution may be one of the best practical solution for answering current phenomenon.

We also believe that collaboration between industry, academia, and government is really necessary for achieving P2P lending business platforms' sustainability. This unparalleled cooperation brings to the greater accountability and higher transparency for P2P lending platforms. Better understanding of this multi-connection could also create big growth opportunities for serious players in P2P industry sector. The propositions related with the current features and partnerships are possible sources for practical studies. Further study should provide evidence of how P2P lending platforms effectively implement the collaboration to sharpen their key features in facing information asymmetry challenges.

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# PROPOSE CUSTOMER DEVELOPMENT FRAMEWORK FOR CLOUD-BASED ENTERPRISE RESOURCE PLANNING (ERP) START-UP

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## EXTENDED ABSTRACT

*Information Technology (IT) role in business has been enabling faster analysis and more reliable decision making and it has been the backbone for industry's competitive factor. However, full scale Enterprise Resource Planning (ERP) software are still too costly for small and medium enterprises. Company X wanted to build the disruptive integrated Business Process Management software that could be accepted by wide range of business. Putting great efforts on product development prior to launching, the founders had not probed the problems from the customer's point of view. This research approached the Company's problem with customer learning and discovery from Customer Development Model. The approach includes testing the hypotheses of the customer – problem – solution fit, and product – market fit by interviewing several businesses, with the Javelin Validation Board (Lean Startup Machine) was used to help the iteration of validation process. The result of the hypotheses validation includes: narrowing customer target segment, splitting the features to several modules to be sold separately, and adding customer support team. Company X needs to narrow the customer target segment to be small and medium scale enterprises (SME) which had not settled with complex system and just about to gain more control over their operations.*

**Keywords:** Business Model, Customer Development, Customer-Problem-Solution, Lean Startup, Minimum Viable Product, Product-Market Fit

## INTRODUCTION

### Background

Businesses today have tapped more substantial potentials of the IT role. As denoted by (Weiss, Thorogood, & Clark, 2007) which distinguished 3 (three) types of IT and business alignment: technical resource (the lowest level of alignment where IT applies to administrative operations e.g. recording transaction in the warehouse), business enabler (where IT are used to promote cost reduction and operation efficiency as noted also by (Vossen, 2014)), and strategic weapon (optimization to use IT as the focal strength of the company thus strategically superior). Unfortunately, for the small and medium enterprises in Indonesia, those advantages of IT - business alignment are still far beyond the reach due to economic concern (e.g. limited fund available while the operation had been running well) and familiarity issues (ERP system is considered too complicated) (Saputro, Handayani, Hidayanto, & Budi, 2010).

(Seethamraju, 2015) studied the determining factor of SMEs to adopt SaaS ERP includes vendor reputation, software fit to the business, potential willingness of the vendor to support customer, and the vendors participation in co-creation of value for customer. (Sun, Zhang, Chen, Zhang, & Liang, 2007) noted that integration become one of the common requirements in SaaS adoption.

According to Steve Blank, a start-up is a temporary organization designed to search for a repeatable and scalable business model (Blank, 2016). Company X was established in 2016 as the expression of business passion from 5 founders as a start-up in Business Process Management system software as a service. The founder team had agreed to ship the product and start selling on the January 2017, however, despite the efforts of developing the product and presenting it to potential customers, no customer could be converted.

### Research Scope

This research would be bordered to only cover the customer-problem-solution (CPS) Fit, Minimum Viable Product (MVP) proposal, product-market-fit validation, and business model which is the sub-process of the Customer Discovery and Customer Validation from the Customer Development Framework by Steve Blank (Cooper & Vlaskovits, 2010).

### Literature Review

A research by (Jutras, 2010) from Aberdeen Group offered the in-depth and comprehensive look for the SMEs in utilizing ERP as a source of cost saving, operational improvements, and streamlining business process to gain the best-in-class performance. (Ongori & Migiro, 2010) suggested that the adoption of ICT will enhance the SMEs exposure into the international market. According to the study from (Rahayu & Day, 2015) included the perceived benefits as one of the factors of IT based business (e-commerce) adoption in Indonesian SME.

Popularized by Eric Ries (Ries, 2011) and Steve Blank, Lean Startup mandated accelerated validated learning based on the cycle of build, measure, and learn. The idea behind it was the uncertainty of finished product sales can be addressed in advanced by using minimum viable product (MVP). Validating the hypotheses by MVP saved resources from being wasted on developing products which are not saleable. Using the idea of lean startup, the studies conducted to explore the action needed to improve the approach of experiment-driven software product and service development (Lindgren & Münch, 2016) and (Fagerholm, Guinea, Mäenpää, & Münch, 2017).

According to (Cooper & Vlaskovits, 2010), Customer development is a four-step framework to discover and validate that the market had been identified, the customer needs had been built into products, the method of acquiring customers had been tested and the right scale of the business had been deployed. (Frisk, 2014) noted from his study on customer on-boarding in SaaS Startup, that the main idea from the customer development theme is the systematic process of gaining insights from customer with the purpose of learning what work and what does not work as soon as possible.

### Objectives

As indicated in background, Company X has business problem which is the product had not been sold. This research would analyze the issue and find out the solution which can be proposed to Company X through customer learning and discovery from Customer Development framework.

## METHODOLOGY

### Conceptual Framework

This writing will be divided in to the section: (1) analysis of business situation (in which the current internal and competitor condition be analyzed), (2) root cause analysis (using cause effect diagram) and (3) business issue exploration (in which will be discussed the concept of lean startup and customer development). The CPS validation was done using the Javelin Validation Board as the tool and interview to 10 SME in Jakarta and Bandung. The conceptual framework is depicted in Figure 13.

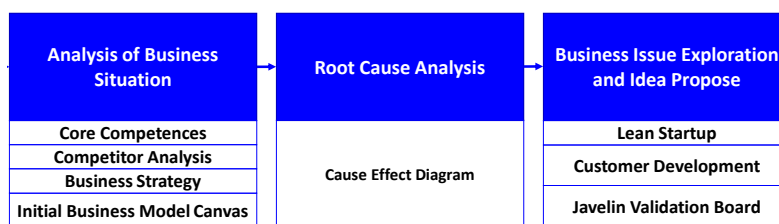


Figure 13 Conceptual Framework

### Analysis of Business Situation

#### Core Competencies Analysis

Table 8 Discovering Core Competencies

Resources / Capabilities	Is Valuable?	Is Rare?	Is Costly to imitate?	Is non-substitutable
Innovation	Yes	Yes	Yes	No
Personnel committed to create value through bringing IT to wider reach.	Yes	Yes	No	No
Personnel experienced in large business process setting	Yes	No	Yes	No

At this point of initializing, the company was still in search for its competitive advantage towards the competition landscape which offer cheap production cost for the IT-based start-up. From the Table 8 above, can be derived that the most prominent resource of Company X currently is the spirit of innovation to bring a more affordable IT services to wider public.

#### Competitor Analysis

The competitor analysis is supposedly to help the firm prepare an anticipated response profile for competitor. Table 9 summarizes the competitors of Company X. Those competitors have advantages over Company X because they had been in business for a while which means more settled consumer base, brand awareness, and proven business model.

Table 9. Competitors Summary (Techinasia.com, n.d.) (Wijaya, 2016) (Crunchbase.com) (SAP Tawarkan Solusi Terintegrasi untuk UKM: Harga Terjangkau, Aplikasi Mudah, 2016)

Competitor	Current strategy	Future objectives	Strength and Weakness	Licensing
SAP Business One (Full Scale ERP)	Targeting to help more Small and Medium Enterprises (SMEs) to grow their business	Continue growth driven by the SAP HANA platform, cloud computing and e-commerce business	(+) Experiences in delivering ERP products. (-) Expensive.	Subscription Fee
MOKA (POS)	Simple and easy-to-adopt solutions by accessing cloud-based POS system.	Accessible to everyone, and empower local businesses to grow.	(+) Easy to implement (-) Focused development	Subscription Fee
Talenta (HRM)	Providing one stop dashboard	Serve more than 10,000	(+) User friendly	Subscription

	where clients can store all of their HRM needs.	companies in 5 years which means more than 200,000 employees	Dashboard (-) Focused development	Fee
<b>Jurnal.id (Accounting)</b>	Fulfilling small and medium businesses needs in Accounting with international standard.	Serve more companies and government agencies	(+) Attractive and easy to use (-) Focused development	Subscription Fee

### *The Initial Business Model Canvas*

The initial business model canvas was depicted in Figure 14. The product which are developed by Company X was based completely on online platform: users interact with the Company X system using web browsers directly to the Company X servers. This scenario limits the accessibility of the system by requiring the user to be connected to internet connectivity in order to use the product.

Related to the target market segment, Company X services could be customized to address only certain part of customer's need. Despite the advantages of recording the transactions for business planning, it has not been analyzed whether the particular business needed all the value delivered by Company X.

<b>Key Partners</b> <ul style="list-style-type: none"> <li>• Commission based salesforce</li> </ul>	<b>Key Activities</b> <ul style="list-style-type: none"> <li>• Developing business process integration software.</li> <li>• Training and mentoring</li> <li>• Maintaining knowledge base</li> </ul> <b>Key Resources</b> <ul style="list-style-type: none"> <li>• Skilled and experienced workers</li> <li>• Goodwill</li> </ul>	<b>Value Propositions</b> <ul style="list-style-type: none"> <li>• Business Process Integration</li> <li>• Lowest operating cost</li> <li>• Lowest maintenance cost</li> <li>• Easy to adopt and moderate learning curve</li> </ul>	<b>Cust. Relationships</b> <ul style="list-style-type: none"> <li>• Implementation period service</li> <li>• Self-service (manual books, online forum and tutorials)</li> </ul> <b>Channels</b> <ul style="list-style-type: none"> <li>• Business-to-business</li> </ul>	<b>Cust. Segments</b> <ul style="list-style-type: none"> <li>Literacy</li> <li>• Low to High Tech literacy</li> <li>Business Size</li> <li>• Individual, small, medium, large, enterprises</li> <li>Business type</li> <li>• End customer,</li> <li>• Store owner,</li> <li>• Chain store.</li> </ul>
<b>Cost Structure</b> <ul style="list-style-type: none"> <li>• Operating Cost (Server Operation and Maintenance)</li> <li>• Commission for Sales workforces.</li> <li>• Salaries and benefits for employees</li> </ul>		<b>Revenue Streams</b> <ul style="list-style-type: none"> <li>• Subscription fee</li> </ul>		

**Figure 14. The Initial Business Model Canvas**

## **FINDINGS AND ARGUMENT**

### *Root cause analysis*

The result of root cause analysis shown that Company X' product had not been able to be includes the root causes from the method branch, which are:

1. The product was developed only by using the assumptions of the founders of the problems could be solved. Those assumptions had not been validated whether there are real customer experiencing the problem (customer-problem validation) and then whether the solution proposed by the founders could solve the customer's problem (customer-problem-solution validation).
2. In developing the product, there had been no validation whether enough number willing to pay for the solution proposed. The product was developed before checking the customer needs and requirements.

### *Business Issue Exploration and Solution Propose*

The interview was conducted to a group of selected respondents which has following criteria: (1) The company is a small to medium scale of business, (2) The company is in operation at the time of interview, so the hypotheses developed above could be crosschecked with the real situation inside the company, and (3) The interviewee has decision power over the company, particularly for the system to be implemented.

According to the Customer Development Framework (Cooper & Vlaskovits, 2010), Problem-Solution fit had been the subprocess in Customer Discovery Step. Minimum Viable Product (MVP) was created to help the respondents to visualize and grab the concept of Company X. The MVP is like a prototype from which the look and feel can be experienced before the real product was built. For this purpose, the basic function of the Company X was deployed on a small scale rented server.

And then in Customer Validation, it is needed to be researched also about the acceptance of the market for the proposed solution (product): whether or not the product be sold at a price higher than the costs, whether or not customer lifetime value be greater than the costs.

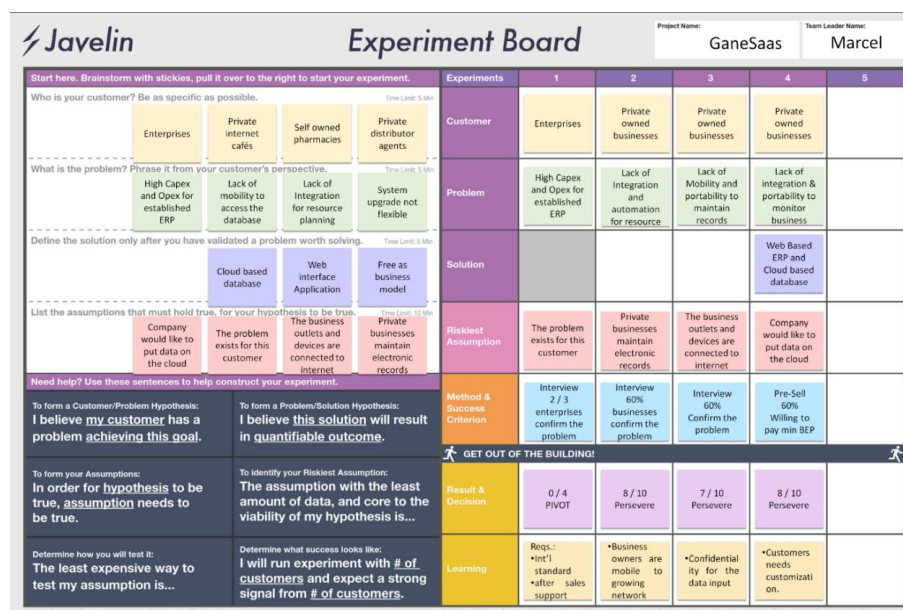


Figure 15. Javelin Validation Board

To test the hypotheses of Customer-Problem-Solution, the Javelin Board from Lean Startup Machine was used as the supporting tool. Firstly, it was needed to validate that there is the customer segment who has problem and conversely, the problem has real customer segment. There are many kinds of problems that can be proposed a solution, however only several problems would have a prospective market to make sure the effort is visible to be pursued. The iteration process was depicted in Figure 15.

The mix of interview and pre-sell method was done to get insight from the customer of product-market-fit by pre-selling the service having considered all the costs. Seven of the 10 respondents receive the price offering, other respondents uttered options like the price using percentage from the revenue of company, and the other preferred one-time deal type of product buy instead of contract based subscription. Because most of the respondent agreed the price offering, the product - market fit is concluded to be validated.

#### The Updated Business Model Canvas

After the CPS and Product-Market Fit validation above, there are some changes of business Model for Company X to capture the initial market. The changes include narrowing the customer from covering many scale of businesses (from micro, small, medium, and large enterprises) to only focus to small and medium privately-owned businesses in the meantime, adding value proposition of customizable system and more responsive customer service.

### CONCLUSIONS

From the business analysis, business issue exploration and validation, it can be concluded that:

1. As the research suggested, Company X was needed to focus their business model customer segment to SME and add several value propositions to increase the acceptance from the potential buyers.
2. Doing the validated learning about the customer-problem-solution and product market fit is important for start-ups to get the needed insight about the product and business model they are working to develop.
3. Minimum viable product (MVP) was needed as the sample for the potential buyer to experience the idea and concept of the product which are going to be sold. From that experience, the feedback could harness the product to be better.

#### Limitation and Future Research

This research was limited to the customer development for Company X which is a business process management system service provider start-up which based in Jakarta. The future researches could address deeper analysis about the macroeconomic conditioning for similar start-ups, staging strategy to scale the business, and CPS revalidation for the expansion to new innovations in order to always up-to-date to the future trend.

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# CAPABILITY LEVEL MEASUREMENT OF INFORMATION SYSTEM BASED ON D&M MODEL AND COBIT 5

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## EXTENDED ABSTRACT

A lot of models can be used to measure the success of information system. However, the researcher adopted two models in measuring on this research, there are *DeLone and McLean (D&M) IS success Model* and *the framework Control Objective for Information and Related Technology 5 (COBIT 5)*. *D&M IS Success Model* was used to measure the success of information system (frontend) and adopted the measurement of *capability level* method on the governance implementation of information technology (backend). The purpose of this research were discover the success of information system implementation by *frontend* and *backend* perspective and develop the IS success measurement model which more comprehend. The results of this research will found out the measurement model of the information system success from the user (*frontend*) and the system developer (*backend*) and current achievement capability level DSI Unair are at level 3, with scale Fully Achieved on the PA 3.1 and Fully Achieved on the PA 3.2. Meanwhile, the achievement of the expected level of capability to-be located on level 5 with achievement of each attribute is Fully Achieved (F). The result will help and support the information technology team in order to develop better the information system as needed.

**Keywords:** : Capability Level, COBIT 5, DeLone and McLean IS Success Model, IS success model

## INTRODUCTION

The Information Technology (IT) investment has the main role of organization to realize the Information System application successes on the IT Governance effectiveness and efficiency. The IT Governance was expected able to monitor the performance of the stakeholders in the organization properly and operate effectively as needed. Applying the Information Technology in the organization, will finding the IT Productivity Paradox (Chan & Reich, 2007). The organization often measured through the financial way such as return of investment to obtain the IS success. Subsequently, it showed the real and unreal benefit of the IS, thus the organization used balanced scorecards (Kaplan & Norton, 1996) and IT benchmarking (Seddon, Graeser, & Willcocks, 2002) method. The previous researchers had made the models to measured the IS success (Ballantine, et al., 1996), (Seddon, Graeser, & Willcocks, 2002) (DeLone & McLean, Information Systems Success: The Quest for the Dependent Variable, 1992), that emphasized the requirement to the better and consistent success metric. One way to measure the success of IS model is the DeLone and McLean IS success model, which is called D&M model. This framework can be used to analyzed and measured the IS success dimension in the organization (DeLone & McLean, Information Systems Success Measurement, 2016). What kind of dimension that should be increased and improved to achieve the IS success. On the D&M model has six main dimensions to measure the IS success, such as the system quality, the information quality, the service quality, the system user, the user satisfaction, and the net benefit (DeLone & McLean, The DeLone and McLean Model of Information Systems Success: A Ten-Year Update, 2003), (RokyHanae & Meriouh, 2015), (Stefanovic, Marjanovic, Delic, Culibrk, & Lalic, 2016) dan (DeLone & McLean, Information Systems Success Measurement, 2016). These will be charted according to the necessary of the organization in measuring process and become the basic reference to developed the IS success measurement model of the frontend perspective.

The role of the IT Governance is an important thing on the IS success measurement. The Control Objective for Information and Related Technology (COBIT) could be used as the tools to streamline the implementation of IT Governance. It could be as the management guideline by applying the whole domains in the COBIT 5 (Kozina & Ines, 2015). The Information System Audit and Control Association (ISACA) introduced a framework to manage the IT Governance in a company, known as COBIT (Kerta & Suryawan, 2013). The COBIT 5 framework consists of 37 processes divided into 5 domains (ISACA, 2012). The process that used to the base reference for developed the IS success measurement model of the frontend perspective in this research is the APO11 (Manage Quality) and APO12 (Manage Security) process which is in the Align, Plan, and Organize domain. Additional, the DSS02 (Manage Service Requests and Incidents), the DSS03 (Manage Problems), and the DSS05 (Manajemen Security Service) process which is in the Delivery, Service, Support domain are also used.

The objective of this study were to analyzed the success on the IS practice of the Airlangga University in the current condition through frontend perspective, and analyzed the IS of capability level condition in the Airlangga University through backend perspective. Those could be used to developed more comprehensive model of the IS success measurement based on fronton and backend perspective among the D&M Model Information System and the Capability Level on the COBIT 5 framework. Thus, they would be used as a basic research. The result will help and support the information technology team in order to develop better the information system as needed, the goal of organization will be reached, and the information technology governance become more structured.



## LITERATURE REVIEW

### A. D&M IS Model

The DeLone and McLean (D&M) Information System Success Model is the framework and the model to measure the complex-independent variable in the information system research (DeLone & McLean, Information Systems Success Measurement, 2016). The DeLone and McLean emphasized the necessity to validate the effectiveness instrument of information system. It provided the standard for the comparative evaluation mechanism process on the departments, the systems, the users, and the organizations (Ozkan, 2006). D&M model is the framework that used to measure the IS success. According to (DeLone & McLean, Information Systems Success Measurement, 2016), (RokyHanae & Meriouh, 2015), dan (Stefanovic, Marjanovic, Delic, Culibrk, & Lalic, 2016) there are 6 dimensions to measure the success of IS model:

- 1) System quality is the characteristics that the information system's inclination, such as: usable, flexible, system reliability, learnable, intuitive system feature, sophistication, functionality, data quality, portability, and integration, importance, and response times (RokyHanae & Meriouh, 2015).
- 2) Information quality is the characteristics that used from system output. There are management reports and website page, for example: relevant, easy to understand, accurate, concise, complete, secure, currency, timeliness, and usability (Stefanovic, Marjanovic, Delic, Culibrk, & Lalic, 2016).
- 3) Service quality is the quality on supporting the system that the user received from the IS department members and IT support. For example: responsiveness, accuracy, reliability, technical competence, and the empathy of IT staff members (DeLone & McLean, Information Systems Success Measurement, 2016).
- 4) Intention to use is the level and attitude of the staff and customer in using the information system capabilities. For example: the time usage, the number of user, the user frequency, nature of use, properness of use, expansion of use, the purpose of use (DeLone & McLean, The DeLone and McLean Model of Information Systems Success : A Ten-Year Update, 2003).
- 5) User satisfaction is the satisfaction level of the user toward report, website, and support service: such as the user behavior (DeLone & McLean, The DeLone and McLean Model of Information Systems Success : A Ten-Year Update, 2003).
- 6) Net benefit is expansion of the IS in contributing to the success of individual, group, organization, industry, and nation. For example: improve the decision making, increase the productivity, increase the sales, costs reduce, increase the profit, consumer welfare, and economic development (DeLone & McLean, Information Systems Success Measurement, 2016).

### B. COBIT 5 Framework

The first edition of COBIT was release on 1996 and now has reached the fifth edition (COBIT 5) that released on April 2012. COBIT 5 is a set of best practices to implement the information technology governance. COBIT 5 provided the principles, practices, analytical tools, the models are accepted globally. Furthermore, it designed to maximizing the reliance of the business leaders and IT about the values of the information and the company's technology assets (Kerta & Suryawan, 2013). COBIT 5 gave a clear distinction between management function (governance) and IT management in the companies. COBIT 5 combine COBIT 4.1, Val IT 2.0, ITIL, and Risk TI, when COBIT 4.1 ensured the information technology work effectively to maximize the profit from IT investment of the company. Moreover, Val IT assisted the companies to made investment decision which section should be done. Thus, it can be assured the investments were consistent and accordance with the company's business strategies. Furthermore, COBIT 4.1 accommodated the control which related the risk reduction on the IT processes. Additional, the IT risk provided the framework for the companies to identify and managed the related risks.

COBIT 5 divided the governance process and IT management of the companies into some domains. There are two main domains of the governance processes; there are Evaluate, Direct, and Monitor (EDM). Meanwhile, the IT management processes have four domains:

- 1) Align, Plan, and Organize (APO)
- 2) Build, Acquire, and Implement (BAI)
- 3) Deliver, Service and, Support (DSS)
- 4) Monitor, Evaluate, and Asses (MEA)

### C. The Frontend Perspective of the IS Success

In this study, there were the domain indicators of the Frontend Perspective of the IS Success that were related to each other. For more details can be seen at Table. 1.

**Table 1. Fronend Persepctive of Success Domain**

Domain	Variable	Indicator	Source
The IS frontend Perspective Success	(System Quality)	System Flexibility, System Integration, Time to Respond, Error Recovery, Convenience of Access, dan Language	(Petter, DeLone, & McLean, 2008)
	(Information Quality)	Completeness, Precision, Reability, Currency, and Format of Output	(Petter, DeLone, & McLean, 2008)
	(Services Quality)	Assurance, Empathy, dan Responsive	(Petter, DeLone, & McLean, 2008)
	(User Intention)	Daily Used Time, dan Frequency of Use.	(DeLone & McLean, 2003)

Domain	Variable	Indicator	Source
	(User Satisfaction)	Repeat Purchases, Repeat Visit, dan User Surveys	(DeLone & McLean, 1992)
	(Net Benefit)	Cost Saving, Speed of accomplishing task, Job performance, Ease of Job, and Usefulness in Work	(Pitt, Watson, & Kavan, 1995)

#### D. The Backend Perspective of the IS Success

In this study, the capability level backend measurement was done by two domains in the COBIT 5, such as APO and DSS domain. In the APO domain was focused on APO 11 and APO13 processes. Meanwhile, DSS domain focused on DSS02, DSS03, and DSS05 processes. The whole elements in each domain of the researches refer to the guideline of COBIT 5.

In the COBIT 5 has the Process Capability Model (PAM) which based on the ISO/IEC 15504. It was a standard about the Software Engineering and Process Assessment. This model measured the performance of each governance process (EDM-based) or the management process (PBRM based). Moreover, it identified the areas that required improving the performance. There are six capability levels that were reached by each process

## METHODOLOGY

In measuring the success of information systems from both frontend and backend perspectives, the authors use review literature from earlier papers and guidebooks. The case study is Directorate of Information Systems (DSI) of Airlangga University, one of the reasons for the selection of this location because DSI has implemented the implementation of ISO standardization or other international standardization.

The first stage in this research is making conceptual model of research. After that data collection was done by interview with informant, observation, and document review. The Informant in this study distinguished into two groups; there are informant groups of frontend and backend perspective. The informant group of frontend perspective was the stakeholder who used the information system in the Airlangga University. Meanwhile, the informant group of backend perspective was the people who created or developed the information system in the Airlangga University. The result of the interview is transcribed and validated to the informant, the next stage is the result analysis. The results analysis was performed by assessing the process from the backend and frontend perspectives using a scale adopted from ISO / IEC 15504. It was a standard about the Software Engineering and Process Assessment The conceptual model in this study is presented in Figure 1.

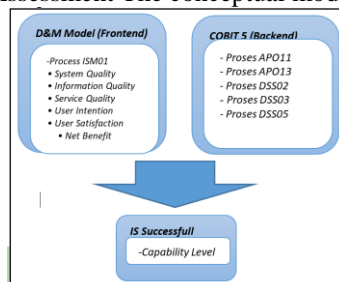


Fig. 1 The Information System Success Measurement Model

## FINDINGS AND ARGUMENT

#### A. The Result Analysis of Capability Level

According to the result of the informant's answers were made the recapitulation that can be seen at Table 4 for frontend perspective and Table 5 for backend perspective.

Table 4. Result of Recapitulation Classification of Informant Answers into Rating Scale (Frontend Persepective)

Summary of measurement results	Level 1	Level 2		Level 3		Level 4		Level 5	
	PA 1.1	PA 2.1	PA 2.2	PA 3.1	PA 3.2	PA 4.1	PA 4.2	PA 5.1	PA 5.2
Achievement of conditions to-be	F	F	F	F	F	F	F	F	F
Level to be achieved					5				
Achievement of conditions as-is	F	F	F	F	F	L	N	N	N
Current levels					3				

Table 5. Result of Recapitulation Classification of Informant Answers into Rating Scale (Backend Persepective)

Summary of	Level 1	Level 2	Level 3	Level 4	Level 5
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measurement results	PA 1.1	PA 2.1	PA 2.2	PA 3.1	PA 3.2	PA 4.1	PA 4.2	PA 5.1	PA 5.2
Achievement of conditions to-be	F	F	F	F	F	F	F	F	F
Level to be achieved					5				
Achievement of conditions as-is	F	F	F	F	F	L	N	N	N
Current levels					3				

Refers to the Process Assessment Model (PAM) that using COBIT 5 and COBIT 5 self assessment template, the result of interview recapitulation was classified into 4 scoring scale of process achievement. The classified result can be seen at table 5 that showed:

- 1) Capability level of frontend perspective was the process Information System Success Model 01 (ISSM01) for as-is condition at the level 3- Established Process with scoring scale Fully Achieved (F). Meanwhile, the process of capability level for to-be condition at the level 5-Optimising process with scoring scale fully achieved (F).
- 2) Capability level of backend perspective was the process APO11, APO13, DSS02, DSS03, and DSS05 for as-is condition at the level 3- Established Process with scoring scale Fully Achieved (F). Meanwhile, the process of capability level for to-be condition at the level 5-Optimising process with scoring scale fully achieved (F).
- 3) Capability level of combining between frontend dan backend perspective for as-is condition at the level 3- Established Process with scoring scale Fully Achieved (F). Meanwhile, the process of capability level for to-be condition at the level 5-Optimising process with scoring scale fully achieved (F).

## B. Attribute Capability As-is and To-be Analysis

The things that required to be considered that related to the capability level achievement in every attribute in the as-is and to-be condition as follow:

- 1) The result of Attribute Recapitulation capability level showed the level of as-is condition started from level 1 until 3 have the percentage value with the value more than 85%. This showed the level 1-3 have scoring scale F. In other words, the process achievement with the proof of output document that explained the process had been planned, done, and monitored. Furthermore, the percentage value decreased to reach the scoring scale N with the percentage value range between 0 -15 % in the level 4. Thus, the attribute on the level 4 that has the scoring value N with the lowest percentage would get the priority of improvement in order to reach the maximum value. Moreover, the upper level attribute would get improvement so every attribute reached the maximum value (F).
- 2) The Attribute PA 3.1 process definition and PA 3.2 process deployment for as-is condition had been reached fully. The achievement can be evidenced by the process standardization that included the basic guide in the IT governance guidance. The activities at this level had been stated in some activities and documents in the DSI UNAIR, such as the documents of Quality Management System (QMS) roles, responsibilities and decision rights, Customer requirements for quality management, Review results of quality of service, including customer feedback, Results of quality reviews and audits, information security management system (ISMS) policy, Incident and service request classification schemes and models, Rules for incident and request escalation, Criteria for problem registration, Incident and service request log, Classified and prioritised incidents and service requests, Approved service requests, Fulfilled service requests, Incident symptoms, Problem log, Incident resolutions, User confirmation of satisfactory fulfilment or resolution, Incident status and trends report, Request fulfilment status and trends report, Problem classification scheme, Problem status reports, Problem register, Root causes of problems, Problem resolution reports, Known-error records, Proposed solutions to known errors, Problem resolution monitoring reports, Identified sustainable solutions, Malicious software prevention policy, Evaluations of potential threats, Connectivity security policy, Approved user access rights, Access logs, Security incident characteristics, Security event logs, and Inventory of sensitive documents and devices. The resources that required were part of early identification in the information system procedure making and SLA achievement evaluation. Additional, there are the clear procedure and work instruction to manage the infrastructure and also the contract maintenance.

## C. Arguments

In this research only measure the capability level from the information system application at DSI UNAIR that measured from frontend dan backend perspective. It would become the basic reference for further observation related capability level of frontend dan backend perspective. Moreover, the result had not been validated toward the measurement tools that used, thus the study also could be the guidance to develop the further observation related the validity of the measurement devices.

## CONCLUSIONS

To identified and analyzed the capability level of the as-is and to-be condition on the frontend and backend perspective in the DSI UNAIR by using the interview guide was at level 3. It's scale Fully Achieved (F) on the PA 3.1 and Fully Achieved (F) on the PA 3.2. Meanwhile, the capability level achievement that was expected (to-be) was at level 5 in each attribute achievement Fully Achieved (F). In this research only measure the capability level from the information system application at DSI UNAIR that measured from frontend dan backend perspective. It would become the basic reference for further observation related capability level of frontend dan backend perspective. Moreover, the result had not been validated toward

the measurement tools that used, thus the study also could be the guidance to develop the further observation related the validity of the measurement devices.

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# ROLE OF PHD FACULTY IN ADVANCING RESEARCH IN NATURAL SCIENCES PROGRAM (CASE STUDY OF INSTITUTE TECHNOLOGY BANDUNG)

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## EXTENDED ABSTRACT

Given the increasing number of PhD faculty, including PhD students, working in medical schools and sciences research center within the past decades, it is considered to be the consequence of growing pressure on faculty to produce clinical income (Bell, 2016). The doctoral program held at the School of Pharmacy, School of Life Sciences and College of Mathematics and Natural Sciences are to lead toward the achievement of graduate competencies in leading the implementation of research in academic or technical management interdisciplinary in the university, research institution, and the government. In this study, we will examine the effectiveness of PhD faculty in advancing research in the three main faculties of natural sciences cluster in Institute Technology Bandung (ITB). We will employ quantitative methodology, namely Data Envelopment Analysis method. The data in this study were collected by means of browsing through the internet databases. Expected result in this study is PhD and Master programs graduate in the selected observed faculties hold a significant role in advancing the natural sciences research in ITB.

**Keywords:** PhD, faculty, research, natural, sciences, efficiency, effectiveness, Data Envelopment Analysis (DEA)

## INTRODUCTION

Given the increasing number of PhD faculty working in medical schools and sciences research center within the past decades, it is considered to be the consequence of growing pressure on faculty to produce clinical income (Bell, 2016). Different approaches are utilized by faculty to resort on the most essential goal which is the financial effects derived from their investment. For instance, successfully establishing entrepreneurship efforts may be a good method of generating societal and economic benefits (Wood, 2001). Although entrepreneurial skills may not be natural traits, it is certainly a trend among universities to apply research innovations in commercial contexts through rediscovery of patents and creation of new ventures to initiate commercialization (Ernst, 2016; Rao, 2016). In spite of that, revenue is not the mere factor that determines the value of a faculty.

The goal of this study is to determine the capacity of PhD faculty in advancing academic research projects measured by their capabilities, hence further sustaining their actuality in the university. Granted that it is a growing tendency for universities to be an entrepreneurial university, this study samples stakeholder in Institut Teknologi Bandung as it is undergoing transformation into one. More importantly, according to an accreditation release by BAN-PT (005/SK/BAN-PT/Akred/M/I/2015) at the time of writing of this paper, one of the graduate program in the School of Pharmacy of ITB is currently withstanding accreditation of grade C, which translates to merely “fair.” Meanwhile, program study in the School of Life Sciences, receive withstanding accreditation of grade B from BAN-PT. These varied accredited result between each faculty may trigger interesting question of how is it different between each faculties and what trigger it to be different, considering these faculties all receive the same treatment, research donations, facilities and other accommodations made available by the parent university.

The specific aims are (a) examine their capability to release publications, receive funding, establish effective interactions between scholars, and commercialize innovations, (b) describe the responsibilities and roles of faculty towards scholars, and (c) explore relationships between the measures and stakeholders to further advance overall research capability of the faculty.

## **LITERATURE REVIEW**

### **ITB and its Doctoral Program of the School of Pharmacy**

The doctoral program held at the School of Pharmacy is to lead toward the achievement of several graduate competencies such as acquiring skill to design research agenda, conduct research and disseminate the research product at national or international level; acquiring skill in leading the implementation of research in academic or technical management interdisciplinary in the university, research institution, and the government. The program offers different focuses of study including pharmacology-chemistry, pharmaceuticals, natural product pharmacy, and pharmacology-toxicology.

### **ITB and its Doctoral Program of the School of Life Sciences**

The doctoral program held at the School of Life Sciences is to lead toward development of bio industry. The faculty hold specific strategic mission to prepare human resources that can process biological resources with technological innovation to improve the welfare of society through Tri Dharma college activities. The program offers different focuses of study including agrotechnology and bioproducts, biotechnology for microbacteria, ecology, physiology, animal structure and biomedical science, genetic and molecular biotechnology, natural resources management, science and biotechnology for plants and forestry technology.

### **ITB and its College of Mathematics and Natural Sciences**

The doctoral program held at the College of Mathematics and Natural Sciences is to lead as pioneer in the development of mathematics and science and contributing to the welfare of the nation. The faculty hold specific mission to organize the best education in math and science to produce graduates of character and global competitiveness; conducting quality and leading research in math and science; and carry out public services and community empowerment through the utilization of faculty expertise for community welfare.

The program offers different focuses of astronomy, earth physics and complex system, physics of electronic materials, magnetic and photonic physics, nuclear physics and biophysics, high energy theory and instrumentation physics, biochemistry, analytical chemistry, anorganic and physical chemistry, organic chemistry, algebra, analysis and geometry, combinatorial mathematics, industrial and financial mathematics, and statistics.

### **Competency of scholars**

According to Tengland (2011), being competent is having learnt knowledge and skills that are more complex than the basic ones. Competence consists of knowledge and skill, where having a propositional knowledge is knowing how things work theoretically and having skill is about knowing how to perform actions. Knowledge and skill can be distinguished by the different in how well one perform something.

Natural sciences faculty have consistently argued their commitment to the development of professionals who have “respect for the inherent dignity, worth, and uniqueness of every individual, unrestricted by considerations of social or economic status, personal attributes, or the nature of health problems” (Fowler, 2008). How should pharmacy faculty address implicit biases leading to unintentional attitudes and behaviors reflecting innate biases common to everyone (Hassouneh, 2013)? Fostering respect for diversity and producing culturally sensitive graduates are essential as the U.S. population becomes more diverse (U.S. Census Bureau, 2015) that accelerates the importance of promoting health equity.

## **METHODOLOGY**

In this study, we will employ quantitative methodology, namely Data Envelopment Analysis method. The data in this study were collected by means of browsing through the internet databases. The sampling method was Purposive which are focused on faculty working in the department of Pharmacy in Institute Technology Bandung (ITB).

### *Data envelopment analysis*

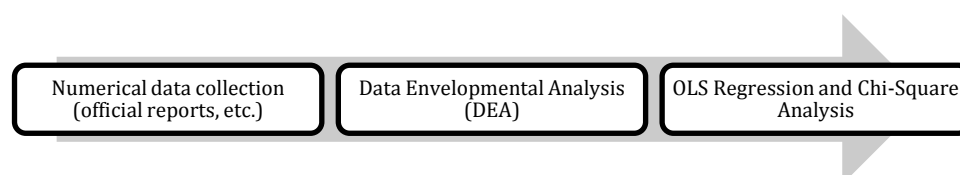
DEA focuses on identifying those decision-making units (DMUs) in the data set that are optimal in utilizing of a set of invested resources (inputs) in delivering a set of expected results (outcomes). DEA has been characterized as “balanced benchmarking” effort (Sherman, 2013). Using nonparametric linear programming methods, DEA

computes both: (1) the “best practice” or efficiency frontier, in the set of DMUs, and (2) the relative inefficiencies of those DMUs not on this frontier. Mathematically, a DMU at the frontier will have an efficiency ratio of 1, and those DMUs not at the frontier will have a ratio less than unity but not less than zero. The amount a DMU is less than 1 can be viewed as its degree of inefficiency where the DMU was either: (1) given too many inputs for the outputs, (2) provided too little outputs for the inputs, or (2) both, compared to other DMUs in the analysis. We used three input variables and three output variables in this study. We focus our observation date between the years of 2012-2016. Details of our inputs and outputs are listed in Table I below.

Input(s)	Output(s)
The amount of funding supplied by ITB and its partners (annualized)	The additional research grants acquired from outside of ITB (annualized)
The number of research grants approved (annualized)	The number of published scientific papers per year (annualized)
The number of research grants achiever (including its team members)	The number of grants received (annualized)

#### *Ordinary Least Squares (OLS) – Regression*

To determine which, if any of the input variables could predict the results of DEA, regression analysis was completed using the input variables as independent variables and the DMUs efficiency score as the dependent variable. To verify these results, each research project were coded, or “binned,” into quintile groups based on their level of efficiency. Additionally, for each research, input variables were compared to the median for that variable and coded into two categories: below median or above median. Using this binning method, it was possible to complete chi-square analysis.



**Figure1. Proposed methodology diagram**

## **CURRENT FINDINGS AND EXPECTED RESULTS**

The goal of this study is to determine the capacity of PhD faculty in advancing academic research projects measured by their capabilities, hence further sustaining their actuality in the university. The expected result of this present study is to provide detail description on how effective of PhD faculty in advancing research in natural sciences program.

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# READINESS TO COLLABORATE BETWEEN ITB AND INDUSTRY: REPRESENTATIVE CONTENT ANALYSIS ON FACULTIES' STRATEGIC MISSION STATEMENT

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## EXTENDED ABSTRACT

As one of the best university in Indonesia, ITB is expected to significantly contribute in technological based innovation and improvement for the country. Therefore, it is expected that ITB provide an excellent services to the society by collaborative work hand-in-hand for the benefit of societies'. Mission statements have consistently been shown to be a top rated assessment tool by investors to identify company's profile. The purpose of this study is to examine the readiness of each faculty in ITB to work together with industry. The expected result in the present study suggest that each faculty in ITB already recognize the goal and embedded it in their faculty's mission and vision statements, to avoid stakeholder miscommunication.

**Keywords:** ITB, technology, commercialization, mission, strategic, representative, industry

## INTRODUCTION

Bandung Institute of Technology (ITB) is recognized as a well-known technological university in Indonesia (Kemenristek RI, 2017) and it has transformed to an entrepreneurial university. According to published data of Indonesia's Institute of Science (LIPI), ITB has 170 patents and it is on the third place to Bogor Institute of Agriculture and University of Indonesia (LIPI, 2017). As the of the best university in Indonesia, ITB is expected to significantly contribute in technological based innovation and improvement for the country. This is aligned to the mission of ITB stating "To innovate, share, and apply science, technology, art and humanity and to produce excellent human resources for better Indonesia and the world".

The technology transfer and commercialization of new innovations play an important role not only for universities but also for organizations and economic development. Commercialization of new innovations and technology transfer can occur in various ways: licensing, direct foreign investments, technical agreements, joint ventures, turnkey projects, and the purchase of equipment amongst others (Song, Seol, & Park, 2015). When technology flows from a certain stage to the next the transition is not smooth, but is usually affected by gaps such as identifying a potential application and when and how this can be turned into a marketable product, and that such gaps can break the flow of the transfer. A collection of criteria that could take all of this into consideration can help to minimize gaps and maximize the efficiency of the flow. This can be achieved through ex-ante evaluation. Commercializing their innovation in technology has been a struggle for universities (Rao & Mulloth, 2016). Patents are the indicator of a technology transfer performed by research institutions, including a university leading to entrepreneurial university outputs. To optimize the entrepreneurial output, there are definite competencies, namely opportunity development competency, championing competency, resource leveraging competency, location leveraging competence, which each competency has different significant role (Rao & Mulloth, 2016).

In another study, Tanha et al (2011) describe that nowadays commercialization of university research and R&D innovations is considered as a significant factor in economic stability of the countries. Although the process of commercialization seems to be simple and conventional, it has its own obstacles and solutions. Evidently, it could be noted that turning an idea (Dodgson, Gann, & Salter, *The Management of Technological Innovation: Strategy and Practice*, 2008).

Mission statements have consistently been shown to be a top rated assessment tool by investors to identify company's profile. Therefore based on this, the roles of company mission and vision statements remain vital for company's communication with their related stakeholders.

The purpose of this study is to examine the readiness of each faculty in ITB to work together with industry, as the final user in their products/services in the university context, is the society, therefore it is expected that each faculty in ITB already recognize the goal and embedded it in their faculty's mission and vision statements, to

avoid stakeholder miscommunication. By acknowledging the current condition, it is expected that this paper will provide recommendation on how to prepare an effective communication tools for faculties' and their stakeholders.

## LITERATURE REVIEW

### Technology Commercialization and Universities' Innovation

Technology commercialization refers to a process of converting a technology based idea into a business. It has a critical role in economic development, as it effectively delivers ideas from thought and laboratory to the marketplace (Mozafari & Torabi, 2015). Primary sources of new technology are universities, laboratories or Research and Development (R&D) divisions within private-sector companies where knowledge is the main expected outcome and to be impactful in social and economic world, additional value must be created (Dodgson, Gann, & Salter, *The Management of Technological Innovation: Strategy and Practice*, 2008). The discovery and innovation process can be iterative, bouncing in many directions through trial, error, learning and back, until it gains success.

Compared to other sources of innovation, universities may not appear to be important, and there is major debate about how they can best support innovation activities in firms. They are the source of graduate employees and have always been a key source of ideas for radical innovation. They are undisputedly the most important source of scientific discoveries (Tanha, Salamzadeh, Allahian, & Yashar, 2011). Universities are the primary source of basic research, and their discoveries can have major consequences for business and industry. The discovery of DNA, for example, was the fundamental breakthrough for the development of the biotechnology sector. Also, the development of scientific instruments, designed to help scientists do their research better, has major consequences for innovation (Rao & Mulloth, 2016). The computer, the laser, and the Internet all began life as scientific instruments. Innovation depends on well-educated and qualified engineers, scientists, business and management students, lawyers, and financiers (Dodgson, Gann, & Salter, *The Management of Technological Innovation: Strategy and Practice*, 2008).

Technology transfer from universities and other government research institutes have been the specific purpose of policy makers and the public, in the past decade (Rao & Mulloth, 2016). The motivations arisen from two factors of the need for improvement of private sector's access to the government's research results and budget constraints have induced politicians to provide reasons in support of commercialization of university technologies (Tanha, Salamzadeh, Allahian, & Yashar, 2011).

## METHODOLOGY

Since the present study is aimed to examine the readiness of every faculty in ITB with the adoption of technology commercialization, it is a research practical. We will inspect the current phenomena followed typology by Pearce & David (1987). In this study, we will employ qualitative methodology, specifically thematic analysis. We will examine each faculty in ITB websites with the assistance of Atlas TI. A coding of 1 will be allocated if it was judged as being present in the faculty web pages and a coding of 0 was assigned if not present. Aside from the examination based on the related factors, the content analysis will examine whether the faculty described their vision / mission on the faculty sites, the length of vision and mission statement, the mentioned technology transfer / technology commercialization with industry, and the main words in mission / vision statement.

Table 1 Examined factors based on Pearce & David (1987)

Factor 1	Identification of target customers and markets
Factor 2	Principal products / services
Factor 3	Geographic domain
Factor 4	Use of technology
Factor 5	Commitment to growth
Factor 6	Survival and profitability
Factor 7	Key elements of organizational philosophy and self concept
Factor 8	Desired public image

## CURRENT FINDINGS AND EXPECTED RESULTS



The present study is aimed to examine the readiness of every faculty in ITB with the adoption of technology commercialization, mirrored in their faculty mission and vision statement. The expected results of this current study is to provide a detailed description of every faculty in ITB's readiness with the collaborative work between university and industry. Summary of our factor analysis result for all faculty in ITB can be observed from Table 1 below.

Table 1 Factor Analysis on all faculty in ITB mission and vision statements

Factor(s)	ITB Loading Factor	p-value
Identification of target customers and markets	.3392	0.0420
Principal products / services	.3113	0.0463
Geographic domain	.36218	0.0523
Use of technology	.35869	0.0400
Commitment to growth	.5402	0.0000
Survival and profitability	.3782	0.0442
Key elements of organizational philosophy and self conc	.4864	0.0020
Desired public image	.5203	0.0394

Our findings stated that majority of faculty in ITB focus on commitment to growth and desired public image in their mission and vision statement, desired public image and geographic domain are most frequent factors that ITB's faculties mention in their mission and vision statement. Survival and profitability are the least frequent factors that ITB's faculties mention in their mission and vision statement. However, only SF and FTTM mentioned about their product/services in their vision and mission statement in their website, as for survival and profitability only SITH mentioned it in their profile statement.

Next, we will move on to evaluate per faculty. Summary of our findings for each faculty can be observed in Table 2 below.

Table 2 – Summary of our result per faculty

Faculty	1	2	3	4	5	6	7	8
FMIPA								
FSRD								
FTI								
FTMD								
SF								
SITH								
STEI								
FITB								
FTTM								
FTSL								
SAPPK								

For FMIPA, the most frequent factors are use of technology, key organizational and philosophical concept, desired public image. For FSRD, the most frequent factors are geographic domain, commitment to growth, key organizational and philosophical concept, desired public image. For FTI, the most frequent factors are geographic domain, commitment to growth, key elements of organizational philosophy and self concept, desired public image. For FTMD, the most frequent factors discussed in their mission and vision statement are geographic domain, use of technology, commitment to growth, desired public image. For SF, the most frequent factors discussed are product/services, geographic domain, commitment to growth, key elements of organizational philosophy and self concept, desired public image. For SITH, the most frequent factors are

commitment to growth, survival and profitability, key elements of organizational philosophy and self concept, desired public image. For STEI, the most frequent factors discussed are commitment to growth, key elements of organizational philosophy and self concept, desired public image. For FITB, the most frequent factors mentioned are use of technology, commitment to growth, desired public image. For FTTM, the most frequent mentioned are product / services , geographic domain, commitment to growth. For FTSL, the most frequent mentioned are commitment to growth, key elements of organizational philosophy and self concept, desired public image. Lastly, for SAPPK, the most frequent mentioned factors are geographic domain, use of technology, commitment to growth.

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# THE ENTREPRENEURIAL ECOSYSTEM THAT FORM A TOUGH AND COMPETITIVE POWER CASE OF CIBADUYUT LEATHER SHOES BANDUNG

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## EXTENDED ABSTRACT

Small medium enterprise (SME) has become an important role in building a country. Not exception in Indonesia, SME has brought a positive impact on the economy of the nation. The contribution of SME has increase the number of GDP (gross domestic product) in Indonesia. Craft, culinary and fashion industry become the great contributor to the nation. Therefore the existence and the successful of SME is a thing that should be noted by the country. It is require for an entrepreneur to become the tough entrepreneur that capable for competitive power in order to go to its success. Therefore, one way of such attempts is by studying the SME entrepreneurs who have succeeded as a source of learning for other entrepreneur as well as for the Government to get a more detailed information in order for interventions in the form of policies and programs become more effective. Entering into an entrepreneurial ecosystem is a powerful way to address the SME issues by providing access to resources, foundational technology, customers, and alliances. This study was conduct in Cibaduyut leather shoes market as one of the entrepreneurial ecosystem that are really famous in Indonesia. In the development, Cibaduyut leather shoes is experiencing the crisis due to the widespread of products import on the market. Some business are decline but other business still remain and keep the existence. The purpose of this paper is to know how to form a formidable entrepreneurial and competitive through its business at a tough time in order to maintain the existence of the business. This research was conduct with interviewing 10 respondent with criteria as the owner of one of the unit business in Cibaduyut, have long period of time through its business and have the experience or strategy in overcoming the situation in Cibaduyut market. Several factors was obtained as a review in conducting the entrepreneur who has a tough and competitive power to keep their existence.

**Keyword:** entrepreneur ecosystem, business competitive, cibaduyut leather shoes, SME (small-medium enterprise)

## INTRODUCTION

Economy has become a spearhead for the progress in building a country, the developed country can be seen from the high value of the GDP (growth domestic product) that resulting from economic activity by the region. Levitt's (1983) proposition that the economy has been reshaped into a global one that make things have changed in the global scenario. Economy align with the business and entrepreneurship that exist in the country. Competitiveness and entrepreneurship have become the focal point to discuss day-by-day by the NGOs and business firms. Extant literature also shows a convergence between competitiveness and entrepreneurship. That is, public policy should be capitalizes on both the competitiveness and the information of an entrepreneurial ecosystem to create strong entrepreneurial culture for a nation. In developing the entrepreneurship, Storey & Stevenson (2015) argued that enhancing competition and job creation can be done for the economic development, creativity and innovation also needed for the economic growth. There is a type for economy business, one of the famous is small-medium enterprise or SME. Small and medium-sized enterprises are non-subsidiary and independent firms that have only a few employees and doesn't have a big financial assets (stats.oecd.org, 2005).

Small medium enterprise (SME) has become an important role in building a country, not only for the developing countries, but also for the developed countries including United States, Europe and Japan. In Indonesia itself, initially SME has only viewed as its driving force of economic development in the rural areas outside of the agricultural sector and as source of income especially for people with low incomes, but the current SME has been cast as one of the sources that important in increasing the export of non-oil and gas (Tambunan, 2002). The development of SME in Indonesia has brought a positive impact on the economy of the nation of Indonesia. From CNN Indonesia (2016), the contribution of SME in Indonesia toward the gross domestic product (GDP) in the last five years has been increase into 60 persen on this year. Not only that, the SME sector has helped the absorption of labor in the country until it reaches 97.22 percent in the last five years. Among SME, creative economy industry has a positive contribution, from the subsector of economy creative industry, three of which were record as the greatest giver contribution to GDP, that are the culinary industry, craft industry and fashion industry. Thus, SME has a strategic role in the votes boost the economy and well-being of the nation.

Therefore the existence and the successful of SME is a thing that should be noted by the country, then the efforts is necessary to support the success of SME in Indonesia. It is require for an entrepreneur to become the tough entrepreneur that capable for competitive power in order to go to its success. Therefore, one way of such attempts is by studying the SME entrepreneurs who have succeeded as a source of learning for other entrepreneur as well as for the Government to get a more detailed information in order for interventions in the form of policies and programs become more effective (Widjajani dan Yudoko, 2007). The purpose of this paper is to know how to form a formidable entrepreneurial and competitive through its business at a tough time in order to maintain the existence of the business.

Entering into an entrepreneurial ecosystem is a powerful way to address the SME issues by providing access to resources, foundational technology, customers, and alliances. Peltoneimi and Vuori (2004) define an entrepreneurial ecosystem as: "a dynamic structure which consists of an interconnected population of organizations. These organizations can be small firms, large corporations, universities, research centers, public sector organizations and other parties, which influence the system to include a population of organizations. Business ecosystem develops through self-organization, emergence and co-evolution which help it to acquire adaptability". Indonesia have many entrepreneurial ecosystem, one of the famous is Cibaduyut leather shoes.

Cibaduyut leather shoes is a handicraft shoes that located in Bandung city. Handicraft shoes has been famous throughout Indonesia even abroad. In its development, the shoes center that are established in the 1920s is capable of evolving rapidly until now. It can be seen from the data development of craftsmen in Cibaduyut shoes are continues to increase until the year 2008 with more than 3000 craftsmen (Department of cooperatives, SMEs, Industry and trade of the city of Bandung, 2014). Based on media reports also said that in recent years the number of the original craftsmen in Cibaduyut are decrease because of the product's original of Cibaduyut shoes started being replaced by products of foreign shoes especially by China (Maulana, 2015). China are able to market its products at a lower prices and with the latest design that makes the original entrepreneur in Cibaduyut increasingly threatened with it. A weak business would be easy to fall and disappear from the ecosystems Cibaduyut center. Therefore it takes a formidable entrepreneurial souls capable of competitive power from economic market conditions in order to keep this Cibaduyut ecosystems exist as a Center for leather shoes that given the best quality.

The objective of this paper is to;

1. Analyze the development of Cibaduyut leather shoes and factor(s) that influence
2. Creating an ecosystem models for tough and competitive entrepreneurship.

## LITERATURE REVIEW

### *The entrepreneurial ecosystem*

Entrepreneurial ecosystem is a business ecosystem. Moore (1993) was introduced the term of business ecosystem that gained important recognition in business model discourse. There are different meanings of the term, however specialists for the most part concur that an entrepreneurship ecosystem highlights as an organizations interfacing both cooperatively and competitively around a typical stage to meet market prerequisites (Muegge, 2011). Muegge characterizes a business ecosystem as a "field of economic actors whose individual business activities, tied down around a platform, share in some huge measure the result of the entire ecosystem". Entrepreneurial ecosystem has the purpose to create value by connecting the main actors in a very much characterized district through the development of entrepreneurial venture (Cohen, 2004). On the off chance of successful, the ecosystem advances through time producing an entire diverse arrangement of new venture (Van de Ven, 1993). The assorted qualities of players and the active interaction among them is vital for the achievement of the ecosystem and cannot be disregarded (Spilling, 1996). a country will accomplishes the economic prosperity by cultivating an entrepreneurial ecosystem because it is the cornerstone that support in general approaches in regards to innovation, business incubation, business conglomerates, national competitiveness and knowledge-based economies (Isenberg, 2011).

Business ecosystem can be define into several categories. Purdy and colleagues (2012) identify three categories of business ecosystem into: 1) harbor and fleet, 2) demand forum, and 3) multivalent sourcing. In the harbor and fleet (platform) ecosystems, the harbor firm provides underlying or foundational resources and the fleet of companies to gain access to the harbor and resources. While Koenig (2012) identifies four categories of business ecosystem that are, 1) platforms, 2) supply systems, 3) expanding communities, and 4) communities of destiny. Platforms have reciprocal interdependence and centralized control of key resources by the firm providing the key resources. Supply systems have pooled interdependence and centralized control of key resources. The achievement of a business ecosystem requires the interconnectivity of arrangements and the dynamic interrelationship between the bodies electorate. If successful, the subsequent cooperative energy will support the entrepreneurial mentality empowering the acknowledgment of new entrepreneurial open doors. It will likewise gain by the formal and casual interrelationship between the primary players to make conceivable an incubation center of promising business thoughts to be developed and created (Temko, 2009)

### *Competitiveness of Entrepreneur*

High and low of the competitiveness of the companies effected by the interconnectedness industry. The interconnectedness industry is the relationship between the core industry with complementary industry and the supporting industry (supplier). The success of the national industry can be realized importantly if national industry has a competitive advantage in

some related industries. Further research Porter (1994) argued a competitive advantage in some industries will be realized when the supplier provides the potential for profit or for many industries in the country, because they generate inputs that are widely used and essential for innovation or internationalization. Other theories about competitiveness that fit with the concept of competitiveness expressed by Porter (1993), best known for the theory of the NCA with various Power of competitive factors, namely:

1. *Factor Condition* is a factor that refers to the inputs that are used as factors of production such as labor, natural resources, capital and infra-structure
2. *Demand Condition* is a factor refers to the availability of a ready domestic market plays became an important element in generating competitiveness.
3. *Related and Supporting Industries* is a factor which refers to the availability of a series of strong linkages between and the existence of industry support and the company, the relationship and positive support has resulted in an increase in the competitiveness of the company.
4. *The Firm Strategy* is the structure and Rivalry factor refers to strategies and structures that exist at some companies and the intensity of competition in the particular industry. Factor in the domestic capital market strategy an influence the corporate strategy, whilst individuals often make career decisions based on the opportunity and the prestige.

#### *Cibaduyut leather shoes*

Cibaduyut shoes industry was established in the 1920s that was pioneered by some locals who have the day-to-day work in a shoes factory in Bandung. Armed with skills that have been owned, they began opening their business with household industrial-scale. On the development, due to the increasing of order, then they conducted the recruitment for the workers that are locals. Skills in the manufacture of shoes eventually spread to the hereditary residents around the region of Cibaduyut. In 1940 the number of craftsmen shoes grew, there were 98 craftsmen and extended into the area on Cangkuang and Sukamenak. The presence of craftsmen when it already has an increasingly advanced capabilities so that it can handle orders from large or small traders who are either in Bandung area or from outside Bandung, around 1950 the craftsmen/businessmen developing the number to 250 unit of craftsmen. A large number of business unit of shoes caused Cibaduyut shoes manufacture centre is known as the largest industry in Bandung in 1978. Center shoes shopping of Cibaduyut Bandung become selling market of shoes that longest in the world and the Government of the Republic of Indonesia in 1989 inaugurated the cibaduyut as a tourist destination. In Cibaduyut there are various items not only shoes that sell but also bags, jackets, accessories and a variety of other souvenirs goods made of genuine leather. Handicraft shoes Cibaduyut, Bandung started waning after the monetary crisis in 1998 and entered the era of the Millennium in 2000. The number of imported shoes products coming into the country and the declining prestige of using domestic products became the main reason. Cibaduyut shoes industry slowly yet again bounce back and it is thanks to the existence of the craftsmen who maintain their ancestral heritage.

(<https://teamtouring.net/sejarah-cibaduyut-bandung.html>)

## **METHODOLOGY**

This study attempt to analyze the factors that influence the development of Cibaduyut leather shoes to define the competitive factors for the successful of Cibaduyut industry. This research was use the descriptive analysis methods are either with qualitative design. Data collected through interview, observation, study literature and the activities of shoes industries in Cibaduyut. Data were collect with spreading the questionnaire through interviews and field studies, with the number of samples as many as ten home industry in Cibaduyut. The data collected in this research contain the condition of the company's today, long standing and its development.

## **FINDINGS AND ARGUMENT**

- Factors that influence the development of Cibaduyut leather shoes in recent years

Cibaduyut that establish since 1920s, undergoing rapid development as the number one of shoes handicrafts in Indonesia. Cibaduyut leather shoes being known by the quality of its products, peddling variations of design and Cibaduyut selling the product with a variety of prices ranging from the cheapest to the most expensive that make any class of society looking for shoes in Cibaduyut. One of the privileges of the Cibaduyut that not found elsewhere is the visitors can choose various shoes models could even order the model loafer (bintang.com).

The economic crisis that occurred in 1998, does give the impact against the decline in the industry of cibaduyut shoes, but didn't make it became extinct. Cibaduyut leather shoes success in managed their existence and maintain preserve ecosystems entrepreneur of cibaduyut shoes as best local craftsmen in Indonesia. But it just happening until 2008 where the success period of Cibaduyut leather shoes happen. Notice any decline of craftsmen since 2008 as shown in the table below;

**Table 1**  
**Data of potential center Cibaduyut leather shoes**

Year	Number of business unit	Production capacity	Number of craftsmen
2008	845	4,092,300	3594
2009	643	3,425,424	3509
2010	577	3,114,022	3008
2011	310	1,860,000	1524
2012	377	2,315,000	2173

**source: Department of cooperatives, SMEs, Industry and trade of the city of Bandung, 2014**

Not only that, the presence of AFTA since 2015 is also worsening the State of local business owners in Cibaduyut. It happen because, based on the source it is known that the market now is the central of Cibaduyut leather shoes craftsman, has turned into the biggest shoes sales centers in Indonesia (Redaksi, 2011). More of concern is the influx of foreign shoes especially toward China products which is sold in the market in Cibaduyut. Cibaduyut initially only sell original handcrafted products made by local craftsmen, but now many products abroad are sells in Cibaduyut market (Maulana, 2015). Product import has been threatening local products in the marketplace in Cibaduyut. That's why the decline of craftsmen in Cibaduyut centers occurred and when the entrepreneur could not sustain the existence of their business, then gradually it will become extinct, Cibaduyut craftsmen will be replaced with business with products abroad. It also can give impact to the economy of Indonesia. Thus the original of entrepreneur Cibaduyut should be able to maintain their business against the outside products by having an attitude of tough and competitive power. What are some factors that can help win the competition in this business are summarized in the next discussion.

- Ecosystem models for tough and competitive entrepreneurship

In creating a robust and competitive entrepreneurs, there are 4 factors that must be met are: 1) creativity and innovative, 2) labor skill, 3) good marketing and 4) challenges as opportunity. This factors are a summary of the factors obtained from interviews with business units in Cibaduyut about what makes their business still running amid intense competition from within and outside the country. What of the strategy they do to keep their business existence. Of course many things and factors causing their business still exist in the market, especially for businesses that have stood for more than 10 years who have felt the ups and downs during her business and become part of this ecosystem in Cibaduyut. As for the explanation of the four factors is;

1. *Creativity and innovative:* In creating the competitive entrepreneurship, creativity and innovation is absolutely required. Where the entrepreneurs will continue to create staged of improvements and developments towards its products in order to be always accepted by their consumers. Creativity must be suitable with the development of his era. many businesses are experiencing failures due to not doing the creativity and innovation on a regular basis so that when times keep changing but they don't do the creativity and innovation of their products, then their products will be left behind and lost by the new products are popping up.  
Creativity is the ability to make things new in its existence and it is the formation of new ideas that are original and unusual or unique. The mind-set of creative people is to think something out of the box, as well as having an open mind and be free to approach things in a new way. Whereas, innovation is implementing creativity towards something into one new combination that can produce. A new definition here is not necessarily original, but rather a novelty or updated, which means it is also the improvement, because innovation is not only for new goods or services, but rather the improvement or development of the goods or services. Business development requires the ability for innovation and creativity in order to face the challenges, especially to find products and superior service. Many of the products and services generated by a successful businessman is the result of innovation and creativity that developed in the effort. Therefore, to be a superior entrepreneurial the ability of innovation and creativity are needed (pmct, 2016).
2. *Skill labor:* The ability of workers in producing good quality of product also is very important. Because in fact, consumers are looking for products with good quality. Thus training can be carried out to form a reliable workers. As Cibaduyut industry, this industry are well-known because of the shoes quality is the number. Within in a few years back, Cibaduyut leather shoes has an issue in creating an expert worker in order to fulfill customer order.
3. *Good marketing:* Without marketing process, the consumer will not knowing the product that you produce. Through with the process of marketing, it can explain to the consumer regarding the functions of a product, the benefits, the advantages, how to use and so forth relating to the product. Although the people have enough to know about your product and company, marketing remain important when you generate a new product that generated your business enterprise. The information is carried out through the efforts as continues promotion to the consumer. The ability of marketing their products well also be an advantage in doing a business. A lot of research told about how to do marketing properly. Cibaduyut industry for themselves, they say the media marketing that is currently used still potluck and not optimal. Cibaduyut market also hope they can marketing the cibaduyut leather shoes up to the international fight against competitors from abroad that are currently flooding the Indonesia industry with their product.
4. *Challenges as opportunity:* A tough entrepreneur should be able to make every challenge as an opportunity to continue to develop and move forward. As example with the presence of AFTA that make the local business of cibaduyut was decline, thus it is an opportunity to expand their business into larger even aboard. Learn the pros and cons of competitors in order to keep winning in the market.

The four factors above is the internal factors in creating a formidable and competitive power of entrepreneurs. While in term of ecosystem that is the Union of trade units in an area, external factors also needed as supporting. Ecosystem plays a role in keeping the whole business to be empowered in order to remain competitive that can maintain its existence. Because if business units of local in Cibaduyut die, no matter the market ecosystem can get off or creating a new ecosystem. Therefore, the importance of external factors in helping the success of any business unit. One of them is by creating an Association of local businesses in Cibaduyut, where with the formation of this association can provide assistance to central business unit that experiencing difficulties. The Association is also very good for the fight against the entry of the free market in Indonesia, as if in unison in the fortify can make the defense in keeping the original shoes business in cibaduyut, then foreign businesses will be difficult to penetrate its business in Cibaduyut. The existence of this Association also giving benefit in work together to find a solutions to increase competitiveness against foreign products that currently have been free in the market. Currently, there is an Association of business units in cibaduyut however this association only covers a portion of the units based on their areas of origin like e.g. the *Cibaduyut minang associations* were intended for the business unit from minang. However, this paper suggest the business units in Cibaduyut to formed the Cibaduyut Indonesia Associations where its members is the owner of the local business in Cibaduyut shoes.

## CONCLUSIONS

SME has an important role in developing the country because its impact directly on the economy of its country. Many SME in some area will creates an ecosystem of the market such as Cibaduyut leather shoes, the biggest handicrafts shoes in Indonesia. Intense competition in the industry's business requires the entrepreneur to have an attitude for tough and powerful competitiveness to survive in the industry. Tough entrepreneur are those that do not easily fall when experiencing tough times and keep trying to win the competition in the industry that they get into. Therefore as a result of the interview toward entrepreneur in Cibaduyut that can be said as success business against intense competition, then obtained several factors that have mandatory owned by entrepreneur. In order to become tough and competitive power, entrepreneurship should have creativity and innovation that continues to evolve that adapts to the times. In addition a worker expert and good marketing are also needed in forming the powerful competitiveness of entrepreneurship. With the tough attitude and competitive power will bring up thought in making every challenge as an opportunity for more advanced and developed. It is hoped that the Government and many entrepreneur to can keep its existence even can expand its business domain.

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## RELATIONSHIP OF TALENT MANAGEMENT AND ORGANIZATIONAL COMMITMENT

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### EXTENDED ABSTRACT

Organizational commitment has been widely researched as predictor to organizational outcomes. Besides the importance of its role to organizational outcomes, researches on determinants to organizational commitment are becoming more important. Determinants of organizational commitment consist of various variables including organizational practices. This is a cross sectional study which incorporates Resource Based View (RBV), Social Exchange Theory (SET) and Three Component Model of Organizational Commitment (TCM). This paper aims to examine an organizational practice which is talent management influence on organizational commitment from employees' point of view. Four hundred and forty four academic staff from both Public and Private Higher Education Institutions (HEIs) participated in this research. Data was analysed using SmartPLS 3.25. The findings indicated that there is a positive significant relationship of talent management on organizational commitment. The finding suggests that when people experience a good talent management practice, they feel more affectively attached to their organization, willingly to exert high level of efforts and feeling obliged towards organizational goals. This research is significant for theoretical and practical contribution. By improving talent management, managers can improve organizational commitment, thus increasing organizational achievement. This paper contributes by filling a gap in the organization and management literature, in which empirical studies of talent management effects on organizational commitment is still scarce until now.

**Keywords:** Talent management, organizational commitment, Higher Education Institutions (HEIs), academic staff.

### INTRODUCTION

The phenomenon of brain drain in developing countries has put the organizations and Government to struggle resolving the issue from becoming critical. Generally, talents are continuously looking for better opportunity that match their needs and wants elsewhere when their commitment is low to their organization. Low organizational commitment will reflect organizational outcomes such as talent retention, productivity and achievement. Hence, it is crucial to manage talents towards organizational commitment. Given that strengthening talent management is an important initiative (Bayyoud and Sayyad, 2015; Syed Abd Nasir et al., 2012) and proven to be a contributor to organizational effectiveness as well as a top priority for organizational success (Ifeoma et al., 2015; Marjani and Safee, 2016; Sharma and Rawal, 2017) and outcomes, the improvement of talent management is seemed to be vital in improving organizational commitment.

Most of the researches on talent management were studied at top management/employer level. Hence, lapses examine talent management within a relevant domain at employee level. Thus, this research grounded with RBV, SET and TCM assesses talent management based on science and art approaches at employee level. The approach is pertinent as at individual level, academics are affected by talent management practices which comprises of organizational (art approach) and HR factors (science approach). In the art approach, soft skills including communication, ability to convince, inspire and motivate others as well as having innovative and creative approach are needed. Meanwhile, in science approach, the precision and rigorous applications of theory are required (Schroede, 2012). The objective of this research is to examine the relationship between talent management and organizational commitment. An understanding of employees' expectation on talent management practices helps the employers to improve organizational commitment.



The scope of the current research is on examining talent management influence on organizational commitment in the context of a high skilled person which is academic staff in Malaysian Higher Education Institutions (HEIs). This research is conducted to answer the research question on to what extent talent management positively affects organizational commitment. This research addresses research hypothesis as there is a positive relationship between talent management and organizational commitment. Judgmental nonprobability sampling was used. Talent management was adapted from Sweem (2009) and organizational commitment was adapted from Meyer and Allen (1997). This research validated the strong significant effect of talent management on organizational commitment. Results of this research is significant as it will enrich organizational commitment and talent management literature as well as provide important managerial insights to shed some light in improving organizational commitment particularly in education industry as well as in other industries.

## **LITERATURE REVIEW**

### **Talent Management and Organizational Commitment Researches**

Previous researches on constructs of talent management were comprised of different domain such as talent attraction/talent absorption/talent acquisition, talent alignment and maintenance, talent development and talent retention (Halvei, 2015; Malkawi, 2017; Nobarieidishe et al., 2014). However, lack of studies examine talent management influence on organizational commitment from employee's perspective (individual level) including in developing countries. This is due to an infancy stage of talent management particularly in developing context including Malaysia (Syed Abd Nasir et al., 2012) that make it remains as underdeveloped research area (Ghaffar and Mohd Salleh, 2015; Goswami, 2014). Hence, this research addresses the relationship of talent management and organizational commitment at the individual level to fulfil theoretical and contextual gaps.

### **Organizational Commitment**

Most scholars referred to organizational commitment as employee-employer psychological bond (Van Dyk and Coetzee, 2012; Kaur et al., 2010) In the context of this research, it is defined as willingness to exert high levels of efforts on behalf of the university and a define belief in and acceptability of the values and goals as a result of a positive mindset towards university (Adapted from Meyer Allen, 1997).

### **Talent Management**

Previous researchers referred talent management as a collection of Human Resource (HR) practices (Byham, 2001; Heinen and O'Neil, 2004), talent pool (Cheloha and Swain, 2005; Kesler 2002), generic talent management which involving succession planning (McCauley and Wakefield, 2006; Redford, 2005) and a tactic which unified human resources and systems among all departments and levels, which requires the collaboration from management to staff, as well as the natural facility, talent and business strategy (non-human resource) in the future growth and sustainable development (Sweem, 2009). However, within the boundary of this research, talent management is defined as a holistic process of managing employee through communication (CO), employee development (ED), managing performance (MP), rewards and recognition (RW), and open climate (OCL).

### **Effect of Talent Management on Organizational Commitment**

It was found that effective communication leads to improve employee psychological contract, trust (Dutta and Banergee, 2014) as well as psychological link on individual task and teamwork (Grant and Berry, 2011). While, development or advancement opportunity was found to be able to reduce absenteeism rate and increase employee's commitment (Anis et al., 2011). Variables such as rewards and recognition (Saqib et al., 2015) and open climate (Douglas, 2010) were found to give a positive impact to organizational commitment. Halvaei and Ejlali (2015), and Nobarieidishe et al. (2015) found that there was a significant relationship between talent management and organizational commitment. It is therefore hypothesized that:

*Hypothesis: There is a positive relationship between talent management and organizational commitment.*

## **METHODOLOGY**

The population in this research was all permanent academic staff who are working on full-time basis and have served at least six months in the current workplace. Judgmental nonprobability sampling was considered as the researcher knows a reliable professional or authority that he thinks is capable of assembling a representative sample (Briggs and Coleman, 2007). A total of 870 questionnaires were distributed over a 5 months period to Malaysian Higher Education Institutions (HEIs). A "drop-off" and "pick-up" method was employed due to

Higher Education Institutions (HEIs) proximity to the researcher. Out of the 870 questionnaires distributed, 444 were found usable for further analysis.

As stated earlier, talent management was adapted from Sweem (2009). It comprised of five dimensions of communication (CO), employee development (ED), rewards and recognition (RW), managing performance (MP) and open climate (OCL). All together the total items were 33 with Likert scale 1-5 from strongly disagree to strongly agree. While organizational commitment was measured by adapting the most prevailing organizational commitment theory of Meyer and Allen (1997) which composed of affective commitment (AC), normative commitment (NC) and continuance commitment (CC). The items were 22 with Likert scale 1-7 from strongly disagree to strongly agree. This research uses partial least squares (PLS) to predict and maximize the explained variance in organizational commitment (Hair et al., 2013).

## **FINDINGS AND ARGUMENT**

### **Descriptive analysis of the study variable**

The results of this research indicate that there is a positive and significant correlation between talent management and organizational commitment ( $r = 0.361$ ). The values of these correlation coefficients are considered as good indicators to move forward to the next stage of analysis. Additionally, the values of Cronbach's alpha for all constructs exceed the recommended value of 0.70 (Nunnally, 1978), which means all indicators loaded highly on its respective construct.

### **Demographic background of the respondents**

The descriptive analysis results show that 51.6% of respondents were Male and 45.9% were aged from 26 to 35 years. About 60.6% of the respondents were married, 46.2% of the subjects had a Master's degree, 29.9 % had a 5 to 10 years working experience. 48.4 % of the respondents had less than five years length of service in their current institution, 65.5% hold a lecturer position and 56.5% of the respondents were from public university.

### **Common Method Variance**

Results of the analysis using Harman One-factor test as suggested by Podsakoff et al. (2003) indicated no presence of common method bias, with the Principal Components Analyses returned eleven factors emerging using the eigenvalue greater-than-one rule (Kleinbaum et al., 1998) with a total variance of 74.46% and the first factor only accounting for 28.33%.

### **Results of measurement model**

At the first order, the convergent validity results indicated that the loadings for all indicators were above 0.5 (range from 0.836 to 0.971) indicated that all indicators are reliable (Hulland, 1999). While, the composite reliabilities were all higher than 0.7 (0.883-0.977) suggesting acceptable internal consistency reliability (Henseler et al., 2009) and the AVE for the two constructs were also higher than 0.5 (0.52 – 0.879) satisfying the conditions of convergent validity.

While results of discriminant validity using Fornell and Larker, 1981's criteria indicated that the value of loading on the construct was greater than the values of loading with other constructs. Fornell and Larker (1981) suggested that the square root of the AVE of each diagonal construct should exceed the correlation shared between the construct and other constructs in the model. The result of the analysis confirmed that all constructs exceeded the threshold value of 0.5 (Bagozzi and Yi, 1988). In addition, the AVE square roots appeared in the diagonal line are larger than any correlation between the associated construct and other constructs (Chin, 1998). While, results of cross-loading indicated that the correlations between indicators and latent variable were higher as compared to other constructs. The loading clearly separated each latent variable as theorized in the conceptual model. These criteria confirmed that the second assessments of the measurement model's discriminant validity were satisfied. For the third assessment, the heterotriate-monotrait ratio of correlations (HTMT) was tested to assess discriminant validity: (i) As a criterion, the correlations between factors in the measurement model of all items were within a range of 0.087-0.626 (less than a threshold value of 0.85) and, (ii) as a statistical tests, the confidence interval did not contain the value of 1. These indicated that the discriminant validity was ascertained.

At the second order, the results revealed that three indicators of managing performance (MP), Open climate (OCL) and continuance commitment (CC) were not statistically significant. However, results of the loadings indicated that managing performance (MP) and Open climate (OCL) were absolutely important at 0.654 and 0.623 each. Whereas, continuance commitment (CC) was not absolutely important. Following Hair et al. (2011), managing performance (MP) and open climate (OCL) were retained and continuance commitment

(CC) (weight=0.125, t-statistic=1.283, loading= 0.416) was deleted from the model for further analysis. As for collinearity, values of Variance Inflation Factor (VIF) for all indicators of the second order constructs were in the range of 1.206 to 1.895 and uniformly far below the conservative threshold value of 5. Therefore, collinearity is not an issue between the constructs' formative indicators (Hair et al., 2014). Hence, the researcher can proceed for the estimation of the Partial Least Square (PLS) model.

### Results of the structural model

Talent management was found to be positively significant related to organizational commitment ( $\beta = 0.537$ ,  $p < 0.001$ ) Thus, the hypothesis linking talent management and organizational commitment constructs was supported at t value of 15.216. While, the  $R^2$  values of 0.289 for endogenous latent variables which was above 0.26 value, indicating a substantial model (Cohen, 1988) and the effect sizes ( $f^2$ ) of 0.406 at p value 0 was considered as large. Figure 1 depicts the bootstrapping result.

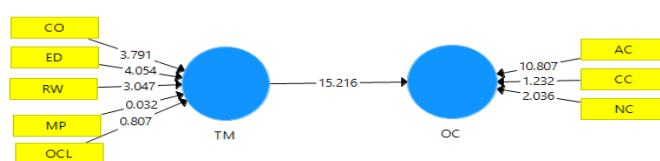


Figure 1: Bootstrapping result

### CONCLUSIONS

Organizational commitment should be given a focus if the organizations want to achieve successful outcomes. Various predictors including talent management have been studied indicating its pivotal role in determining organizational achievement. Hence, it is imperative to gain a better understanding of the new workforce demands and expectations in the current trend for talent management to facilitate organizational commitment. Results from this research showed that the hypothesis linking the constructs of talent management and organizational commitment was supported in the model. Utilizing RBV, SET and TCM, a proper talent management was expected to enhance organizational commitment. This requires practitioners to think about the linkage between talent management and organizational commitment to ensure a better organizational continuity.

This present research is a cross-sectional adopting quantitative approach. Future research can consider mixed method or exploratory study to revise the variables that involve both academic staff and management team of the HEIs. The research was designed to measure talent management by adapting the instrument from Sweem (2009). Limited studies have looked into a specific instrument to measure talent management in HEIs setting. Other relevant items can be added in the five dimensions to measure the construct more thoroughly. Therefore, qualitative studies can be conducted to identify and validate the unique features of these dimensions.

The aspect of managing performance and open climate can also be researched further. The insignificant results of both variables on talent management possibly due to the academic staff perception on its implementation. Therefore, collecting relevant information through survey questionnaire and interview are likely to obtain more output. Interestingly, the results also revealed that continuance commitment have to be deleted from the model. Future research is beneficial to explore further on continuance commitment (cost and benefit of leaving consideration).

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# MODELING AGRICULTURAL INNOVATION ADOPTION: A BAYESIAN AND AN AGENT-BASED APPROACH

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## EXTENDED ABSTRACT

The aim of this paper is to study how risk perception at an individual farmer and the influence of neighbors change the agricultural innovation adoption behavior. An agent-based model is constructed to model and simulate the change in risk perception at each farmer and the influence of neighbors of the farmers. The farmers update their risk perception by following the Bayesian method. From the results, a higher initial risk perception that the current season is being profitable after implementing the innovation and with neighbors' effect, they generated a larger number of adopters at the end of simulations. The curve of the number of adopters confirmed the S-shaped curve as in previous studies. This study also indicates that the simulation with an agent-based model enables us to study emergence behavior from individual adoption behaviors to the changes of a total number of adopters.

**Keywords:** agricultural innovation adoption, the Bayesian method, agent-based model

## INTRODUCTION

The study of agricultural innovation adoption has attracted much attention to researchers in the agricultural economics. The great concern of innovation adoption in agriculture is to increase production, and as a result, farmers have a better income. Therefore, understanding innovation adoption behavior is important because it may provide insight into how to increase agricultural innovation adoption and explain why innovation is adopted slowly or quickly on some occasions.

There has been extensive research regarding what factors that influence innovation adoption behavior. Rogers (2003) indicated information exposure and social interaction. Feder, Just, and Zilberman (1985) listed farm size, subjective risk perception, and entrepreneurial ability to manage the risk. These research imply that having information about innovation and then by evaluating and confirming the innovation with other farmers have been shown to have an impact to alter innovation adoption behavior of a farmer.

As a process of learning, farmers observe the risk of innovation by allocating the innovation on some parts of their farm. Because they might have different exposure on information available about the innovation, they could have different risk perception about the innovation. The different risk perception leads to different innovation adoption behavior on each farmer. For that reason, more work is needed to explain a dynamic learning process on each farmer before they decide to adopt the innovation.

System dynamics (Sterman, 2000) is a popular approach to model and simulate the process and interaction in a diffusion of innovation adoption in a population. However, it only captures the macro-level system changes (total number of adopters in a population) and ignores the micro-level dynamics (innovation adoption behavior of individual people). In contrast, an agent-based approach provides in detail way to study the decision of individual people or agent including the interaction of that decision in a population (Bonabeau, 2002; Gilbert & Troitzsch, 2005). Based on this, this paper introduces an agent-based approach to that innovation adoption process.

The focus of this paper is to investigate how risk perception at an individual farmer and the influence of neighbors change the agricultural innovation adoption behavior. As an alternative approach, we constructed an agent-based model to explore that behavior on each farmer and observe the effects of changing the risk perception and influence of neighbors to the total number of adopters in a population. This effects are essential to explain the link between micro-level system changes and micro-level dynamics which has also been suggested by Feder and Umali (1993) especially in agricultural innovation adoption analysis.

## LITERATURE REVIEW

Feder and O'Mara (1981) predicted that farmers calculate the risk of implementing innovation by initially doing an experiment on their farm before confirming to adopt the innovation and that the Bayesian model of learning could represent how the farmers update that risk perception.

On the modeling approach, previous research on innovation adoption often used differential equations models to understand the diffusion of innovation. However, Kiesling, Günther, Stummer, and Wakolbinger (2012) reported growing concern on constructing an agent-based model on diffusion of innovation research because it enables researchers to capture the importance of social interaction among agents.

## AGENT-BASED MODEL

The description of agent-based model follows Overview, Design concepts, and Details (ODD) (Grimm et al., 2010). This paper used NetLogo (Wilensky, 1999) to implement the model.

### 1 Purpose

The purpose of the model is to investigate how risk perception at an individual farmer and the influence of neighbors of that farmer change the agricultural innovation adoption behavior.

### 2 Entities, state variables, and scales

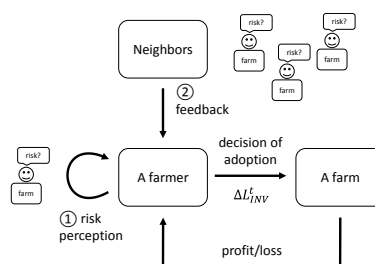
The entities of the model are farmers and farms. Table 1 shows state variables of each entity. Point 6 (sub-models) below provides the explanation of each state. Farms are homogeneous and arranged on a 20 x 20 square grid cells which represents a village where farmers live. One farmer owns one farm. One time step of the model corresponds to 1 season of rice planting. Simulations are run for 30 seasons,  $t = \{0, \dots, 30\}$ , and with a fully occupied village.

**Table 1. Overview of states and values**

Entity	State variable	Description
Farmer		$i = \{0, \dots, 400\}$
	Subjective states:	
	Risk perception	$P(t, e)$
	Neighbor feedback	$N(t, AT)$
	Objective states:	
Farm	Payoff for each action	$X_a(e), a = \{\text{Increase, Decrease}\}$
	Expected monetary value (EMV)	$EMV(a)$
		$j = \{0, \dots, 400\}$
	Possible farming conditions	$e = \{\text{Profitable, Unprofitable}\}$
	Crop production results	$r = \{\text{Profit, Loss}\}$
	Land size allocated for innovation	$L_{INV}^t, 0 \leq L_{INV}^t \leq 100, L_{INV}^0 = 0$

### 3. Process overview and scheduling

Within each time step, each farmer evaluates previous crop production results, revises risk perception, calculates expected monetary value (EMV) (Render, Stair, & Hanna, 2012), observes neighbor feedback, and lastly decides land size allocated for innovation. A farmer calculates the EMV between the action of increasing and decreasing the land size. The action that has maximum EMV will be selected. The total number of land size to be increased or decreased for innovation is then added to an additional number from feedbacks of neighbors. This total number is represented by  $\Delta L_{INV}^t$ , at a time  $t$ . Figure 1 illustrates the overall process.



**Figure 1. Model overview**

#### 4. Design concepts

The learning behavior of the model is that each farmer revises their risk perception over time after knowing whether their previous crop production generates profit or loss. Risk perception in this paper is a quantitative measurement of subjective risk perception of farmers, in probabilities, on their expectation of whether there could be profit or loss after implementing the innovation on their farm. Each farmer has an interaction with their neighbors and increases additional land size allocated for innovation if their neighbors has been observed to generate profit because of implementing the innovation. There are five types of a farmer in the model adopted from Rogers (2003): innovator, early-adopter, early-majority, late-majority, and very-late-adopter. Each type of farmer shows the different type of when to consider feedback from their neighbors and how many land size to be increased or decreased for innovation.

#### 5. Initialization

Simulations are initialized with 400 farmers whose their location is distributed between 20 x 20 grid. Each farmer has the same initial risk perception values.

#### 6. Sub-models

The model has two sub-models describing the dynamics of risk perception and neighbor feedback. Let  $A(t)$  be the number of adopters at a time  $t$  and it is formulated as

$$A(t) = \sum_{i=1}^t F(t, i, L_{INV}^t)$$

where  $F(t, i, L_{INV}^t)$  is a state of a farmer  $i$  at a time  $t$  with  $L_{INV}^t$  equals to 100.  $L_{INV}^t = 100$  means a farmer is an adopter. If  $\Delta L_{INV}^{t+1}$  is the decision of land size allocated for innovation at a time  $t + 1$ , then  $\Delta L_{INV}^{t+1}$  is calculated from the two sub models; the results from payoff consideration based on the risk perception at a time  $t$ ,  $M(t)$ , and influence of neighbor at a time  $t$ ,  $N(t, AT)$ , by the equation

$$\Delta L_{INV}^{t+1} = M(t) + N(t, AT)$$

where  $M(t)$  is the function to decide a number of cells allocated for innovation based on the maximum EMV, and  $N(t, AT)$  is the function to decide a number of cells allocated for innovation based on neighbor feedback.

If  $a$  is the alternative of actions,  $e$  is the possible events of farming conditions, and  $n$  is the number of events, then  $EMV(a)$ , the EMV of action  $a$  is calculated as

$$EMV(t, a) = \sum_{e=1}^n X_a(e)P(t, e)$$

where is,  $X_a(e)$  is the payoff when action  $a$  is selected and event  $e$  occurs,  $P(t, e)$  is the revised risk perception of occurrence of event  $e$  at a time  $t$ , and  $n = |e| = 2$ . Payoff values are listed in Table 2 below and are fixed. Profitable means a condition where there is a high probability the crop production generates profit while unprofitable means a condition where there is a high probability the crop production generates loss.

**Table 2. Payoff (in a monetary unit)**

Possible farming conditions, $e$	Action, $a$	
	Increase	Decrease
Profitable	10	5
Unprofitable	-5	-1

After EMV of each action is calculated, a farmer then decides between the only two actions defined, to increase or decrease the cells allocation for innovation by the function

$$M(t) = \begin{cases} 20, & EMV(t, I) > EMV(t, D) \\ -20, & EMV(t, I) < EMV(t, D) \end{cases}$$

where  $EMV(t, I)$  is the function to calculate EMV for an action to increase the number of cells, and  $EMV(t, D)$  is the function to calculate EMV for an action to decrease the number of cells.

The result of learning from new information about profit or loss, shown as the revised risk perception,  $P(t, e)$ , is calculated by using Bayesian method (Render et al., 2012) based on risk perception value of the previous season. Currently, the profit or loss results of the crop production,  $r$ , is still generated randomly. According to the Bayesian theorem, let

$$P(\text{Profitable}|\text{Profit}) = \frac{P(\text{Profit}|\text{Profitable})P(\text{Profitable})}{P(\text{Profit}|\text{Profitable})P(\text{Profitable}) + P(\text{Profit}|\text{Unprofitable})P(\text{Unprofitable})}$$

where  $P(\text{Profitable})$  is the (prior) perception of current season is being profitable after implementing the innovation,  $P(\text{Unprofitable})$  is the (prior) risk perception of this season is being unprofitable after implementing the innovation,  $P(\text{Profit}|\text{Profitable})$  is the likelihood of crop production in current season is going to generate profit given previous season is profitable,  $P(\text{Profit}|\text{Unprofitable})$  is the likelihood of crop production in current season is going to generate profit given previous season is unprofitable, and  $P(\text{Profitable}|\text{Profit})$  is the (posterior) revised perception of current season is being profitable given crop production in previous season generates profit. As for the initial (prior) perception settings for all farmers, it is assumed that  $P(\text{Profitable}) = 0.4$  and  $0.5$ ,  $P(\text{Profit}|\text{Profitable}) = 0.7$ ,  $P(\text{Profit}|\text{Unprofitable}) = 0.4$ .

For neighbor feedback,  $N(t, AT)$ , each farmer observes their neighbor and updates their decision based on how many neighbors with profit looked by that farmer by the function

$$N(t, AT) = \begin{cases} 30, & AT = \text{innovator}, NF = 1 \text{ of } 8 \\ 25, & AT = \text{early adopter}, NF = 2 \text{ of } 8 \\ 20, & AT = \text{early majority}, NF = 3 \text{ of } 8 \\ 20, & AT = \text{late majority}, NF = 5 \text{ of } 8 \\ 20, & AT = \text{very late adopter}, NF = 7 \text{ of } 8 \\ -20, & \text{otherwise} \end{cases}$$

where  $AT$  is the adopter type and  $NF$  is the fraction of the total number of farmers' neighbors with profit.

## FINDINGS AND ARGUMENT

Data obtained in previous studies (Feder & O'Mara, 1981) with aggregative innovation diffusion model indicated that the model generates the S-shaped curve. In the beginning, the number of adopters increases significantly and then rises slowly in the end. In our study, the number of adopters was obtained using simulation with an agent-based model. A farmer is assumed to revise their subjective risk perception with the Bayesian method after information about previous crop production is available. A farmer is considered as an adopter if that farmer has implemented the innovation to all parts of the farm. The model was employed in 30 simulations. The results are compared between initial risk perception  $P(\text{Profitable}) = 0.4$  and  $0.6$  (Figure 2).

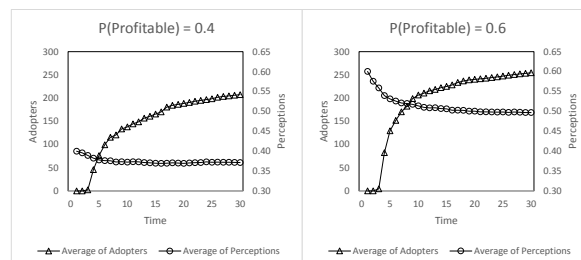


Figure 2. The changes in risk perception and its effect on the number of adopters

As can be seen, the number of adopters were significantly increased firstly then slightly later on, which is consistent with results obtained in previous research (Feder & O'Mara, 1981). Moreover, as mentioned by Fischer, Arnold, and Gibbs (1996), other than the S-shaped for a total number of adopters curve, the curve of new adopters distribution should show a long tail on the right side of the figure, and not all agents become adopters at the end of simulations. Our results indicate all of these criteria.



Furthermore, the simulated data have a different curve for various initial risk perception values. It appears that a higher initial risk perception ( $P(\text{Profitable}) = 0.6$ ) that the current season is being profitable generated a larger number of adopters.

Also, an investigation into the effect of neighbor was carried out based on the different type of farmers on their decision after observing their neighbors' profits conditions of implementing innovation. Using this assumption, the number of adopters with neighbor effect simulation was noticeably higher than the number of adopters without considering the neighbor effect simulation. These results are consistent with Rogers (2003) that reported there is a relation between innovation adoption and social interaction of an individual with others.

## CONCLUSIONS

The aim of this paper is to study the effect of each farmer's risk perception and the influence of that farmer's neighbors on agricultural innovation adoption behavior. From the results, a higher initial risk perception that the current season is being profitable after implementing the innovation, it generated a larger number of adopters at the end of simulations. And the number of adopters in the simulations with neighbors' effect was higher than the number of adopters without considering this effect. This study indicates that creating a policy to set up a demonstration farm might increase a high number of farmers to adopt an innovation. This increase could happen because by observing directly to a demonstration farm on how to implement the innovation (and its profit), farmers' might adjust their initial risk about the innovation accordingly.

Additionally, the number of innovation adoption generated in the simulation confirmed the S-shaped curve as in previous studies. This result provides evidence that the simulation with an agent-based model enables us as a starting point to study emergence behavior from micro-level dynamics (change in risk perception on each farmer and the influence from their social interaction) to macro-level system changes (the number of adopters in a village). Future work should, therefore, include experimenting on a different value of parameters, collecting empirical data to validate the model, and simulating the model with potential scenarios similar to a real situation.

## ACKNOWLEDGMENTS

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## EVALUATING COMMUNITY BASED WASTE MANAGEMENT SYSTEM IN INDONESIA & MALAYSIA: A COMPARATIVE STUDY

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### EXTENDED ABSTRACT

Waste management has become a global issue faced by every nation in the world, both in developed and developing countries. One particular focus on waste management on developing countries is on solid waste reduction before transported to final landfill dumpsite. This research seeks to develop a model to evaluate the effectiveness of waste management strategies in municipalities and also on destination islands in order to reduce solid waste generation. This study will also be evaluating the involvement of community-based waste support in reducing solid waste reduction in municipalities and on islands. The methodology for this research includes review of relevant academic literature, relevant city statistical data, figures, regulations and policies as well as primary data from stakeholders regarding solid waste management in both municipalities & destination islands. A System Dynamics approach is used to develop the model in question. Final outcome for this research is a model that could point out best and effective ways regarding waste generation, model formulation, review of current strategies on waste reduction strategies, and suggestions towards more effective waste management strategies on city's & destination islands.

**Keywords:** *business dynamics; community-based waste management; comparative study; destination islands; municipalities, waste management; waste reduction*

### INTRODUCTION

Bogor - Indonesia, produces 60% of its solid waste from household sector and another 10% from traditional markets. Recent study in 2015 by Bogor Sanitation Agency found 74% of total waste was in organic forms. Redang Island - Malaysia, is one of Malaysia's top destination islands, and while its rapid growth in Tourism attracts better wealth to the region, solid waste from resorts also becomes major highlighted problem. Due to the island's lack of solid waste management facilities, it relies mainly to mainland (Terengganu) as its final dumpsite. Both Bogor and Redang Island rely heavily to the waste transporting from waste sources to final dumpsite. This costly mechanism is found ineffective as it is not capable to transport all waste, and issues often arise during the transportation.

This research aims to answer these following questions:

- 1) Has waste management based on non-government community effort already been effectively performed in attempt of reducing city's total waste?
- 2) What is the most effective ways to reduce waste generation in municipality and in destination islands?

The specific purpose of this research are as follows:

- to identify contributing factors of waste generation in both Bogor and Redang Island
- to formulate a complex model based on those factors

- to run-through the model for the purpose of denoting various interactions among the contributing factors
- to compare and to review current establishment in municipal waste management in both areas
- to Suggest the most effective ways to reduce waste generation in sustainable ways

### **Research Benefit**

This research is expected to help identify, analyse and model the proper ways to solve waste problem issues faced by Bogor city administrator and Redang island and can be done in a very minimum cost. The end purpose of this research, therefore, is to formulate hands on recommendation to minimalise waste in Bogor city and Redang Island efficiently and in sustainable ways.

## **LITERATURE REVIEW**

Waste is often defined as a result of residual activity produced by human and or natural process (Granier, 1991). Waste management topics are always related to waste sources and characteristics. In terms of sources, there are four main producers of waste; Residentials or Households, Commercial, Institutions and Municipal Services (Shekdar, 2008). Municipalities typically have different types of waste. Originating from street cleaning, landscaping, parks, beaches and recreational sites, these places will produce waste such as landscape and tree trimmings, general waste from parks and sands. In terms of waste generation sources Bogor city generates 60% of its solid waste from households (Bogor city officials, 2016), while in Malaysia, residential sector only contributes 48% of total solid waste generation (Johari, Alkali, Hashim, Ahmed, & Mat, 2014). More specifically, in Redang Island, as a destination island, largest portion of waste comes from tourist resorts and hotels (58%), followed by residentials or municipals who stay in the island.

Waste handling system is heavily influenced by geographical condition, climate number of population, commercial facilities, social status, lifestyle and consumption (Shekdar, 2008). Higher social status tend to generate larger amount of waste compared to those who have lower social status. However, higher social status has lower waste density compared to lower economic status (Kholil, 2005). Data from Bogor Sanitation agency (2014) reveals that organic matters predominates waste in Bogor, while in Malaysia, as many as 43% is organic substances (Johari, Alkali, Hashim, Ahmed, & Mat, 2014).

## **METHODOLOGY**

### **Research Time & Location**

This research will be conducted in two countries, Indonesia and Malaysia. In Indonesia, the specific city for this research is located in Bogor, West Java, meanwhile in Malaysia, this research will be conducted primarily in Redang Island, Kuala Terengganu. An estimated time of three months is required to complete this research starting from Mid February 2017 until end of May 2017. Two months will be spent to collect the required data and another one month to analyse the result and to write the Thesis report.

### **Research Data**

This research will compile both primary and scndary data in both premises. Primary data is collected from direct interviews and datawith stakeholders and decision makers related to the regulation making. Secondary data, on the other hand, will focus primarily on the data related to factors that contribute in solid waste generation in those two respected areas, i.e. contributing factors of population growth, household income, people per household, and economic activity. In islands, these data will be adjusted as it is centered on resorts as main waste source generator.

### **Data Analysis**

This research is aiming at generating a comprehensive model in order to determine whether both premises have been managing municipal waste effectively enough. This research will also comparing analysis from the two sites to reveal which area performs better in its urban waste managemet and how they can accomplish such effectiveness. The data will be analysed using System Dynamics (SD) to seek a comprehensive model formulation as the output. To address the complex nature of modelling system calculation, this research will be aided by Vensim® system dynamic simulation tool for Macintosh.

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## UTILIZING TEXT MINING IN SOCIAL MEDIA AND NEURAL NETWORK ANALYSIS TO IDENTIFY HOAX

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### EXTENDED ABSTRACT

Indonesia is one of the biggest social media-user countries worldwide and it is inevitable that hoaxes are potentially diffused on the network. The aim of this study is to generate technical idea of identifying deceitful information shared on social media sites or other internet sites. Data mining in several social media sites, writing style analysis, and neural network analysis will be employed in this research. The algorithm then will be ultimately constructed to early predict the hoax probability of an article or a written post according to a validated pattern from the neural network analysis. This research is limited to the posts or feeds shared and spread in Bahasa Indonesia.

### INTRODUCTION

The use of social media in Indonesia has significantly increased in several sectors such as economy and business, education, marketing, entertainment, and politics (Kaplan & Haenlein, 2012). Facebook, Twitter, and Instagram have been a part of society's daily activities to have information or to just surf. The new world introduced in the form of social media enables people without geographical boundary to interact and share information each other (Zafarani, Abbasi, & Huan, 2014). Nowadays, unfortunately and accordingly, the information value shared on the social media network has become threatened by irresponsible users who tried to spread deceitful information and turn the positive value into negativity.

Miniwatts Marketing Group on its official website named [www.internetworldstats.com](http://www.internetworldstats.com) (2016) stated that Indonesia is the third biggest internet user population to China and India. As of June 2016, the Indonesian internet users reached 132.7 million with penetration as much 51.4% of the Indonesia population. Meanwhile, Facebook is used by 88 million Indonesian people. This means that a half of Indonesia population actively employ internet on daily basis to get information according to their interest. Information shared through social media can turn into viral and must come from various sources and go flowing to many social media users and end up other users' intention to repost or retweet regardless the appropriateness of the content to be shared in the world of social network (Sen, Muchnik, Tang, Zheng, & Makse, 2015).

The purpose of this study is to find a general pattern of deceitful news or information which credibility is doubted and still needs valid clarification. The algorithm, then, will be generated to predict the probability of the posts and feeds that contain deception or is simply called hoax. Researchers used the principals and method of data mining as the initial data collection from social media sites and other internet websites. This early step means collecting confirmed hoaxes that will be analyzed on their writing style. Writing style refers to how many improper words of languages, personal pronouns, and some other criterions of hoax used by the writers on the shared article. This research will also employ deep learning method to generate pattern of a hoax, then, the algorithm will be structured detect early

Based on background description, this study has come a conclusion of research questions as the following:

- What lying detection features does a hoax commonly consist of?
- How does a hoax pattern logically look like?
- What is the algorithm structure of early hoax detection?

## LITERATURE REVIEW

This research is undertaken in some literatures and constructs of linguistic, hoax, and supervised learning method. Relevant and related previous studies were also investigated to support the fundamental understanding and gain rigorous research design.

### Hoax and Information Sharing

Hoaxes refer to deceitful information or news created intentionally with disguise to cause confusion and fallacy and purposely shared to undermine truth so it will not be trusted by the readers (Kasperek & Messersmith, 2015). Hoaxes could evolve to social restlessness if the content reflects negative incitement that provokes some clans or social groups having different perspective toward an issue. In this case, online community takes the role as the audience of the shared information and news on the social media sites. Information sharing in online community has been a trend and taken a significant attention of many parties since it has been run by lots of internet users through various applications. These applications are Facebook, Twitter, Instagram, WhatsApp, and Line. Some mechanism in sharing information are social spreading, self-promotion, and broadcast (Sen, Muchnik, Tang, Zheng, & Makse, 2015).

Sen et al (2015) elaborate that information within online community has complex pattern that involve human behavior. Social spreading, self-promotion, and broadcast have interconnection each other that form a mechanism in spreading news and information. Social spreading is information propaganda through social network link. Information widely shared and spread can be illustrated as contagious disease (Watts & Peretti, 2007). Self-promotion refers to the information spread by the actor while broadcast is the information that is repeatedly shared for the same case (Sen, Muchnik, Tang, Zheng, & Makse, 2015).

### Data Mining and Social Media Mining

Data mining is data processing activity from a huge and complex data source by implementing simplification and generating pattern of the easiest method to gain usefulness and to ultimately create knowledge (Han, Kamber, & Pei, 2012). Social media mining indicates the extraction of trending data available in social media in the form of comments, trending topics, and all the related information to them (Zafarani, Abbasi, & Huan, 2014). Data collection through social media can be accomplished by using application program interface (API) provided by the social media providers.

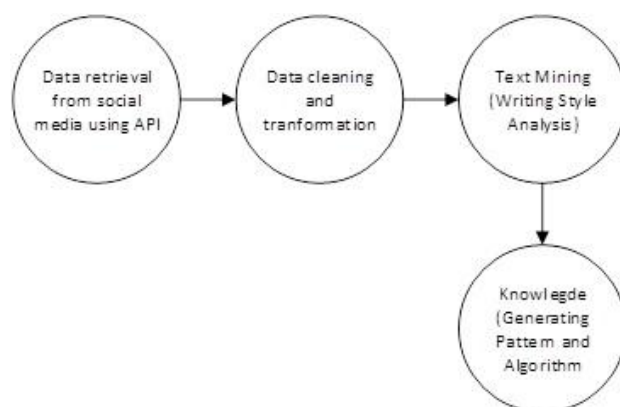
### Neural Network

Neural network is a sort of computer simulation inspired by the human brain. Neural networks are studied in a field of machine learning named deep learning. The brain solves problems with large clusters of biological neurons connected by axons. Similarly, a neural network is made up of interconnected cells that work together to produce a result. This is one of the possible ways artificial intelligence may work. Most neural networks can still operate if one or more of the processing cells fail.

## METHODOLOGY

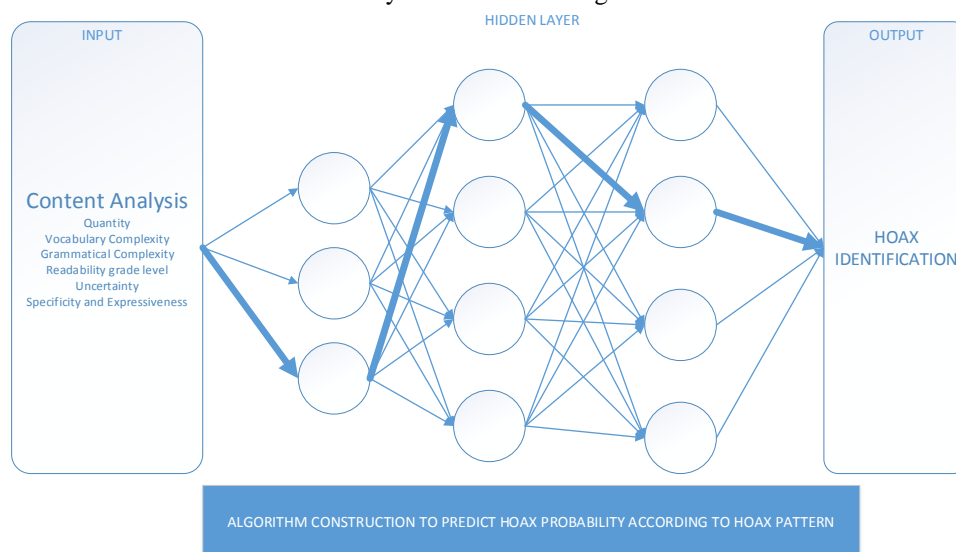
This study employs the data mining steps according to Han et al (2012) which describe the process of transforming raw data into knowledge. First, we retrieve data from sites with certain specific topic containing hoax using API provided by the provided by social media. We then do data cleaning and exclude insignificant words written in Indonesian language. Lying detection feature is available to quantify the writing style to detect hoax probability of an article (Afroz, Brennan, & Greenstadt, 2012). The features of deception detection are:

- 1) Quantity (number of syllables, number of words, number of sentences),
- 2) Vocabulary Complexity (number of words, number of syllables per word),
- 3) Grammatical Complexity (number of short sentences, number of long sentences, Flesh-readability grade level, average number of words per sentence, sentence complexity, number of conjunctions),
- 4) Uncertainty (Number of words express certainty, number of tentative words, modal verbs)
- 5) Specificity and Expressiveness (rate of adjectives and adverbs, number of affective terms),
- 6) Verbal Non-immediacy (self-references, number of first, second and third person pronoun usage).



**Figure 16 Road map to hoax prediction using data mining (Han, Kamber, & Pei, 2012)**

The quantification result from deception feature will be taken advantage of to predict an article's hoax probability as the weighting scheme. Prior to the prediction, neural network analysis will be used during the pattern construction that refers to tendency of hoax-containing article.



**Figure 17 Network Analysis Structure**

### CURRENT FINDING AND EXPECTED RESULT

The challenge for researchers is we need to contextualize these feature to Indonesian language. In addition, during the text mining, we must consider the local language expression such as “alamakjang”, “muke gile”, “kek mana”, “jancuk”, “geblek”, “kunyuk”, “smerlap” and so on. However, these words are rarely utilized in the literature that researchers will need to be able to develop the list of such words through qualitative approach. This can be done by identifying each one of them from the collected words, marking them as slang and find the identical, standardized Indonesian word. Writing style analysis result will be a quantitative input for neural network analysis input as the weight. The input will be calculated in the hidden network, generate pattern, and reflect output will show the final calculation represented in percentage. The ultimate result of this research is the ability of the constructed algorithm to generate the predication of a written passage before it is officially confirmed as a hoax.

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# SYSTEM DYNAMICS FOR BROWNFIELD OIL AND GAS OFFSHORE CONSTRUCTION SERVICES IN INDONESIA

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## EXTENDED ABSTRACT

This study is development of the paper by Stephen D Lisse in 2013 which modeled the outcome for outsourced work in a construction project. This study will focuses to **small capital project** for brownfield offshore construction project in oil and gas industry, its resources and work composition as well as execution method to get the cost model and estimated duration completion. The research methodology used in this paper is literature study of the application of system dynamics for outsourcing of resources in construction projects including the financial aspect. A literature review was performed on a system dynamics model to account for the impacts of fraction various remote execution percentages of the construction services to sustain a construction project and its cost profile over a specified time horizon developed using Vensim software. Results of running this model shows that cost profile of construction work depends upon both the work composition and remote execution fraction of the outsourced construction. The percent of remote construction work may also produce schedule overrun in the overall time to complete the required work tasks in the construction project. In offshore construction, the time and cost trade of are existed in relation of resources utilization.

**Keywords:** : System Dynamics, Offshore Construction, Outsourcing, Project Management

## INTRODUCTION

### Offshore Project Overview

Small capital project of brownfield offshore construction for oil and gas facilities has evidence that such projects are usually estimated to a general safety factors in cost aspect and time of completion. The key is to model more accurate cost profile and its dynamics is to provide quality professional construction services and resources within existing and projected budgetary and time constraints. The project consists of several work packages and scales ie; major, medium and minor. Major works such as installation of structure or equipment with weight of parts more than 10 tons or laying new pipeline connecting the facilities. Medium scale of work example are new piping system installation while minor work example are oil platform piping modification or structural refurbishment. Some works are certainly need marine spread (barge, Anchor Handling Tug and Supply (AHTS), diving vessel etc) support while some can be done by remote crew from nearest living quarter. Marine spread support will make the work finished faster but need much higher cost. A planned downtime due to weather impact was assigned, a 10% downtime was added to initial duration.

### Research Purpose

This study is development of the System Dynamics for Outsourcing Construction Services by Stephen D Lisse in 2013 which model the outcome for outsourced work in a construction project. The previous study purpose is to determine the correlation of outsourcing fraction to staff level and effort of a construction project. The reviewed paper indicates the construction resources provided were normalized without detailing the financial aspect. It also took general construction project while in actual such projects are varies and the resources and its work composition are unique. This study purpose is to model the cost of manpower and equipment from varies work composition and remote fraction for the execution. The equivalent work package in task and estimate completion duration can be forecasted through this model. In actual project, the sequence and the work composition can be managed to find most effective project from cost and duration perspective.

### Model Development

The balanced information in assessing risks and uncertainties, and taking corrective actions to control and manage the identified risks shall be sufficiently considered. By using system dynamics (SD), the performance of

professional construction services can be expressed as a feedback model that can enable project management to understand how a construction problem developed over time, and assist in finding a lasting solution to the problem (Lisse,2013). The SD model will enable the project manager to decide the optimum remote fraction and resources composition in order to get best the project cost and time requirements within given work composition.

Literature review had indicated that the success of a construction project depends upon both the quantity and quality of the construction services, the right resources composition and assumed uncertainties. A system dynamics model to account for the impacts of remote execution percentage and work composition of the required construction services to sustain a project over a time horizon of 30 months was developed using Vensim software. As commonly practiced in Indonesia Oil and Gas Offshore construction, the project is assumed using fully outsourced resources.

The result of running the model shows that the higher percentage of remote fraction case always presents the longer duration but with lower cost to complete the offshore construction works. It's shown that main offshore equipment composition will give the greatest effect in cost uncertainty during the execution period. Also, the case of 0% remote fraction or fully utilize marine spread package would produce more construction work done during the project than any combination of remote/marine spread support although there will be time and cost trade off. This implies that management should concentrate on providing an optimum composition for remote and marine spread execution.

## **LITERATURE REVIEW**

In 2013, Lisse developed a system dynamics model for outsourcing construction project. Results indicated that the amount of effort of construction work depends upon both the productivity and quality of the outsourced construction services as well as project manning constraints. The percent of outsourcing construction work may also produce schedule overrun in the overall time to complete the required work tasks in the construction project.

Rodrigues and Bowers developed a system dynamics model of the human resource management cycle to analyze the project control cycle. This study analyzed the impact upon project duration of the following three parameters: the productivity, the number of staff working, and the work rate. However, a detailed schedule and traditional network analysis was also needed for project control.

Park proposed a model-based dynamic approach for construction resource (labor and material) management. The model simulation of the resource level targeting process indicated there is a time-cost trade off of resource coverage and project performance. Also, policy implications were discussed for the key variables listed as the target material level, the target workforce level, the material acquisition rate, and the workforce based construction rate.

Love et al. described how changes impact project performance using system dynamic methodology. The two basic sources of dynamics that infringe upon a project system include planned activities with attended dynamics-factors resulting from active interventions, and uncertainties with unattended dynamics-factors beyond the control of project management. Findings from this case study indicated that 50 percent of the rework costs resulted from poor motivation levels of the architects and engineers.

In 2015, Yuka KIKUCHI and Takeshi ISHIHARA assessed weather downtime of the construction of offshore wind farm. In general applicable to all offshore construction, the weather downtime can be predicted from wind speed, wave height and wave period refer to seasonal occurrence frequencies at the area.

In 2017 Louis-Philippe and Mario Vanhoucke developed Optimised scheduling for weather sensitive offshore construction projects. Significant lead times and costs associated with materials and equipment in combination with intrinsic and weather related variability render the planning of offshore construction projects highly complex. Moreover, the way in which scarce resources are managed has a profound impact on both the cost and the completion date of a project.

## METHODOLOGY

In this paper the System Dynamics (SD) methodology in project control proposed by Rodrigues and Bowers (1994), which have been developed by Lisse (2013) for the principles of outsourced construction, Park (2005) for construction resource management and Love for project performance was used in developing causal loop diagrams, flow diagrams, and the governing equations. The SD model thus developed has been used to analyze the remote fraction in relation to work composition to get the manpower and equipment level which will determine the duration and cost model for the construction project at offshore. A five year data from one offshore brownfield construction in Indonesia are used for manpower, equipment and marine cost as well as weather impact and historical average downtime period.

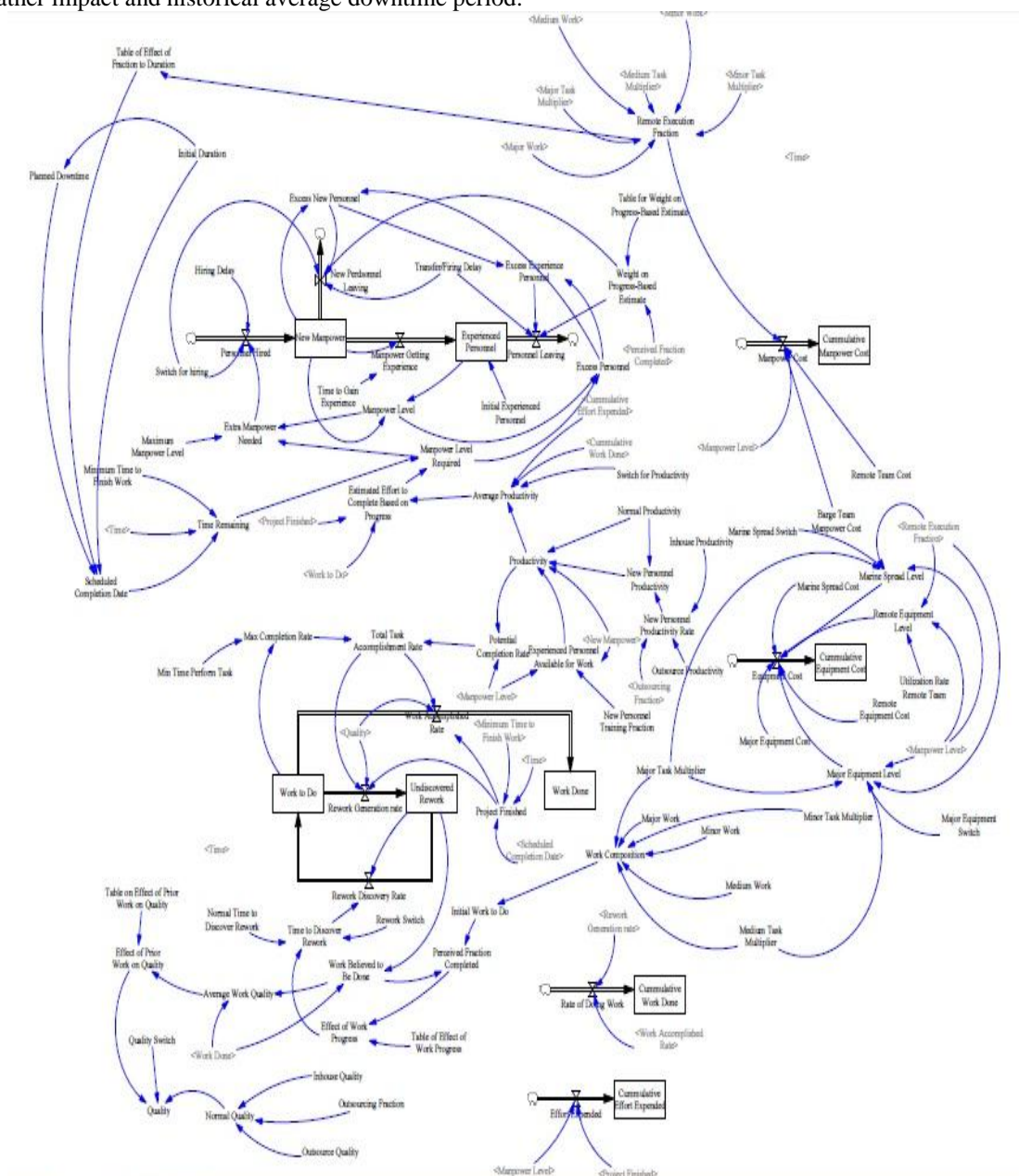


Figure 1. SFD Model for Brownfield Offshore Construction Services

## FINDINGS AND ARGUMENT

The result of running the model shows that the 100% Remote case always presents the greatest effort (time) to complete the offshore construction work during any period during the project duration. Fully remote execution is not effective for major scale and critical project which has time constraint such as Platform modification during annual shut down.

Time-cost trade off is inevitable in offshore construction. Full resource utilization with marine spread support will ensure the project completed within planned time, while decision to execute by remote crew will save the cost as well as extend the project duration significantly mainly due to weather disturbance. It is shown that remote (without barge support) offshore construction work completion date extends beyond the project completion date. Meanwhile it's shown that main offshore equipment composition will give the greatest effect in cost uncertainty during the execution period.

In case of 0% remote or total by marine spread package would produce more construction work done during the project than any combination of remote/barge. It also shows that the 100% Outsourcing case exceeded the budget restrained maximum staff level in order to complete the remaining construction tasking after the scheduled completion date. This model indicates that consideration to In-house staffing for key personnel (foreman and above) could completes the required construction tasks at scheduled project completion.

The average construction work quality increases during the project duration. As the project construction staff gains more experience, the amount of construction task rework diminishes. The model indicates that the partial Outsourcing produces the best overall average construction work quality.

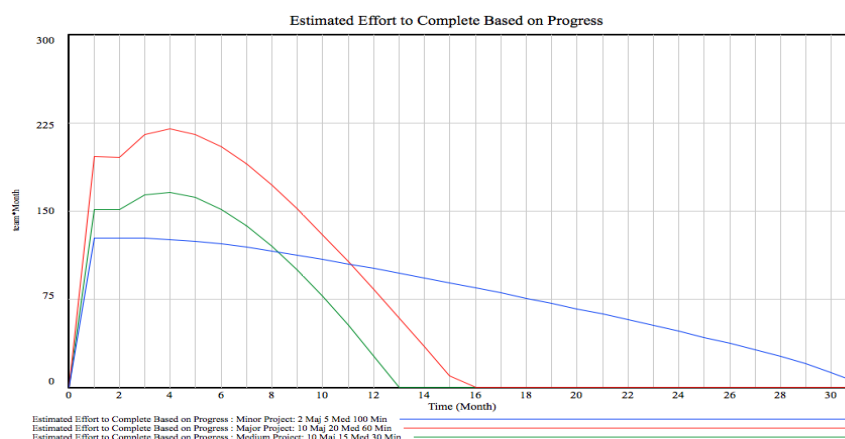


Figure 2: Estimated Effort to Complete Based on Progress

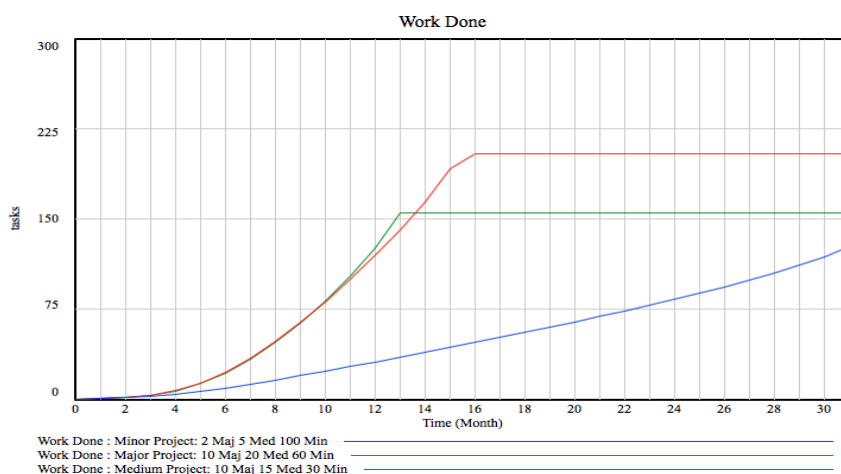
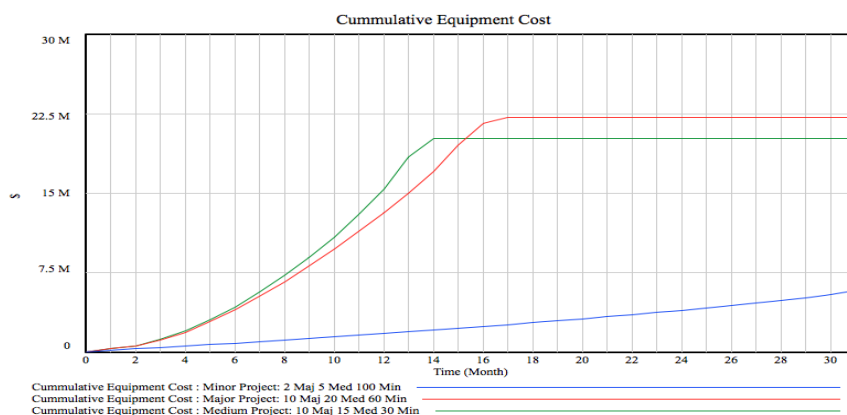


Figure 3: Construction Work Done for Each Project



**Figure 4: Cumulative Equipment Cost**

## CONCLUSIONS

Literature's study in detail for offshore construction services on certain scale of projects still limited. From the results of this literature review and preliminary model, the decision to remote or fully resource supported construction services, the work composition and assigned time on offshore small capital projects may have significant cost (and time) impacts which should be considered by decision makers.

Comprehensive sensitivity analysis of various initial parameters, including: (1) initial number of experienced personnel assigned, (2) work package scaling in the Industry (3) the initial number and duration of assigned construction tasks and (4) the modelling of weather sensitivity and impact will be performed in a future study. Additionally, the model will be modified to incorporate design scope changes during the project duration and associated impacts to the project will be studied.

The duration of project is the main parameter to the overall cost both for remote and non-remote offshore construction. Further study and research in optimization model for downtime duration with consideration of weather condition and impact in several offshore areas in Indonesia is important to get more accurate modelling for project duration. The modelling for Greenfield and Big Capital projects with different characteristic is possible to be developed. Critical and urgent project which focus on completion duration may need adjustment in remote fraction formula.

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# DEVELOPING POLICY TO INCREASE CATTLE POPULATION, MILK PRODUCTION, AND IMPROVE FARMERS' WELFARE USING AGENT-BASED MODELING

## CASE STUDY IN PANGALENGAN, BANDUNG DISTRICT

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### EXTENDED ABSTRACT

The development of dairy industry in Indonesia is concentrated in Java and dominated by traditional farm with small-scale ownership where farmers do not get a big profit and the farm management is very simple. These farmers have low level of education, and most of them own dairy cattle that considered as savings. These can cause a reduction in the growth rate population of dairy cows. Using case study in Pangalengan, the largest population of dairy cattle, this research was aimed to answer questions about the behavior and decision of farmers that influenced by interactions with other agents or factors in the industry; and how to encourage farmers to increase the cattle population and milk production with the result of increasing income and sustainable business. Using cluster analysis, the agent that will be simulate divided into three categories namely (i) the motivated, (ii) the survived, (iii) the unsatisfied. Next the agent-based modeling and simulation was develop based on the interaction between farmers..

**Keywords:** : agent-based modeling and simulation, dairy industry, cluster analysis, policy development

### INTRODUCTION

The biggest challenge in dairy industry in Indonesia is to fulfil the need of milk consumption. Low productivity, limited capacity of cattle cage, limited resource of forage, low selling price of fresh milk, lack of government support are some of the causes of cattle farmers not able to support the industry, not to mention maximizing the business outcome. Among all of those factors, the behaviour of the farmer is one of the inevitable component that shape dairy industry as well. Dealing with factors that form the gap between what needed and the reality, the problem in dairy industry can be considered as complex problem. Thereupon, to develop policies on improving the productivity of dairy cattle industry so are empowerment of the farmers, this research adopt agent-based modelling and simulation to describe the behaviour of the farmers and observed the emergent properties of the farmers' behaviour though several scenarios.

### LITERATURE REVIEW

Indonesia dairy industry is anything related to the supply of fresh and proceed milk to meet national needs. According to Thornton (2010), several factors that can modify livestock production and consumption trends in the future are: (i) competition in resources, (ii) climate change, (iii) socio-cultural, (iv) ethical concern as a driver change and (v) uncertainties related to technological development and social and cultural change.

In the dairy industry, farmers are the main actors in raising livestock for the production. The tendency preferring personal advantage than overall business development has been the classic issues that cause poor performance on dairy industry. Most farmers, that have uneconomical business, struggling on fulfilling their daily needs, hence they look for another more profitable source of income than deveoping their dairy business. Cindy (2010) states factors that influence the deicison making of farmers namely capital, motivation, perception, learning (experience), interests, education, ability to take rists, self-empowerment and farmer's age. Because farmers in the main actor in the industry, the individual farmers' decision will directly influence the global dairy industry.

Dairy industry can be considered as a system which there are several entities –community, institution and governments– interact with one another. The nonlinear interaction among the entities creates complexity that can not be captured by analytical expression. Another alternative to capture the situation is by creating a simulation model. According to Harrison et.al (2007), steps in doing the agent-based modeling and simulation are: (i) modeling the systems that will be studied which consists of a set of behaviors and rules, where variables in the system can change from time to time, (ii) the model is translated into computer codes, which are then validated for the accuracy of the simulation model (Schmid, 2005), then (iii) run the results for some period of time.

### METHODOLOGY

This research was conducted in Pangalengan, Bandung District. Using purposive sampling, considering the number of dairy cattle population in each village, there were 5 out of 13 villages was taken as sample.



To develop the simulation model, several data was collected through: (a) *observation* on how the physical and technical condition of the location, access to the location, place to be visited, number of respondent used and relationship between stakeholders, (b) *Focus Group Discussion (FGD)* with The Department of Animal Husbandry and Fisheries of Bandung District and Dairy Cooperatives (KPBS) in Pangalengan, (c) *archival records and document* to identify number of farmers, dairy cattle population and structure of population, milk productions, farm conditions, and the condition of farmers' family, and (d) *questionnaire and interview* to identify type of respondent, educational level, number of family member, experience and status of dairy cattle business, barriers and motivation of the respondents in running the business.

### 1. Agent, Spot, Activity, Interaction

Number of agent being modeled is 3200, represent active farmer in Pangalengan and registered as member in KPBS. Type of agent being modeled can be divided into three, namely: (i) *the motivated*, (ii) *the survived*, and (iii) *the unsatisfied*.

There are two spots develop in the model: (i) *cage* is where each agent are assigned, and (ii) *data* is the data base center for simulation that contains accumulated data to be used to calculate the parameters in the simulation such as the total population, total productive cows, total income, total expenses, and total saving.

Component and interaction of the dairy system provide in Figure no. 1

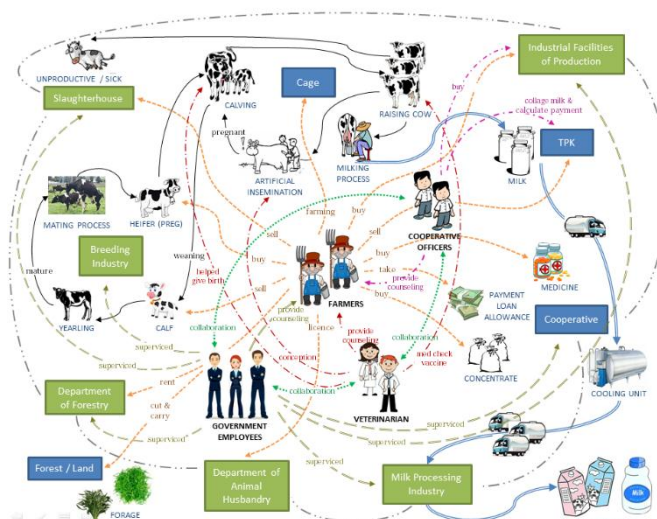


Figure 18. System of Dairy Industry in Pangalengan

### 2. Simulation Process

The simulation was using Spot Oriented agent Role Simulator (SOARS) 4.1.1, an agent based program developed by Deguchi Laboratory, Tokyo Institute of Technology, focus on the interaction between agents. The simulation framework in based on the perception of each farmer, which affected by the condition of their welfare, needs, capabilities, government regulations, resources, social affairs, trends, and price. Those components will determine their decision rules which affect the activities, include taking loan or taking another job.

In their activities, the farmers will take several decisions in running their farm business, which closely related to the elements of production: feeding, breeding, and management. In dairy production, there are cattle population and milk production, which used as indicators of the development of the dairy industry. The higher productivity of farmers, the higher dairy production, then the level of welfare of the farmer will be higher, vice versa. The welfare will influence their decision rules for their next activity. It continues repeatedly and forms a loop (see Figure 2 for detail).

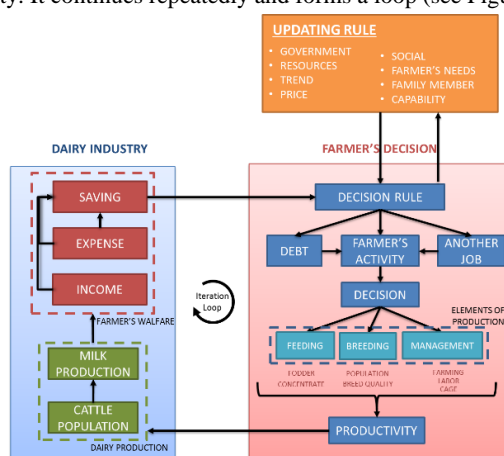


Figure 28. Model of Simulation

### 3. Experiments

The experiment for the model was aimed to propose the effective policy for the development of dairy industry in Pangalengan. There are four scenarios being tested for this model with four condition. The detail for experiment of simulation can be seen in Table 1.

**Table 10. Experiment of Simulation**

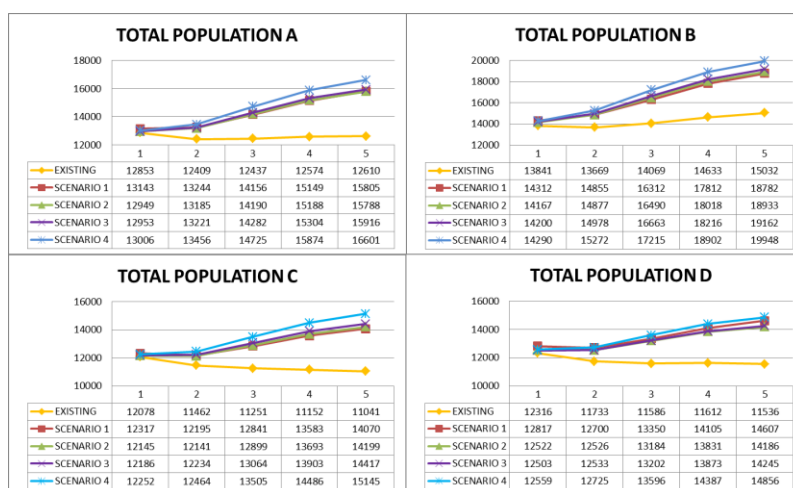
SCENARIO		CONDITION			
		A	B	C	D
		1067 : 1066 : 1067	1600 : 800 : 800	800 : 1600 : 800	800 : 800 : 1600
0	Existing condition	<ul style="list-style-type: none"> <li>Concentrate: Rp.1.600/ kg</li> <li>Milk price: Rp.3.400/lt</li> </ul>			
1	The government provides heifers to be granted	<ul style="list-style-type: none"> <li>In initial stage, every farmer type 3 add 1 heifer</li> <li>Concentrate: Rp.1.600/ kg</li> <li>Milk price: Rp.3.400/lt</li> </ul>			
2	The government raises the basic price of milk in the farmers' level	<ul style="list-style-type: none"> <li>Concentrate: Rp.1.600/ kg</li> <li>Milk price: Rp.3.500/lt</li> </ul>			
3	The government provides funds to subsidy cattle feed	<ul style="list-style-type: none"> <li>Concentrate: Rp.1.475/ kg</li> <li>Milk price: Rp.3.400/lt</li> </ul>			
4	Combination of scenario 2 and 3	<ul style="list-style-type: none"> <li>Concentrate: Rp. 1.475/ kg</li> <li>Milk price: Rp. 3.500/lt</li> </ul>			

## RESULTS

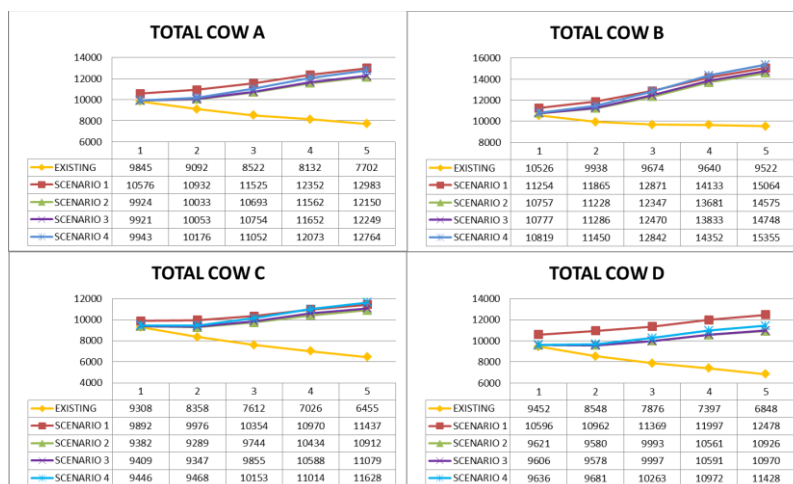
The result of the experiments will be observed through four outcomes such as total dairy populations, total cow, milk production, income, expenses, and savings.

Figure 3. shows the implementation of four scenarios can increase the population of dairy cows in all four conditions. Although, among those four scenarios, the 4<sup>th</sup> scenarios can reduce the production costs and increase the income of farmers, so farmers will able to save more money and eventually buy more cattle to expand the business. In the simulation, farmers have the rule in deciding to increase the cattle population, which is in the stage “Purchased HE”, where farmers who have certain amount of saving, have a possibility to buy a pregnant heifer. This heifer in a few months will give birth to a calf, so the total of dairy cattle population increases significantly.

For the total cow population that shows the biggest difference is in the application of scenario 1 in condition D. This happens because in the first scenario, the government granted the dairy cows to farmers type 3 or “The Unsatisfied”, also this type of farmers dominates the systems in conditions D. The output of this parameter is very important in the effort to develop the dairy industry, because the biggest



**Figure 29. Total Population Simulation Result**



**Figure 30. Cow Population Simulation Result**



influence on the amount of milk production is the number of cow population (see Figure 4).

Regarding the milk production, purchasing a cow can directly increase milk production, but in the economic calculation in the farm business, purchasing a pregnant heifer is a good investment (see Figure 5. for detail).

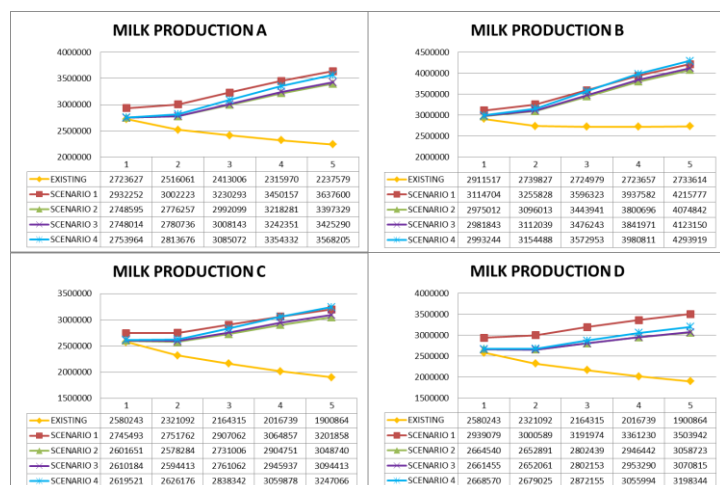


Figure 31. Cow Population Simulation Result

The last outcome related to savings of the farmers. Saving conditions A, B, and C will accumulate more if the 4<sup>th</sup> policy scenario applied, but in condition D, where the farmer type-3 get livestock grants from the government, the implications of the 1<sup>st</sup> policy scenario provide a better output



Figure 32. Average Expenses Simulation Result

## CONCLUSIONS

From the analysis data, the main problems in dairy industry in Pangalengan are the low production of milk due to the decreasing of lactation cow population and the lack of motivation from the farmers in running their business due to the low income of the farmer. The simulation result, all scenarios provide a significant contribution to increase cow population, milk production, and farmers' welfare.

The system models that are closest to the real situation of dairy industry systems is condition C, there "the survived" farmers are dominant in the system and inhibit the growth of cow population because these farmers are not able to raise cattle in large quantities. This fact shows that the farmers in the system of the dairy industry at Pangalengan is dominated by farmers type-3.

Comparing all the scenarios, the most contributing scenarios is scenarios 1 and 4. Scenario 1 provide food output if applied in condition D, but in fact the government has limitations in providing livestock grants for farmers. Providing livestock to be granted to farmers is just live giving business capital to farmers. The 4<sup>th</sup> scenarios can greatly ease the burden on farmers.

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## SHARING LOGISTICS WITH SINGLE COURIER AND MULTIPLE CONSUMERS

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### EXTENDED ABSTRACT

As the sharing economy grows and is accepted by market, the application spread to various sectors, including logistics. This research studies peer to peer delivery services as part of sharing logistics activities. Current practice of peer to peer delivery services are usually expensive due to its customized services, thus the models are only available for short distance; or have low services availability for long distance services. Therefore this research attempts to propose a model of peer to peer delivery services where a single courier could provide delivery services for multiple consumers, such that it could attract both truck owner and consumers to participate in the sharing logistic platform. This paper explains the process of sharing and provides algorithm for a platform to match courier and consumers. Furthermore, it is expected to find out the feasibility of the model through simulation.

**Keyword:** *peer to peer delivery, sharing logistics, sharing economy, peer to peer logistic*

### 1. INTRODUCTION

Following the fast-growing proliferation of the internet, the world is now being introduced to the term ‘sharing economy’. The idea of the sharing economy, or often articulated as ‘collaborative consumption’ or ‘peer to peer economy’, basically emphasizes that resources are not necessarily owned to be utilized. Instead, the owner of the resources and the one in need of the resources could agree on a coordination that benefit all parties. The ‘sharing’ activities might find forms in renting, lending, trading, bartering, and swapping of goods and services (Möhlmann, 2015).

Despite the fact that sharing economy has not been protected by regulations in some countries, the notion is adopted in many services industries *i.e.* transportation (e.g. Uber, Grab, Zipcar, GoJek), accommodation (e.g. Airbnb), financial services (e.g. peer to peer lending), equipment or vehicle rental (e.g. NeighborGoods, car sharing), and labor hire services (e.g. TaskRabbit, Sribulancer). Besides those, it is also adopted in logistics services industry. The business model for sharing logistics economy has been varied, ranging from short distance simple delivery services to global delivery services involving purchasing; from fix rated price based on distance to a platform where the customer could choose courier with the most attractive bid. UbeRUSH and PeerShip in the USA, BECK Instant in India, and Go Send in Indonesia are examples of peer-to-peer short distance simple delivery services. Dollie and Go Box are examples of truck sharing model, providing services for moving large volume items. Nimber and BECK Friends are examples of global peer-to-peer delivery services. In addition, there are also peer to peer delivery services that include purchasing, such as Grabr and Bistip for global distance; and GoMart or GoMed for short distance.

Therefore, in this paper we introduce the term ‘sharing logistics’ to cover any kind of business model of sharing economy in logistics sector. The term refers to peer to peer activities providing logistic services, including purchasing, transportation, delivery, and storage, connected through online based platform. However, this paper will mainly focus on parcel delivery services as part of sharing logistics activities.

The application of sharing logistics still faces some issues. Besides common issues faced by other sharing economy model such as security problem, sharing logistics also has issue on price and service availability.

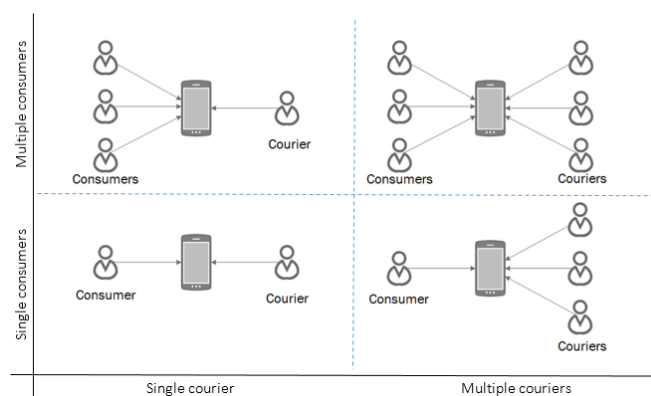
Although many services of sharing economy are perceived to be less expensive than similar conventional services, the same case does not apply for current existing sharing logistics. Current sharing logistics, such as UbeRush and Go Send usually employs a courier to deliver parcel for a consumer, leading to customized satisfactory services. As the distance is short, the price can come at affordable level as exchange for quick delivery service, although it is more expensive than regular parcel delivery (Stiglic et al., 2015). However, when the business model is extended to long distance delivery service, the price could get dramatically higher while the delivery time could not get any shorter. In long distance peer to peer delivery services, it is usually started by announcement of the courier on his/her free capacity. Only after that, the logistics services are available. These problems leads to low service availability for peer to peer long distance delivery services.

As solution of this problem, we propose a algorithm for peer to peer delivery services with affordable cost and high service availability. This paper will discuss the sharing logistics platform, where couriers could maximize the utility of their capacity by enabling a single courier to provide services to multiple customers, leading to low operational cost. This model is expected to attract couriers as well as consumers to participate, especially small and medium enterprises, which is known to rely much on parcel delivery services.

## 2. LITERATURE REVIEW

Sharing economy refers to peer-to-peer based activities involving coordination for resources utilization between individuals connected through internet-based platforms without transferring ownership of the resources (Lessig, 2008; Botsman, 2013; Belk, 2014; Hamari et al., 2016). Sharing economy allows individuals or organizations to have access on assets they do not own (Hamari et al., 2016; Lessig, 2008). In terms of mobility sharing economy includes vehicle sharing, ride sharing, and sharing of delivery ride (Shaheen & Chan, 2016).

In peer to peer activities, there are providers, who share the resources and offer services; consumers, who uses the services; and internet based platform, through which they communicate and perform transactions (Schor, 2016). In peer to peer delivery services, the provider will be addressed as courier. According to the shape of the network, we identify that there could be four types of network in peer-to-peer activities as shown in figure 1 (Agatz et al., 2012; Furuhashi et al., 2013), where each type has its own characteristics and different problems.



**Figure 1** Sharing logistics models based on network

Single courier-single consumer network is adapted by short distance peer to peer delivery services, such as UbeRush, BECK-Instant, GoJek, GoSend, GoBox and GoMart. Main problem in such model is matching problem between courier and consumers (Agatz et al., 2012, d'Orey et al., 2012). Single courier-multiple consumers can be found in Grabr or Bistip. Routing problem for courier is prominent for this model (Agatz et al., 2011; Linares, Barcelo & Montero, 2016). Model with multiple couriers is suitable for consumers need to utilize large size of divisible resources. This kind of model has not been found in practice, to current condition. However, ridesharing has been discussed in such model, emphasizing on routing problem for riders (Teubner & Flath, 2015; Masoud & Jayakrishnan, 2017).

This research in sharing logistics is focused on the second type of network, where a courier, as service provider, could receive and deliver parcels for many consumers, as long as they can be contained by the provider's capacity. This kind of network has been discussed by several research papers, mostly using case of dynamic

ridesharing. Research on dynamic ridesharing assumed automated matching performed by the platforms (Agatz et al., 2012). In such assumption, both consumers and providers announce their needs and offering to platform, to be later matched by the platform. To this assumptions, the objectives of the sharing system could be to minimize distance, minimize time, or maximize number of consumers (Agatz et al., 2012). All kinds of objectives aim to minimize cost, with different basis. It is important to recognize that system-wide optimal solution might not be same with one of individual solution. The tradeoff between both solutions are modeled with stable matches concept (Wang, Agatz, & Erera, 2014)

Number of studies have been done to formulate the way to picking up in ridesharing cases. Stiglic et al. (2015) compares the advantage of meeting point rather than door-to-door pick up. In this sense, optimal meeting point also has been studied (Stiglic et al., 2015; Czoska et al., 2017). Despite advantages of meeting point, other research are performed to find optimal route for door-to-door pickup and delivery (Bereglia et al., 2010). Linares et al. (2016) developed Decision Support System to solve the problem. Other approaches used by previous research are using simulated annealing to minimize driver's cost while maximizing rider's satisfaction (Lin et al., 2010); or to use simulation to minimize detour distance (Geisberger et al., 2009).

While previous research focused on moving people, this paper discussed the application of similar networks for transporting goods in frame of parcel delivery services. Goods are different with people in sense that they cannot move by itself, and the capacity allocations cannot be performed as it is done for people. Besides that, some type of goods need particular material handling to keep the quality and cannot be transported together with certain type of material. Despite the unique characteristics of parcel delivery service in collective long distance peer to peer delivery service, there is hardly any research discussing this area. Therefore this research is aimed to answer how a platform of sharing logistic provides a mechanisms for peer to peer delivery service with single courier and multiple consumers.

### 3. METHODOLOGY

This research will employ modeling and simulation. In the simulation, secondary data of small business centers will be utilized as consumers' origins and randomly generated points will be used as consumers' destinations. The general algorithm for the simulation is provided below. Several assumptions are made in modeling process *i.e.* that couriers pick up parcels from a city and deliver them to another city; and that price for consumer is fix-rated based on detour distance.

### 4. PROBLEMS AND SIMULATION ALGORITHM

In this model, both couriers and consumers should announce their offering and needs in the online platforms. A consumer's announcement should state origin position, destination, desired delivery time, dimension and weight of the parcel, material of parcel, and special request if any. On the other hand, a courier's announcement should include departure origin, departure time window, estimated arrival time window, volume and weight capacity, and material types. There should be time limit for courier to take order before actually departs from his/her origin.

Some couriers might not have preferences on material types or does not have prearranged destination and departure time. For such cases, those variables will follow the first order accepted by the courier.

The platform will not automatically match the consumer to courier. Instead, it would give notification of recommendation to both courier and consumer if there is a potential match each could accept more than one recommendation. After that, a courier could request to take the order of a consumer or *vice versa*. The consumer or courier should accept the request before they are actually assigned to each other.

#### *The Algorithm*

In order to be able to give recommendation, the platform should process the informations input by couriers and consumers. Firstly, the screening is performed upon three constraints *i.e.* material categories, weight, and volume. The material of the parcel ( $mat_j$ ) should suit with courier requirement ( $mat_i$ ), in terms of similar requirement on material handling ( $mat_i = mat_j$ ). Furthermore, weight of parcel ( $Kw_j$ ) should not exceed available weight capacity ( $Kw_i$ ), such that for each courier  $i$  and consumer  $j$ ,  $Kw_i \geq Kw_j$ . Same rules applies for parcel dimensions *i.e.* length ( $l$ ), height ( $h$ ), and width ( $w$ ).

After the screening, the system will sort recommendation for each participant. For courier, the order will be based on detour distance should be made to pick up and deliver a parcel. Meanwhile, for consumers, potential courier match will be sorted based on price, which is set according to distance. Therefore, for each courier  $i$  and consumer  $j$ , the system will calculate detour ( $d_{ij}$ ) from original route ( $D_0$ ) that should be made by the courier to take the order, and then calculate the consumer's price ( $p_{ij}$ ) and courier's commission ( $r_{ij}$ ).

After a match is built, system should update the free volume and weight capacity. Unlike weight capacity that is easily calculated and updated ( $Kw_i = Kw_i - Kw_j$ ), volume capacity is not as simply calculated, as it involves optimal three dimensional arrangement. Furthermore, to calculate the detour distance, the system should first solve the shortest path to pick up every single parcel from courier's origin and deliver every parcel before courier's destination. This problem is known as dynamic pick up and delivery problems. The process would stop if either one of these conditions happen: maximum volume capacity has been reached; maximum weight capacity has been reached; or the time to take order is over.

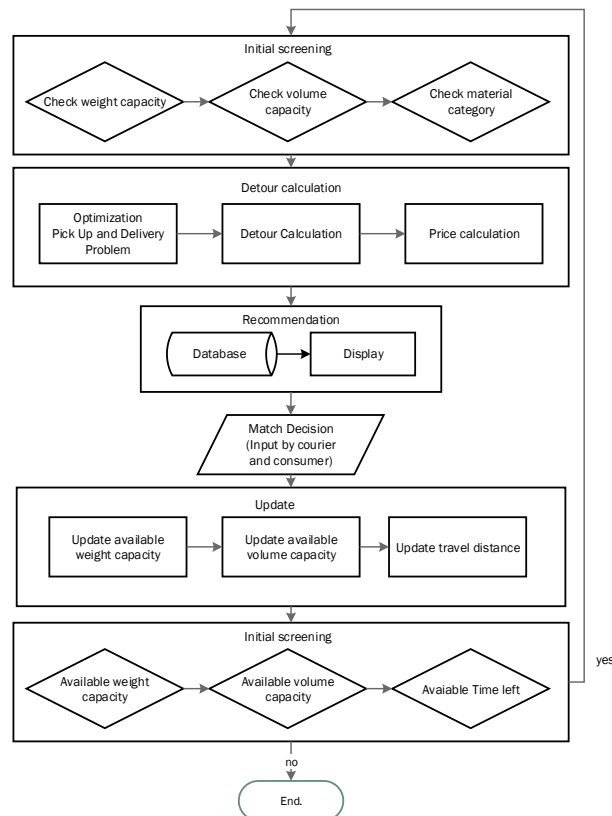


Figure 2 Algorithm in flow chart

## 5. EXPECTED RESULT

The algorithm will then be simulated using data of small business centers in province of west java as consumers' origins and randomly generated points for consumers' destinations. From the simulation, we expect to see the feasibility of the model to actually be practically implemented, and whether it will achieve the objectives to provide low cost peer to peer delivery service with high service availability.

## 6. CONCLUSION

The emerging of sharing economy has been changing the way people, produce and consume goods and services. As the sharing economy grows and is accepted by market, the application spread to various sectors, including logistics. Peer to peer logistics have been implemented in various business model and various networks structure. However we found that peer to peer delivery service is either expensive or have low service availability. Therefore, the model in this paper is aimed to provide low cost and highly available services for peer to peer delivery services, suitable both for short distance and long distance services.

We adopted network with single courier and multiple consumers, so the capacity of the vehicles could be maximally utilized. In this kind of network, matching and routing problem usually become the main issues. However, as our model let both courier and consumers to match themselves through a mobile online platform, our model will be focused more on route determination and detour calculation that will be base of price and commission calculation.

In practice, there are several issues that should be solved before this model goes into practice. Pricing strategy should be decided considering that price for consumer could be depends on the courier's destination, and might be also affected by other consumer's destination. Besides that, cancellation could also be moral issue. It is highly possible in such system that a courier cancel a consumer, in order to free its capacity for more attractive consumer. The commissioning system should be designed to avoid such things. However, as these issues are outside focus of this paper, it can be reference for further study.

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## IMPROVING COMPENSATION SYSTEM TO REDUCE EMPLOYEE CONSTANT ABSENTEEISM IN STONE CAFE, BANDUNG

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### EXTENDED ABSTRACT

As a restaurant playing in a high competition area, Stone Cafe needs to have employees with good performance so that they can compete with other restaurants nearby. Employee satisfaction in working at a company becomes important to ensure the employees perform well. To find out about employee satisfaction in Stone Cafe, the researcher conducted a questionnaire regarding compensation, performance appraisal, and training to the employees in which the result shows that many of them are not satisfied with their basic salary because the salary that they received is not compatible with the work demand and the job responsibility. The researcher then carried out an interview with the restaurant's Assistant Manager in which he stated that there are employees who are constantly being absent from work. The objective of this research is to improve the compensation system in Stone Cafe and recommend a set of basic salary options for Stone Cafe to choose from as a way to make the employees more satisfied with the compensation system and lead to a decrease in employee absenteeism. The research methodology used in this paper is job based structure to determine the pay structure for each positions in Stone Cafe. In evaluating the job, the researcher will be using point method and competency based as the compensable factors where the competencies will be taken from Spencer and Spencer competency dictionary. The expected finding of this research is a set amount of basic salary for each jobs in Stone Cafe that are more suitable for them.

**Keywords:** : basic salary, compensation, competency, employee satisfaction, restaurant

### INTRODUCTION

According to Tanjung (2016), Bandung is one of the top-three most visited cities in Indonesia because of its landscape and delicious culinary treats which is why restaurants and café that are located in the highland part of Bandung becomes very popular among tourists. There are 366 restaurants in 2015 listed in Bandung City in Figures 2016 Report (Badan Pusat Statistik Kota Bandung, 2016) and the sector of trade, hotel, and restaurant is accounted for the largest contributor in Bandung's Gross Domestic Regional Product (Badan Pusat Statistik Kota Bandung, 2015). Stone Cafe is a restaurant located in Dago Atas, Bandung which was established in. The price in The Stone Café ranges from Rp 20,000 to Rp 200,000 with most of the dishes come in with a price around Rp 50,000. Looking at the dishes options and the price, The Stone Café's target customer is family in middle to upper class. It is further supported by the interview with the Assistant Manager, in which he stated that their target market is indeed family from middle to upper class. The location of this restaurant is high in competition as there are a lot of other restaurant and café in Dago Atas area such as Congo Gallery & Cafe, Sierra Café & Lounge, The Valley, Vitamin Sea, The Parlor, Coco Rico, Fashion Pasta, and many others. As a restaurant playing in a high competition area, The Stone Café needs to have employees with good performance and attitude especially toward the customers, so that they can compete with other restaurants nearby. In order to have good employees, The Stone Café must be able to manage their employee well. Employee satisfaction in working at a company becomes important to ensure the employees will perform well which in turn effect the overall performance of the company. Employees as company's main resource, are demanded to give their best service and optimum performance so that the customers can be served and feel satisfied with the service. To identify the problem, the researcher conducted a questionnaire regarding compensation, performance appraisal, and training conducted to find out about employee satisfaction in Stone Cafe as those three components are part of human resource management activities within a company for improving the performance (Dessler, 2015). The questionnaire was distributed to Stone Cafe's employees and the result shows that 79% of the employees are already satisfied with the training and 70% are already satisfied with the performance appraisal. However,



54% of the employees are not satisfied with their salary because the salary that they received is not compatible with the work demand and the job responsibility. An interview with Stone Cafe Assistant Manager was conducted to further identify the problem and it was found that there are employees who are constantly being absent from work.

The objective of this research is to improve the compensation system in Stone Cafe and recommend a set of basic salary options for Stone Cafe to choose from. According to AMO theory, motivation is one of the characteristics that contribute to employee performance (Milkovich, Newman, and Gerhart, 2014) and based on Equity Theory of Motivation, people are highly motivated to keep their perceived contribution and the rewards they received at balance state (Dessler, 2015). Compensation is defined as a return employees received for their investment in education and training and contribution of time and energy at the workplace (Milkovich, Newman, & Gerhart, 2014). The methodology used in conducting this research is job analysis and job evaluation, more specifically point method. In doing that, the compensable factors will use competency from Spencer and Spencer Competency Dictionary. The result from this research will generate a set of basic salary where the Assistant Manager can choose from.

## **LITERATURE REVIEW**

Human resource management is the process of hiring, training, appraising, and compensating employees, as well as managing employee-employer relationship concerning health, safety, and fairness (Dessler, 2015). In Ability, Motivation, and Opportunity theory, or AMO theory, Performance (P) is a function (f) of three factors which are Ability (A), Motivation (M), and Opportunity (O). Based on that theory, HR system will be most effective when

employee ability is developed through selective hiring and training, compensation system that motivates employees, and employees have an opportunity to make an impact (Milkovich, Newman, and Gerhart, 2014). Compensation is the key to motivating employees to fully utilize their abilities that are necessary for the company (Milkovich, Newman, and Gerhart, 2014). Carmona (2014), cited by Pratiwi (2014), stated that employee satisfaction can lower the number of absenteeism because people who are not satisfied with their job will tend to call in sick even when they are well enough to work.

Compensation is defined as a return employees received for their investment in education and training and contribution of time and energy at the workplace (Milkovich, Newman, & Gerhart, 2014). Employee compensation includes all forms of rewards going to employees which turns up from their employment (Dessler, 2015). According to Milkovich, Newman, and Gerhart (2014), the returns employees receive can be categorized as total compensation and relational returns. Relational returns refer to psychological benefit while total compensation refers to transactional return that includes pay received directly as cash and indirectly as benefits. Job based structure is one of the approach to design pay structures so that the organization can maintain its competitive advantage (Milkovich, Newman, and Gerhart, 2014). In the job based structure, summary of work content will be collected in the form of job analysis and then the value will be assigned through job evaluation. After the job value has been calculated, the value will be translated into job based structure. In job based structure, employees are paid for the job to which they are assigned (Milkovich, Newman, and Gerhart, 2014). Job analysis consist of job description and job specification. Job description describes the job's task, performance indicator, responsibilities, work relations, and working conditions while job specification defines the person needed to operate the job (Dessler, 2015). Job evaluation is the process of systematically determining the relative worth of jobs to build a job structure for the organization (Milkovich, Newman, and Gerhart, 2014). One of the method for job evaluation is point method. Point method uses compensable factors with factor degrees numerically scaled and weights reflecting the relative importance of each factor (Milkovich, Newman, and Gerhart, 2014).

## **METHODOLOGY**

The methodology used by the researcher in conducting this research consists of five steps; problem and objective identification, literature review, data collection, data processing and analysis, and conclusion and recommendation. The researcher used qualitative approach in conducting an interview and quantitative approach in conducting job evaluation, more specifically point method. The result of salary calculation will be validated by means of interview before drawing the conclusion and making recommendation. Problem in Stone Cafe is identified by the researcher through questionnaires regarding employee satisfaction toward compensation,

performance appraisal, and training as well as an interview with Assistant Manager. In this research, the secondary data includes job description to know the responsibilities for each job position. The researcher reviews the company's job description to construct job analysis and determine competencies which act as the compensable factors. The researcher will determine the competencies based on an interview with the Assistant Manager and use Spencer and Spencer competency dictionary as the guideline. There will be three categories of competencies; core, functional, and managerial competencies, these three will be called compensable factors. Core competencies are generated from company core value, functional competencies refer to competencies that must be have by all employees in a functional division, and managerial competencies are competencies that all managers or someone with a subordinates must have. It is then followed by determining compensable sub-factors which are taken from Spencer and Spencer Dictionary. In addition to that, hard competency (education and experience) and working condition will also be used as compensable factors.

After that, job evaluation is conducted using point method. In conducting job evaluation, competencies in job analysis will be proceed by using Expert Choice software which is a software based in Analytic Hierarchy Process (AHP). The first step in doing point method after determining compensable factors and sub-factors is determining the weigh for each factors ( $W_i$ ) and sub-factors ( $W_j$ ). Expert Choice is used to ensure the level of importance or weight is constant. The Assistant Manager is involved in determining the importance of each factors and sub-factor too. After determining the weight for each factors ( $W_i$ ) and sub factors ( $W_j$ ), the weight of each sub factors will be timed by the correspond factor to generate  $W_{ij}$ .  $W_{ij}$  represents the importance of each sub-factors as a whole or total weight. The next step is to calculate the maximum job value for each sub-factors by multiplying the total weight with 100000. The maximum job value are the score for the highest level for each sub-factors. It is then followed by determining the score for the lowest level of each sub-factors by dividing the maximum job value with the number of scales in that sub-factor. As for sub-factors that have a level of 0, the value for level 0 is 0 and the calculation for the lowest level is used for level 1. For example Flexibility has a scale from 0 to 6 and has a maximum job value of 8920. Since it has a level of 0 in its scale thus the value for level 0 is 0 and the value for level 1 is found by dividing 8920 with 6 which is 1486.7. After that, the score for each level is found by doing interpolation to get interval between each level, the formula is shown below:

$$\text{Interval} = \frac{\text{Maximum Value} - \text{Minimum Value}}{\text{Number of Scale} - 1}$$

The last step in point method is to find job value by totaling all the competency value of the job. After finish with point method, job salary will then be calculated. To do that, benchmark to other company in the same

$$\text{Recommended Salary} = \text{Chosen Price Per Job Value Benchmark} \times \text{Job Value}$$

$$\text{Price per Job Value Benchmark} = \frac{\text{Benchmark Salary}}{\text{Job Value}}$$

industry is done and it will be divided by the job value and the result is called Price per Job Value Benchmark.

There will be 16 Price per Job Value Benchmark generated as there are 15 jobs in the restaurant and the additional one is the average Price per Job Value Benchmark. One of the Price per Job Value Benchmark will then be used to calculate the Recommended Salary by multiplying the Price per Job Value Benchmark with the Job Value, as it will be illustrated by the formula below:

After a set of basic salary options are generated as recommendation for Stone Cafe to improve their compensation system, another interview with the Assistant Manager is conducted to ask the company's representation regarding the salary recommendation from this research whether the result is acceptable, suitable and applicable for Stone Cafe.

## FINDINGS AND ARGUMENT

According to the organization structure that the researchcer got from the Assistant Manager, there are fifteen job titles in Stone Cafe which includes Assitant Manager, F&B Capatain, Waiters and Waitresses, Cleaning Service,

Security, Marketing, Accounting, Purchasing, Store Keeper, Cashier, Chef, Chef de Partie, Cook, Cook Helper, and Maintenance. The restaurant doesn't have company values so the core competency is generated based on an interview with the Assistant Manager in which he stated that all the employees must have flexibility, give their best performance while at work, pay attention on the service quality, and good manners toward customer. These values then transletted to core competency using Spencer and Spencer dictionary, as flexibility, concern for order, and customer service orientation. This finding has been validated through an interview with the Assistant Manager. Core competencies, Managerial competencies, Functional competencies, Hard competencies, and Working condirion are the five compensable factors used in this research. The compensable factors and its sub-factors are shown in table 1. In determining the weights of each compensable factors and sub-factors, the researcher asked the restaurant's Assistant Manager to pick the most important factor and compare it with the other factors. Expert Choice was also used to do Analytic Hierarchy Process (AHP) and the weights generated are shown in table 1 along with the total weight, maximum job value, and minimum job value.

The value for each level in the compensable factors is then found by calculating the interval and the job value for each positions is calculated by totaling all the competency value of the job. The result is shown in table 2. Price per Job Value Benchmark is then calculated by dividing the benchmark salary with the job value. Benchmark salary is obtained from other restaurants' benchmark and the assistant manager. The eighth highest Price per Job Value Benchmark is used as it is the most suitable one for the restaurant and its capacity, according to the Assistant Manager. The job salary for each positions are generated by multiplying the chosen Price per Job Value Benchmark by their job value and the results are shown in table 2.

**Table 1. Factors and Sub-Factors' Weights, Max Job Value, and Min Job Value**

Factor	Factor's Weight (Wi)	Sub Factors	Sub-Factor's Weight (Wj)	Wij (Wi x Wj)	Max Job Value	Min Job Value
Core Competency	22.3%	Flexibility	40%	8.92%	8920	1486.67
		Customer Service Orientation	40%	8.92%	8920	991.11
		Concern for Order	20%	4.46%	4460	637.14
		<b>Total</b>	<b>100%</b>			
Managerial Competency	12.9%	Impact and Influence	30.8%	3.97%	3973.2	496.65
		Directiveness	30.8%	3.97%	3973.2	441.47
		Developing Others	7.7%	0.99%	993.3	110.37
		Team Leadersip	30.8%	3.97%	3973.2	567.60
		<b>Total</b>	<b>100%</b>			
Functional Competency	52.7%	Initiative	32.6%	17.18%	17180.2	1908.91
		Expertise	18.0%	9.49%	9486	1185.75
		Interpersonal Understanding	6.1%	3.21%	3214.7	642.94
		Self-Confidence	10.7%	5.64%	5638.9	939.82
		Self-Control	32.6%	17.18%	17180.2	2863.37
		<b>Total</b>	<b>100%</b>			
Hard Competency	7.3%	Education	50%	3.65%	3650	1216.67
		Experience	50%	3.65%	3650	912.50
		<b>Total</b>	<b>100%</b>	<b>7.30%</b>		
Working Condition	4.8%	Comfort	87.5%	4.20%	4200	1050.00
		Risk	12.5%	0.60%	600	200.00
		<b>Total</b>	<b>100%</b>			
		<b>Total</b>		<b>100.0%</b>		

Table 2 Job Salary

Job Name	Job Value	Benchmark Salary (Rp)	Price per Job Value Benchmark	Recommended Salary (Rp)
Assistant Mgr	61079.55	4,000,000.00	65.49	6,165,499.62
F&B Captain	40713.42	1,800,000.00	44.21	4,109,698.95
Waiter	23429.21	1,200,000.00	51.22	2,364,994.49
Cleaning Service	13130.14	1,500,000.00	114.24	1,325,384.04
Chef	43191.52	9,500,000.00	219.95	4,359,843.85
Chef de Partie	33968.88	2,700,000.00	79.48	3,428,890.54
Cook	19813.33	2,000,000.00	<b>100.94</b>	2,000,000.00
Cook Helper	15837.21	1,500,000.00	94.71	1,598,641.38
Accounting	29871.12	2,000,000.00	66.95	3,015,254.40
Purchasing	14288.11	1,800,000.00	125.98	1,442,271.78
Store Keeper	13616.36	1,600,000.00	117.51	1,374,463.91
Cashier	13531.91	1,500,000.00	110.85	1,365,939.51
Marketing	31782.88	2,500,000.00	78.66	3,208,231.56
Maintenance	10248.56	1,200,000.00	117.09	1,034,511.75
Security	14322.58	2,500,000.00	174.55	1,445,751.80

## CONCLUSIONS

From the data processing and analysis, new sets of basic salary is generated in which they are more suitable as it takes internal and external alignment into account. Internal alignment ensures internal fairness as employee's pay is equitable in relative to what their colleagues in the company are earning (Dessler, 2015). External alignment refers to the pay of what other employees get, those with the same job but work at different companies (Dessler, 2015). Also, the new basic salary is calculated based on the job requirement or demand so that the salary received by the employees are now become more compatible with the job demand and responsibility therefore the employees can be more satisfied with their salary and balance between their contribution and the returns they get is perceived fair. Through improving employee satisfaction toward compensation system, it can be one of the solutions to reduce employee absenteeism. The limitation of this is that there are many factors that can influence employee performance and not just compensation. There are organization culture, leadership style, opportunity, working environment, relationship between colleagues and so on, however this research only focus on compensation system, more specifically basic salary, so the implication of this may not completely eliminate employee poor performance or in this case constant absenteeism. Also, the research doesn't continue to see whether Stone Cafe apply the new salary and what impact has it brought to the company if they choose to apply it.

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## MEASURING THE ROLE OF INFORMATION IN TRADEMARK REGISTRATION INTENTION

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### EXTENDED ABSTRACT

Micro and Small Enterprises have a prominent position in Indonesian economic development, making more than 98% of the total enterprises. MSEs also played an important role in providing jobs, contributing 90% of the total local workforce. However, there are several potential risks that are faced by the MSEs, one of them is trademark issues. Trademarks are particularly important for MSEs, mainly in the form of protection. However, the number of trademark registration is still very low, less than 1% in total. To identify the factor, an exploratory interview is conducted as a pilot research. The interview resulted that the information is the prominent aspect that affects the intention to file trademark. The second phase is the experiment, which see how much of the information can affect the intention. Despite the pilot result, the experiment exhibits only a minor margin of mean before and after the treatment.

**Keywords :** Trademark, Information, Micro and Small Enterprises

### INTRODUCTION

Micro and Small Enterprises (MSEs) have important and strategic parts in Indonesian national economic development. In 2013, There are more than 57 million business units in Indonesia, 98 % (57,843,615) of them are MSEs, with 2-4% growth rate per year, that means every year, there are more than a million new businesses emerge (Kementrian Koperasi dan UKM, 2013).

MSEs have strategic and unique position in economics. During the economic crisis in 1997 until 1998, MSEs could stand firmly. The crisis has little to no effect toward their economic conditions (Bank Indonesia, 2015). The number of MSEs keeps growing afterwards and in 2012, MSE had provided jobs for 107 million people (Badan Pusat Statistik 2012 in Bank Indonesia Report, 2015). This fact shows how important the role of MSE in Indonesia for economic development.

Bandung is one of Indonesian cities that have a great ambience upon entrepreneurial activities. 56% of the economic activities in Bandung are related to design, such as fashion, digital media, and graphic design (UNESCO Creative City Network, 2015). Furthermore, it is also often referred as a creative city due to its performance in creative industry (Pitoko, 2016). From the business aspect, the number of MSEs in Bandung is approximately 70,000 business units. It means, from the total of 265 million citizens of Bandung, 3% of them are businessmen (Fitriadi, 2014).

For MSEs, internet is an effective instrument to market their product. A newly emerged business does not have a lot of powers as the big ones, thus they need to use their resources as efficiently as possible to create competitive advantage within the industry. Internet may be one of the most convenient ways for a company to reach the customers, but the exposure given may harm the company itself. By having this wide marketing coverage, a business can be more susceptible from legal infringement, such as piracy, property rights stealing, and counterfeiting. To minimize those risks, one should make sure the business' safety. Therefore, to minimize those risks, the government has provided several instruments, such as trademark.

Despite of being exposed with legal risks like stated above, in the reality, there are still a lot of MSEs that have not yet registered their trademarks. In 2016, there are only 65,162 businesses in Indonesia who apply for trademark (World Intellectual Property Organization, 2016). This number is very small compared to the growth of MSE in Indonesia that reaches more than a million business units per year, approximately less than 1% of the total brands in Indonesia that have registered trademarks. Trademark registration is supposed to be an instrument for the business to protect their intellectual property but the implementation seemed below expectation.

The low rate of trademark registration level may occur due to lack of knowledge among the owners. Nurhalim (2014) suggested lack of knowledge is the fundamental reason for MSEs not obtaining legal entity status, including trademark. Moreover, most MSEs are developed in rural areas, with a relatively lower education level than in urban areas, which contribute to the low awareness of legality status among the owners (Nurhalim, 2014).

Therefore, looking at the factor stated above, this research aimed to investigate the role of information on the trademark registration intention.

## **LITERATURE REVIEW**

### **Micro and Small Enterprise**

In Indonesia Law No. 20 Year 2008, the criteria of a Micro enterprise earn equal to less than 300 million rupiahs each year, while Small enterprises make equal to less than 2.5 billion rupiahs per year.

According to The European Commission (2003) micro enterprise is an enterprise, in which less than 10 employees engaged and the annual turnover is below €2 million. Meanwhile, a small enterprises has fewer than 50 employees and the annual turnover is below €10 million.

### **Trademark**

According to the federal Lanham Act (in Rymsza & Saunders, 2009), a trademark is any word, name, symbol, device, or any combination of them used in commerce to identify and differentiate the goods from the others and to indicate the source of it. Not just acting as the product source identification, it also creates visual cues in the customers' mind that assist the product attributes and performance. Moreover, trademark also provides an authorization for the owner (Rymsza & Saunders, 2009).

In Indonesia, the principle of practicing this trademark law is considered first to file, which means the rightful brand owner is the one who register the brand to *Direktorat Jendral Hak Kekayaan Intelektual (Ditjen HKI)* first (Lindsey, 2005 in Wibowo & Hadi, 2015).

According to Indonesia Law No. 20 Year 2016 regarding trademark, a brand is a graphical mark, which is in the form of picture, sign, word, number, color combination, 2 or 3 dimensional graphic, hologram, sound, or combination of two or more elements stated above to differentiate the product or service that is manufactured for commercial purposes. The person applying for trademark recognition will receive a trademark right. A trademark right according to Indonesia Law No. 20 Year 2016 regarding trademark is an exclusive right granted by the government for the brand owner in a certain period of time.

Practicing registration and trademark in developed countries is a legal duty. For example, all business owners in Australia need to register to the government before commencing the business, including filing the business name. Other registrations such as trademark and domain name are also applicable in this circumstance (Australian Government, 2017). Privacy Act, Tax File Number, and Anti-Bullying Law are several other documents needed to be filed to get a license in starting a business.

Moreover, as Block et.al. (2015) said, there are 3 factors that motivates an MSE to register the trademark, which are protection, marketing, and exchange. These 3 factors act as benefits besides committing legal duty in commencing a business.

### **Law Enforcement in Indonesia**

In establishing an enterprise in Indonesia, there are some licenses that are needed, such as *Surat Izin Usaha Perdagangan (SIUP)*. However, completing license documents in Indonesia can be costly, in both financial and timing aspect. The World Bank (2010) identified that there are four main issues in establishing a company, which are 1) excessive cost in registering a company, 2) rigid regulations and extremely complicated bureaucracy, 3) inefficiency of institutes involved in the process, 4) participation of public notary, which can increase the cost of the process.

### **Information and Intention**

#### **DeLone-McLean Information Success Model**

According to DeLone-McLean model, one of the most prominent part to form someone's intention is the information quality. The information impacts both the satisfaction and the intention to use the system for the user (Mardiana et. al., 2015).

### **Deutsch & Gerard (1955)**

Deutsch, M., and Gerard, H. B. (1955) showed that one can be influenced by others, in the sense that the judgment are taken to be more or less trustworthy depends on the source. The acceptance is also determined upon whether the information is independent of one's visibility or knowledge to a referent.

### **Cognitive Dissonance**

Behavior does not always conform to one's belief and feeling. It can be suppressed due to competing attitude or act of defense to the others who disagree. Leon Festinger (in McLeod, 2008) suggested that people prefer their beliefs to be consistent with others and their own behavior. When inconsistency occurs, something must change to eliminate the dissonance. For example, a smoker always have an excuse of why he or she smokes, despite the health issues that may be faced.

## **METHOD**

This research was conducted in quantitative manner, through experiment. The experiment was performed to compare the results before and after a person was given an information about registering trademark. The survey was cited from Block et. al. (2015) journal article entitled "Why do SMEs File Trademarks? Insights from Firms in Innovative Industries". The experiment was conducted to 56 respondents, between the age of 18 and 40 that domiciled in Bandung and the method was quota sample.

The experiment was given in the both hardcopy text and online forms, in which the treatment given was in the form of information (infographic). The reason of giving information as a treatment was because of the pilot result, where most respondents said that their lack of knowledge affecting the trademark registration. The experiment design is stated below.

R	O <sub>1</sub>	X	O <sub>2</sub>
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Where:

R = Respondent

O<sub>1</sub> = Observation 1 (Survey 1, 1st phase)

X = Treatment, in the form of infographic (2nd phase)

O<sub>2</sub> = Observation 2 (Survey 2, 3rd phase)

The experiment was designed in three phases. In the first phase, the respondents were required to fill the Likert scale regarding trademark. The second phase was the stage where the respondents were exposed to the information, which was given in the form of infographic. In the last phase, they were being asked again regarding the trademark issues, similar to the first phase, but this time, the respondents had been given the treatment.

After getting the result of both first and second observation, the difference between the observations was analyzed using t-test.

### **Reliability and Validity**

Reliability test was needed for some alterations are made from the original questionnaire, with the intention of measuring the consistency of the measures (Hair.et.al., 2006). The consistency toward the adaptation and the original questionnaire needed to be tested by Cronbach's alpha, after it was considered unidimensional. The Cronbach's alpha for the data is 0.953, with minor unreliability margin in some statements, which decided to be kept.

Validity test was also performed, in which the variables that have below 0.3 of significance number, were immediately eliminated (Hair, et.al. 2006). Validity was required to test to which extent the set of measure correctly exhibits the concept of study. Validity of the data was tested in Excel using correlation coefficient, and resulted two statements considered invalid in each part, resulted a total of four statements.

## RESULT

The result of the experiment was different from the pilot study, where the mean between the variables are not significantly different, only 0.2. The result of the t-test also exhibits that the infographic used did not significantly impacting the intention to register the trademark. The value of t-test was 0.422787052843771, where the value of the t-critical one-tail was 1.67303396528991.

Linked to the Cognitive Dissonance Theory and Deutsch and Gerard (1955), Indonesian MSE owners may believe that trademark would bring benefits for the wellbeing of their enterprises, but their surroundings may fail them. The MSE owners may not see that the fellow owners register the trademark, which form a mindset that trademark registration is not really important. This behavioral deviation may be a result of a long exposure of the negative mindset toward trademark.

Indonesian's law enforcement is also relatively lower than other developed countries, such as Australia. This make MSE owners do not feel obliged to register their trademarks to the government. Moreover, the costly process hinders their intention to register the trademark. This condition supports the negative mindset toward trademark registration among MSE owners, which resulted in low level of trademark registration in Indonesia.

## CONCLUSION AND SUGGESTION

From the research that has been conducted, it is shown that giving treatment in the form of infographic does not increase the intention to register trademark. It is also possible that what the respondents' answer regarding the information is just the symptom, not the actual problem. Also, the law enforcement in Indonesia plays an important role in changing mindset among Indonesians.

For further research it is suggested to pay more attention to the other variables that appear in the pilot study, as it may lead to the root cause.

To increase the number of trademark registration in Indonesia, the government may have to put a little more effort to it. The government need to state how important trademark is to the society. More importantly, the government need to reform the registration system and improve the efficiency in the process. Thus, the registration issue may be reduced and resulted in a more efficient system, which is more preferable by the owners.

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## A SHORT ETHNOGRAPHY REPORT OF DIFFERENT BUSINESS APTITUDES OF EUROPEAN AND ASIAN

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### EXTENDED ABSTRACT

Individuals coming from different cultural background have different underlying outlooks on the world (Nisbett, 2003). This is because people from different groups typically work with different cognitive approaches to construct an understanding of the world around them. These unique habits are acquired from childhood or even from birth. We conduct a short ethnography study in London in UK and Bandung in Indonesia (1) to assess if there is really any different mode of thought between two different cultural backgrounds of Europeans and Asians; and (2) to analyze what is the different in entrepreneurial aptitudes between Europeans and Asians and how they go about with their respective business. The result shows that Asians have a broad contextual view of thinking and that they believe things are highly complex and come about as a result of many other elements. In contrast, the individualistic and independent character of Europeans renders them to focus on the particulars in isolation from the context and with the belief that by finding the fundamental rules of the object then they will have control of the object. The result is true in their respective business aptitude most notably in this research is in their different business aptitudes between the Europeans and the Asians.

**Keywords:** : entrepreneurship, entrepreneurs, business aptitude, cultural background,

### INTRODUCTION

Individuals coming from different cultural background have different underlying outlooks on the world (Nisbett, 2003). This is because people from different groups typically work with different cognitive approaches to construct an understanding of the world around them. These unique habits are acquired from childhood or even from birth. We conduct a short ethnography study in London in UK and Bandung in Indonesia (1) to assess if there is really any different mode of thought between two different cultural backgrounds of Europeans and Asians; and (2) to analyze what is the different in entrepreneurial aptitudes between Europeans and Asians and how they go about with their respective business. The result shows that Asians have a broad contextual view of thinking and that they believe things are highly complex and come about as a result of many other elements. In contrast, the individualistic and independent character of Europeans renders them to focus on the particulars in isolation from the context and with the belief that by finding the fundamental rules of the object then they will have control of the object. The result is true in their respective business aptitude most notably in this research is in their different business aptitudes between the Europeans and the Asians.

### LITERATURE REVIEW

Glaser and Strauss (1967), emphasize a greater concern with data and the field under study than with theoretical assumptions. The principle of openness necessitates that the theoretical structuring of the issue under study happens only after the structure itself emerges from the respondent and from the data collected in the field. In this approach, theories are not directly applied to the subject being studied. Instead, theories are learned and originated by working with the empirical data found in the field. Another important point is the selection of studied subjects, which are selected for their significance to the research. They are not merely selected to satisfy statistically-representative samples of a general population. The objective is not so much to simplify complexity and to break the issue into its construct variables, but on the contrary: the aim is to amplify complexity by embracing the context. Technical methods are selected to correspond to the issue under study.

The processes incorporated in grounded theory research mainly consist of theoretical sampling, theoretical coding, and building on the theory. This method highlights the interpretation of data, regardless of the data

collection technique. Thus, the issue of which technique and method to use for data gathering becomes less important. Assessing which data is to be integrated and which methods are to be strategically used for the research depends on the state of developing the theory following the analysis of data readily available at any given time.

## METHODOLOGY

After objectives of the study are properly identified, consideration is given to the means by which they are to be accomplished. The research will have a mix of research tools, which mainly consist of desk study and interviews complemented by questionnaires. In the desk study, a review of the literature is conducted to understand the theoretical foundation. This also prepares the way for the next step which is the in depth interviews.

Qualitative research intersects various fields of study, topics, and subject interests. It involves an interpretive attitude to the world. In a way it acknowledges the liberty of researchers to conduct “how” and “why” explorations and to document complex processes and relationships (Denzin and Lincoln, 2008). Discovering meaning and the manner in which people understand themselves and their world is the reason for choosing the qualitative research method. Denzin and Lincoln argues that qualitative research methods are valuable to update the condition of social behavior, program design, policy formulation, and to observe and assess changes over time.

Norbert Groeben (1990) developed the model to study subjective theories as an approach to investigate everyday knowledge. Subjective theory signifies the complex collection of knowledge regarding the topic under study possessed by the study subject. The knowledge incorporates assumptions, whether it is explicit and/or implicit, which interviewees can convey by responding to open-ended questions. The method enables the separation of the content of the subjective theory from the study subject and also enables the formulation of grounded theories to be constructed. In addition, case-oriented sampling strategies may be utilized. Accordingly, research questions that are engaged in this method concentrate on the substance of subjective theories and how they are applied, which is exactly what this research strives to study. The field work was done by way of:

1. Interview and Discussion with several traders from western ethnicity and Asian ethnicity in both markets.
2. Observation by staying and doing ethnographical research.  
 Researcher chooses to sit and stay with certain trader for whole day or make several rounds per day to see how they interact between them and with customer.

Stratford Market located in the ground floor gallery area of Stratford Centre, a shopping mall in London Borough of Newham. Built in 1974, it had been through a refurbishment and extension 1998. The centre is open access 24 hours a day as it is a Public Right of Way, although most of the shops close at night. Being situated opposite the busy Stratford Railway Station and bus station, the centre has been benefited from a high footfall through the centre, estimated at 21 million visitors every year, as many people use it as a cut-through between the stations and Stratford Broadway.

The market provide broad commodities, varied from fruit and veggies, bread, meat and eggs, to mattress and household supplies, electronic supports, mobile phone accessories, music recordings supplies, caricature art service, local souvenirs and flowers. Every Sunday, Stratford Centre Market opens its area for social traders who provide broad selection of more exquisite things as perfumes. Duration of observation in Stratford Market roughly 2-3 days per week for 5 month from February 2015 to July 2015.

Old Spitalfields Market is a covered market in Spitalfields, London. It is situated in the London Borough of Tower Hamlets, just outside of the City of London. The market can be reach within 5 minutes walk from both London Underground and mainline railway station is Liverpool Street and Shoreditch High Road overground Station. Old Spitalfields Market is one of the finest surviving Victorian Market Halls in London (built 1876). It provides a fashion, antiques and food offering, up-and-coming designers to bohemian, vintage and African designs. Niche shops, Sniff and boutiques Every Thursday, Old Spitalfields market is transformed into an antique fairs for both a serious collector and someone that dabbles in antiques as a hobby. Duration of observation in Old Spitalfield Market for 1-2 day per week for 4 weeks in July 2015.

## FINDINGS AND ARGUMENT

Stratford Market has indoor and outdoor area. Researcher conducted the research in indoor market area. Although Stratford Centre opens 24 hours, the market starts at 9.00 and finishes at 18.00 on Monday to Saturday. On Sunday, it opens 10.00-16.00. Most of the traders are regular traders, with the pitch's price of £35 except on Sundays when most regular traders take a day off, so the management decided to rent the place to social traders for lower price of £25. Being a regular trader means the trader has all the benefit of having a fixed place during his stay in the market for trade, along with an opportunity to rent a warehouse in the building next to The Centre to store their commodities. Among all traders, The Fruit Trader comes the earliest to set up his place and display his fruits properly. While The Mattress Trader and The Caricaturist end their trade at the latest time possible.

Old Spitalfield market has some differences with Stratford Market. Although it is a covered market, but it is basically an outdoor market with four open gates, therefore weather condition contributes a lot to the market's condition. The area opens 08.00-23.00 but the market operates from 09.00-18.00. Traders don't have a fix place for themselves as the system based on who comes earlier will get the best place. However, regular traders have their unofficial claimed pitch while casual traders need to hunt for pitch every morning. The pitch price is £20 from Monday-Friday and £65 on Saturday – Sunday.

## CONCLUSIONS

### Social Interaction in Stratford

#### 1. Between Traders

Traders positioned in close proximity tend to have a better relationship one to another. However, researcher found that some traders develop better friendship bond than the others. For instance, The Cloth Trader established a close communication with most other traders from Asian background and also with The Caricaturist. He is also keen on taking care of other trader. He's been helping The Caricaturist, which is not a regular trader, in letting him store his items and tools in The Cloth Trader's warehouse. Researchers stayed most time with the caricaturist and neighbours greet him every day, and the one from the faraway pitch who constantly greet him are only the Cloth Traders.

#### 2. Between Traders and Customers

Customer approach from The Caricaturist, The Mattress Trader, The Shoes Trader and The Cloth Trader were notably personal. For instance, giving bonuses or special price, with light small talks and prolonged chats sometimes about families. The Fruit Trader, The Flower Trader and The Bread Trader don't really show this style of approach. They make every transaction quick and straightforward. However, they are still responding well to customer's request or questions.

#### 3. Between Traders and Surroundings

One notable finding is that The Fruit Trader has a big gun (most probably a rifle) being kept with him in order to protect him, his business, and his family from criminals. He once said, it was triggered by the high level of drug dealers and buyers around the area. Researcher also noticed that every day he leaves some fruits or vegetables that most likely about to rot or just misshaped on the floor. These fruits either will be thrown by building's cleaners or will be collected by some homeless people. The Cloth Trader nourishes a good connection and network with his peers in the market and offers helping hand more. He also invited some other traders to his gratitude party when his wife delivered their first daughter. He believes that good will and helping hands will help in promoting strong bond between people in community, and eventually enhance the level of security against crime.

### Social Interaction in Old Spitalfields

#### 1. Between Traders

Since Old Spitalfields Market is bigger in the term of area covered and number of traders, it is naturally not really easy for the traders to know every each other trader. Researcher follows The Caricaturist here and observed that other traders show higher level of hospitality to him as a new comer, especially from accessories and fashion traders who come from Malaysia, Thailand, and Taiwan. Also food traders from India, Egypt, and Thailand are open for trade their food with a picture from the caricaturist. After the market time, some female traders with Asian ethnicity starts to help each other in taking care of the tables.

## 2. Between Traders and Customers

Most traders offer advice and suggestion to customer in making choice of purchase. Discount also offered occasionally when customer takes more than one item, and researcher found it is easier to bargain with people from Asian background, they also offer more servicing attitude and answer questions in more since manners. For example, there are two Pop Up Cards Trader from different ethnicity background. The trader from western ethnic group offers a card for £4 while the trader from Asian ethnic group offers a card for £5. However, The Asian Card trader shows more servicing attitude by initiating a small talks about customer's preference and suggests option of cards accordingly. The Western Card Trader does not show this attitude. In the other hand, customers can freely browse among the cards displayed at his booth and make the purchase once customers make up their mind, without interrupting them with suggestion or other option.

## 3. Between Traders and Surroundings

Researcher did not have sufficient amount of observing time to manage to obtain a reliable observation on this.

The Fruit Trader in Stratford applies one price for all (£1 a bowl) and around 4pm every day, he starts to yell out "One Pound a Bowl" to attract more people. The similar promotional style comes from The Perfume Trader when he starts to use a loud speaker and saying "Special for £5 a bottle only today" and explaining the feature of certain brand. The Cloth Trader and Electronic Supplier, on the other hand, creates personal touch in every transaction by offering special price or special service with some appalling conversation such as "when you return again to buy from me, I will give you special price, only for you". Sometimes they speak with a lower volume and within close proximity to create an impression of special treatment. The Caricaturist, however, applies both style and also supports his booth with extensive display of pricelist and samples of drawing.

One phenomenon of how to win a place in Stratford Market is a suspected complex yet profitable negotiation between pitch owners. This happened when The Mattress Trader tried to get his cousin to trade the same commodity in the market by taking the place of Caricaturist (who is not a regular trader and constantly using a pitch of another trader that never use his place and leaves it empty) through direct negotiation to the pitch owner. He was, most likely, as informed by the market inspector and manager, offered the pitch owner a better bargain. But however, the Mattress Trader's Cousin puts it as if he knows nothing and was told by his boss to take care of the shop.

A Danish Soap and Scrub Trader offers a free hand washing service to promote her product and ready to ship the product to home for certain amount of cost. A Malaysian fashion trader and Taiwanese Accessories Trader ready to bargain in lower price than what is written on their own price tag.

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# PERFORMANCE IMPLICATIONS OF THE STRATEGIC ALIGNMENT AMONG SERVICE INNOVATION, IT ADOPTION, MARKET ORIENTATION, AND MARKETING STRATEGY

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## EXTENDED ABSTRACT

Nowadays, the concept of strategic alignment (alignment or fit) has been widespread adopted in strategic management research, though it is in its infancy for applying strategic alignment concept to explain performance issue. Drawing on the concept of strategic alignment, this present research proposed an organizational performance fit model within service innovation, IT adoption, market orientation, and marketing strategy are coexisted. Empirical data for hypothesis testing are collected from top-ranked companies in Taiwan; yielding 187 valid samples. Performance implications of strategic alignment are examined using the perspective of fit as covariation to test the hypothesis and identify their alignment relationship. According to the analysis, the results significantly supported the holistic perspective of performance implication of strategic alignment among service innovation, IT adoption, market orientation, and marketing strategy in explaining business performance. That is, the theoretical model of the performance impacts of strategic alignment is confirmed. Finally, according to the empirical analysis, meaningful findings and conclusions have been proposed and discussed.

**Keywords:** service innovation, market orientation, strategic alignment, IT adoption, marketing strategy

## INTRODUCTION

So far, information technology (IT) played a role of facilitator for service innovation and development has been uncovered (Xu et al. 2005). By using IT extensively, marketing strategy, market orientation actions, and cooperate with companies in various service innovations can clearly and rapidly identify demands of the markets. For example, Han, Kim, and Srivastava (1998) mentioned that market orientation and innovation influence each other deeply. Thus, the concept of marketing orientation is that through customers, competitors, and good internal function coordination building up customer value and competitive advantage (Narver and Slater 1990). Moreover, products and services are satisfied the needs and wants of consumers through exchange information, collection, and integration of innovation knowledge, storage, conversion, sharing, interaction to customers and communication make more diversify into markets, indeed. Finding out about the needs of the customers helps companies to decide how to target the market orientation and decide what the best marketing strategies are and how they should be used for those consumers. To understand on the market consists of recognizing and creating consumers' needs, consequence, create more opportunities and enhance competitive capabilities. Consequently, company design products within full of innovation ideas and information even adopt information technology as business strategy in order to promote products which can be acceptable into market successfully.

Consequently, the purpose of this study is to shed light on the strategic alignment among service innovation, IT adoption, market orientation, and marketing strategy. At first, it plans to provide further insights into the performance implications in a broad conceptualization of strategic alignment among service innovation, IT adoption, market orientation, and marketing strategy. Secondly, the strategic alignment model will be examined by using fit as covariation in a holistic perspective manner. Finally, our research devotes to shed more light on

the strategic alignment research to reflect the simultaneous and holistic pattern of interlinkages among service innovation and other strategies or resources that are warrantable for marketing works.

## LITERATURE REVIEW

Innovation which means began to adopt new ideas implement new activities or to participate in organization (Daft 1978; Fichman 2001; Pierce and Delbecq 1977). Therefore, creative new ideas on product, service, and procedure transfer into new product and new service in market (Van de Ven 1986). Innovation is defined as “implementing new ideas that create value” (Linder et al. 2003). Thus, there are several types: new product development, the deployment of new process technologies, and management practices (Zott 2003). Service innovation is hard to understand by using traditional innovation theory and classification (Damanpour 1991). Service innovation contains new service development processes in order to the evaluation of innovation services, the role of information and communication technologies in providing services and sources of service innovation. Chen and Tsou (2007) also noted that there are two types of service innovation namely service process innovation and service product innovation. These definitions and explanations uncovered the unclear meanings of service innovation. Therefore, since the service sector is developing drastically, the studies of service innovation are becoming increasingly important.

Porter and Millar (1985) indicated that IT technology is not just only a computer and it also contains automatics, hardware, and software service and communication technology. Multi-successful stories involving the strategic usage of IT have been described in the literature. This means that IT strategy should be integrate with business strategy or other meaningful activities; the optimal effectiveness can be achieved for an organization. Moreover, researchers have come to realize that an absence of strategic alignment probably can cause organizations to be incapable of realizing sufficient value from their IT investments (Luftman and Brier 1999). Alignment has been found not only to make a great contribution to the potential capabilities of an organization’s IT instrument and it also apply a significant direct positive effect on organizational performance. On the other hand, unsuitable alignments in organizations results in inefficiency in IT functions, and waste in an increase in costs and delays (Gold et al. 2001).

The concept of market orientation has been developed for more than 30 years and has become mature. Market orientation is treated by enterprises as the key to pursue creative advantages and create customer value. In past literatures, scholars defined market orientation differently. Some have suggested that market orientation is a kind of resource (Hunt and Morgan 1995), while others have indicated that market orientation is a series of specific activities and behavior (Kohli and Jaworski, 1990). Some have referred to it as a decision-making base (Shapiro 1988) or organizational culture (Narver and Slater 1990). Although market orientation has been defined differently among the literatures, the definitions of Kohli and Jaworski (1990) and Narver and Slater (1990) are the most adopted. Kohli and Jaworski (1990) responded to the view of Shapiro (1988) and suggested that marketing orientation is too narrow, and that marketing does not simply refer to the marketing function. They indicated that market orientation can reflect the implications of marketing concepts. With market orientation, marketing is not limited to the marketing department but is the responsibility of all departments in an organization. Narver and Slater (1990) defined market orientation as a kind of organizational culture that efficiently creates value for customers and further results in extraordinary performance for enterprises. They suggested that market orientation is an organizational culture consisting of three behavioral dimensions: the customer orientation, the competitor orientation and cross-functional coordination. In sum, after reviewing the issues on market orientation, the category of market orientation can be divided into behavioral and cultural perspectives. The behavioral perspective emphasizes the collection of customer information, delivery of intelligence, and responsive intelligence (Kohli and Jaworski 1990), while the cultural perspective refers to the rules and values of enterprises. It provides customers with prominent value and enterprises obtain prominent performance (Narver and Slater 1990).

Marketing strategy represents the way that positions to marketing competitors, and how it confronts with the future challenges without strategy, organization might find itself in a dilemmatic situation of conflict its short-term decisions with long-term goals (St John and Young 1992). Every market has its own logic whereby excellence on one element of the mix, whether product, price, promotion or distribution, is often a necessary condition for success (O’Shaughnessey 1984). The goal of marketing mix is to make decisions that center these four elements in order to create an integrated product and service offering to customers that satisfies customer needs and wants. Moreover, marketing strategy concerns analysis of 3Cs: customers, competitors, and

corporations. Thus, companies combine this understanding into an overall understanding of what segments exist; deciding on targeting the most profitable department, and positioning products (Slater and Olson 2001). Consequently, a marketing strategy implementation will become a company's hope to achieve strong and profitable customer relationships as target by using strategies.

## METHODOLOGY

The alignment model of this present research containing service innovation, IT adoption, market orientation, and marketing strategy is proposed because of their reinforcement with each other and serving as the basis for performance (i.e. business performance). Our research model mainly extends previous alignment models and other fit arguments into strategic alignment context, examining the relationship among service innovation, IT adoption, market orientation, and marketing strategy at the strategic business unit level. In the conceptual model, the alignment among these strategies is hypothesized to affect organizational performance in market growth and profitability. Therefore, the following hypothesis is proposed:

H1: Strategic alignment among service innovation, IT adoption, market orientation, and marketing strategy has a positive direct effect on organizational performance.

In this study, cross-sectional mailed survey is used for data collection and mailing list is excerpted from the China Credit Information Service (CCIS) database. The mailing list is based on top 1000 companies of manufacturing industry and top 500 companies of service industry in Taiwan. Under the premise that the best performing companies may have better-fitted among their strategies, the top companies are the target units in this study and strategic alignment is expected to be found. As soon as a mailing list is obtained, a total of 1,222 questionnaires with accompanying cover letters and a preprinted 'freepost' return envelope (Dillman 1978) distributed to selected companies. Owing to incorrect addresses or respondents refused to participate in the investigation, 78 surveys immediately were returned, which reduced the number in the sample list to 1222. Overall, a total of 194 surveys had been returned, of which 7 were incomplete, yielding 187 valid samples. As a result, the gross response rate was about 15.3%.

According to the arguments proposed by Venkatraman (1989), strategic alignment is specified as a second-order construct derived from the four first-order constructs, namely service innovation, IT adoption, market orientation, and marketing strategy. Organizational performance is also considered as a second-order construct composed of growth and profitability. According to Venkatraman (1989), although covariation approach can be modeled as exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), CFA is preferred for modeling fit as covariation. Following the methodology proposed by Venkatraman (1989), which has been adopted by previous studies to examine the performance implications of strategic alignment (e.g. Bergeron et al. 2001), we used second-order confirmatory factor model to test the effect.

## FINDINGS

The characteristics of the sample are described as follows. The largest number of respondents is from the manufacturing industry, representing 75.4% of the responding companies. Most of the companies have 100 to 500 employees (36.5%). The respondents hold various job titles, such as top managers, middle managers, first-line managers, and others. Approximately 40% of the respondents have experiences more than 10 years in their companies. It indicates that the respondents have enough experience and knowledge to answer the questionnaire. The largest category (41.4%) of educational level is undergraduate degree. The second largest category is graduated school degree. These two together take up about 73% of the respondents. The age of the participants ranged from 21 to 51 or above, with a largest percentage (45.8%) in 41 to 50 category. Furthermore, about 68% of the respondents are male, whereas 32% of the respondents are female.

The validity of the research constructs was assessed from an estimation and respecification of the measurement model by confirmation factor analysis (CFA). The important step in scale validation is to assess the strength of measurement between the items and associated constructs. Consequently, the parameter estimates, fit indices imply that each of the dimensions demonstrates a good fit for the observed covariances among their item measures. In addition, the composite reliability (CR) of each construct is also greater than the recommended value of 0.6 (Fornell and Larcker, 1981). Furthermore, the value of AVE can be used to discern convergent



validity (Fornell and Larcker 1981; Hair et al. 2006). The findings showed that the values of individual item reliability (IIR) and composite reliability (CR) of the constructs are adequate. Variance extracted estimates, as discussed by Fornell and Larcker (1981), were used to assess the average variance extracted for all constructs, suggesting that a value of 0.5 or larger is adequate. The findings also showed that all of the values are met the criteria, demonstrating a reasonable degree of convergent validity. Finally, discriminant validity can be assessed by the variance extracted test proposed by Fornell and Larcker (1981). The results of the variance extracted tests showed that discriminant validity is supported, since each squared correlation is less than both applicable variance extracted estimates.

As can be seen in Figure 1, the strategic alignment model explains 40% variance in organizational performance demonstrating the importance of strategic alignment on organizational performance in terms of growth and profitability. The effect provides strong support to the performance implications of strategic alignment. Overall, the strategic alignment statistics indicated a good fit of the model with the data collected from the validated measures ( $\chi^2/\text{d.f.} = 2.64$ ,  $p < .001$ ; AGFI = 0.92; CFI = 0.98; NFI = 0.97; NNFI = 0.98, SRMSR = 0.042). Therefore, according to the results, hypothesis 1 is supported.

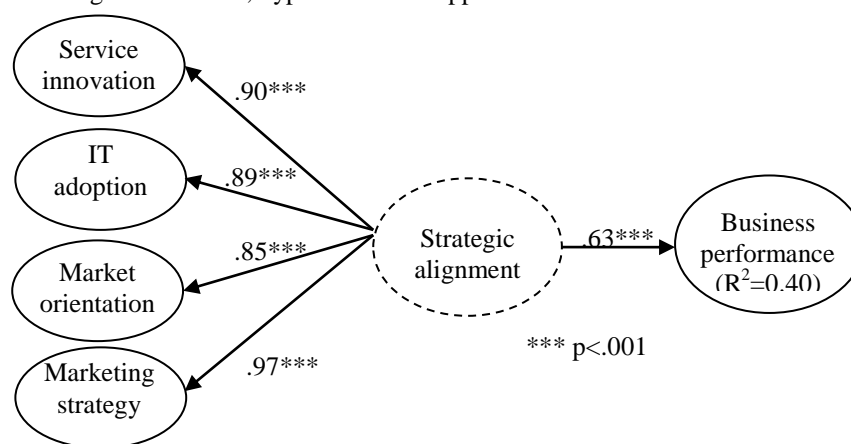


Figure 1. Research model

## CONCLUSIONS

This study has built upon a positive relationship between strategic alignment and organizational performance. That is, we have examined on the positive effect of strategic alignment among four distinctive constructs which are service innovation, IT adoption, market orientation, and marketing strategy to the organizational performance. From the research, the result is acquired all the four constructs played an important role contributing to performance. It is important for a researcher to analyze and design from a holistic perspective to examine the strategic alignment effect by fit as covariation. Therefore, in order to gain more benefit in the fit area, the strategic alignment perspective may shed lights on this topic. Thus, it is known that strategic alignment plays an important role in certain conditions. Although those constructs are being proposed extensively in research, internal functional coordination has received scant attention in strategy implementation research. We suggest companies who want to do process innovation or product innovation successfully; they need to apply various information technologies to obtain profit from innovation strategy. The results presented here reveal that the firms which are good at aligning among service innovation, IT adoption, market orientation, marketing strategy demonstrating a high performance level. It means that firms must employ right IT and marketing strategies to familiar with market orientation.

For instance, company could apply IT to find out the information about the market situations, competitor information and internal department coordination. It could assist organization to create a new product and improve their process flow. More specifically, if firms want to minimize costs to maximize the benefit of the organization, internal functional cooperation should be taken into consideration while put into practice; they still have challenges to attain fine degree of internal functional coordination in organization. Also, company must combine IT with market strategy (place, price, produce, and promotion) to enhance the information flow and help firms deploying their marketing activities. As soon as those strategies applied, firms could monitor and audit the outcomes to reaction and search the opportunity for a new market.

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## MARKET DRIVEN STRATEGY & EMPLOYABILITY SKILLS. AN EXPLORATORY STUDY @JOBSDBINDONESIA

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### EXTENDED ABSTRACT

Employability Skills (ES) refers to skills that can be transferred and generic, such as technical skills and knowledge required in a job. Many undergraduate program offers a good academic qualifications for the students, but failed to provide ES to get a job and to maintain jobs. Research on the quality of graduates indicate that graduates are less prepared to work according to the standard desired by the employer, and they fail to be able to work in a team, overcoming problems, and make decisions. The university needs to meet the needs of the industry by improving the alignment of university graduates with the needs of the industry, therefore the University needs to understand what is desired by the industry. This research is an exploratory research for @JobsDBIndonesia, a twitter account that deliver the job information and the applicants qualification for netizen. Total 113 tweet extracted for six months from July to December 2016 which consisted of 81 jobs offered by the companies. The results of this research reveals the ES competencies such as desired by the company, the findings draw inferences from the empirical data that the industry needs graduates who have the competence of a hard skill as a necessary qualification and soft skill as a sufficient qualification for the prospective applicants.

**Keywords:** : university graduates, market driven, strategy, employability skills, @JobsDBIndonesia

### INTRODUCTION

Market Orientation is the organizational culture of the company. According to (Deshpande & Webster Jr, 1989) market orientation is a "beliefs and values that puts customers at the center of thinking strategies and operational company". (Slater & Narver, 1995) said the state of market orientation is "the most effective organizational culture that creates the behaviors necessary to create superior value for buyers and do business for superior performance on an ongoing basis". Market orientation concept comprises 4 principal which are sales-driven, market-driven, consumer-driven and market mover.

Market Orientation associated with the acquisition of information and knowledge about consumers and competitors that allow companies generate product innovations and sustain competitive advantage. Companies that are responsive to the needs of the market have the tendency to act upon the knowledge gained from the market. Several studies have proven that the market orientation is positively related to the performance of the business in a market that is different. However, empirical research which provides support for the benefits of market orientation is largely based on the entire selected database and only gives an overview of the static performance of the business.

The company is a market-driven company that produce and disseminate knowledge about the market throughout all levels of the organization. The definition of market-driven management is the activity of learning, and respond to stakeholder perceptions and behaviors in the structure of the market. Market-driven refers to the orientation of the business that is based on understanding and reacting to the preferences and behavior of the consumers in terms of providing structure to the market through market research and provide additional innovations (...).

The University as a company developed the ability of the students to be accepted for work and to be able to adapt the requirement of the job. This capability meant that the product by the university graduates, which is the ability of the university graduates who followed the process of teaching and learning in the University. This ability called Employability Skills, the capability desired by the employer in the industrial workplace, therefore able to design an appropriate curriculum to produce desired quality of the graduates, then the university need to understand the concept of Employability skills and explored the Employability Skill desired by the industry (Azevedo, Apfelthaler, & Hurst, 2012).

Employability is "... the ability to obtain and maintain job, to mention the ability to move with his own ability in the labor market to find out the potential for the development of his/her sustainable career. For an individual, employability influenced

by knowledge, skills and behaviors that belong to the individual to use the individuals assets and personality within the market environment when the individuals looking for work (Hillage & Pollard, 1998) (Minten, 2010).

Employability Skills (ES) refers to skills that can be transferred and generic, such as technical skills and knowledge required in the job. This skill does not specifically match the individuals specific work, but it is important for all industries and jobs in many levels. Employability skill consists of the ability of interpersonal communication skills, the ability to solve problems, make decisions, work in teams, manage your time and manage your stress as well as the ability to obtain new science (Singh, Thambusamy, Ramly, Abdullah, & Mahmud, 2013).

Once we understand the concept of Employability Skills, then we need to know what is the ability desired by the industry. Therefore the university can decide the priority of the Employability Skills developed in the university. Furthermore the university need to set the measurable steps in the process to develop the students Employability Skill.

The process to develop the quality of the university graduates to meet the industry needs should start with the understanding toward the recent update of the industry needs. Recently the method to obtain the information on the company qualification desired conducted through traditional communication channels such as the traditional newspapers, magazines and leaflets.

These traditional communication channel did not allow the university to collect the information and draw on conclusion nor generalization toward the desired industry qualification. This approach will only generate less solid findings and less generalization.

The process to obtain the industry desired qualification can be conducted by interviewing the HR Department of the company. This activity require samples from variety of companies, in either way the sample homogeneity will make the findings become less representative for the industry.

On the other hand, in an attempt to obtain the desired industry qualification, conduct a realistic rapid respond research and also feasible method to collect the sample of data, therefore we should design a new method approach. The process conducted using the data (corpus) that exist in marketing communication channel of job information provider company. The information delivered by this company is an open access information such as @JobsDBIndonesia.

An exploration of the desired qualification from a wide range of companies will generate the conclusion or the general ability skill desired from the industry. @JobsDBIndonesia delivered variety of job information desired by the company, not just a technical role (hard skill) but also the soft skills. The company desired workers personal competence and interpersonal skill qualifications that the university should develop to increase the chances of the university graduates being accepted and worked in the industry (Minten & Forsyth, 2014).

The process to develop the desired quality to meet the industry need start with an exploratory research to reveal the qualities desired by the industry, furthermore developing the curriculum into the teaching and learning process in the university. This process requires at least 6 years from the beginning of the process of exploratory research until developing the curriculum, on the other hand, the university should catch up the dynamic of the desired qualification of the industry.

The slow response in developing the curriculum because of the long process of curriculum development create a mismatch phenomenon toward the university graduates to meet the desired qualification of the company continues to repeat (Crebert, Bates, Bell, Patrick, & Cragnolini, 2004). Furthermore, graduates failed to find out the implications of working in teams, resolve problems, and make decisions, graduate also had misconceptions about the work. Graduates expect a structured work environment, controlled work environment like in the theory delivered in the courses (Candy & Crebert, 1991), whereas the job is structured and less interaction between different stakeholders and employee.

Therefore university need to conduct research that can respond the rapidly changing needs of the quality desired by the company. This study use the most recent data from twitter @JobsDBIndonesia from July to December 2016 to explore the recent desired qualification of the industry.

This research correspond the dynamics in the digital age, an exploratory research from the job information delivered via the @JobsDBIndonesia twitter. The information collected and further categorization conducted to group the qualification into hard skills and soft skills (Employability Skill).

## LITERATURE REVIEW

Several studies have revealed the Employability Skills desired by companies, such as research results are obtained (Maxwell, Scott, Macfarlane, & Williamson, 2010) by doing exploration of perception of the giver of work. Communication and the ability to overcome the problem of main competence is desired, subsequently followed by a decision-making, teamwork, independent work, leadership, learning and personal development and self learning, strategic capability, the ability to manage information and numbers.

In addition (Saunders & Zuzel, 2010) test the Employability Skills of the perspective of students and graduates of bio molecular as well as perceptions of the giver job. In general enthusiasm, interdependence and team work more prioritized than knowledge about the subject, leadership or the network, this is a confirmation that in the industry very closely hubungannya with high-tech, some generic abilities are seen higher than ability in specific work, this is evidence that the soft skill is added value to the quality of personal and generic abilities (Saunders & Zuzel, 2010).

As delivered by (Robles, 2012) even though the giver current job wanted his officers to have soft skill, but hard skill (technical skills and knowledge) continues to be the main and soft skill is a complement. The conclusion obtained from various research on Employability Skills, some of the soft skills is very important and is a priority for all sectors of employment (communication skills, cooperation, etc.) whereas there are other capabilities that are specific to certain sectors such as the ability to count, provide an explanation that details about a problem and the solution.

## METHODOLOGY

This study uses data from the twitter @JobsDBIndonesia job vacancy information from various companies. Job information Data is grouped into several the category attribute that is the desired applicants age category, language by the applicant, the appropriate faculty educational background and appropriate course of study, location of job, salary range and employability skills desired consisting of competence hard skills and soft skills.

Any data given coding in accordance with category of the answer. After the span of time period job vacancies published by the @JobsDBIndonesia coded, then the next is done process calculation for obtaining the proportion of each category job attributes. In the qualifications requested in the job vacancy, the company asks many qualifications competencies for 1 job vacancy, therefore every qualifying competence put into coding and factored into proportion. Finally gained total proportion of demand for qualifications of competence desired by the company in the period of observation.

## FINDINGS AND ARGUMENT

Tweet data period July to December 2016 from @JobsDBIndonesia obtained amounted to 113, the next data issued totalling 32 as there are reps and there is data that is already there is no dokumen'a. Data dikategorisasikan and later retrieved the results as the following:

Age: from the results of 7.40% age found coding company want a prospective worker's 25-year-old max, 35.80% of companies want max 26-max 30 years old, and a company wants 24.69% the prospective workers aged 30 and above. The majority of job openings that are passed in the @JobsDBIndonesia Canal is for prospective workers are still under 30 years of managerial and staff level ( beginning).

The results of the categorization language shows 27.47% company wanted prospective workers to master English, 10.19% company wanted the workers speak mandarin, and 2.19% of the company want the prospective workers can speak Indonesian.

The results of the categorization of education shows a 5.94% want the prospective HIGH SCHOOL graduate workers, 3.94% wanted the workers to VOCATIONAL graduates, 2.97% wanted the prospective workers graduate diploma, 9.90% want a prospective worker graduates D2, 36.63% want a prospective worker D3, and 45% of companies want a prospective worker graduates. Secondary D3 and S1 is the level of demand by companies that deliver jobs through the @JobsDBIndonesia period of July to December 2016.

Further, the results of the categorization of the background study program shows the 23.6% of companies require workers with background Product Design (Graphic and Multi-media Design), 5% Department Interior Design, 1.24% for the Visual Communication Design Graduate (DKV), 46% of companies wanted graduates from the Department Accounting, 13% of companies wanted graduates Management, 0.62% the company wanted a graduate of Corporate Management, 4.96% of the company want a graduate of MICE, 4.96% wanted the Graduate Information System, 6.83% companies wanted graduates from Information Engineering, 8.69% Industrial Engineering graduates wanted, 3.10% want a graduate of Electrical Engineering, 3.72% wanted a graduate in Mechanical Engineering, 0.21% wanted the Department of Architecture Engineering, 1.42% want a graduate Civil Engineering, 0.62% wanted the Department of Broadcasting, 3.72% want a Public relation Department, and 0.62% of the company wanted for all majors.

The results of categorization for the location of the job shows the variation diverse i.e. 18 areas that the company include Jakarta 16.77% 6.04% Pekanbaru, Semarang, Bandung, 6.04% 4.67%, Palembang 6.02% 6.02%, Batam, Balikpapan, Manado 2.68% 3.4%, Makassar 2.01%, 1.34%, 1.34% Central Java, Bogor 2.68%, 3.4%, Miri Hammer 1.34% 1.34%, Sukabumi, Tegal, Jakarta 2.68% 1.34% 0.67%, Singapore.

The interesting thing is the salary range cannot be grouped because the majority of jobs do not display information range jobs salary for job applicants. Only 1.23% of companies that provide job descriptions with salary range 7 million-15 million per month.

The results of soft skill competency qualification categorisation of vacancies the job retrieved attributes with the proportion of 17.47% Team Work, 7.44% Good Communication, 6.79% Look interesting, 8.73% honest, 3.88% thorough, 1.61% retort, 7.76% diligent, friendly attitude, 3.55% 0.32% Individual work, 3.23% worked shift, 3.23% strong analytical/negotiations, 1.24%, 0.02% problem solving conceptual thinking, leadership, 1.94% 1.92% responsible, 1.29% work in under pressure, 0.32% interpersonal skill, 1.61% integrity high/hard worker, 0.64% proactive, 0.97% work full time, 0.97% demonstrate a high level of confidentiality, 0.32% creative and Innovative, 5.17% strong relationship building, 1.94% presentation skill, adapt quickly, people skills, spiritual maturity.

The results of the categorization of the qualifications of competence hard earned skill attributes with the proportion of 17.47% indicated that the company wanted the workers can work using computers, 7.44% of the company want the would-be workers can understand about accounting, 6.79% the company wanted a prospective worker can understand about Administration, 8.73% company wants prospective workers understand the tax advisory, 3.88% of companies wanting to understand Supervisory, 1.67% company want a prospective workers understand the Commercial Acumen, 7.76% company wanted the language to be used in the work, 3.55% of the company wanted workers to understand the Macro-economis, 0.32% company wanted workers understand about banking, 3.23% of companies want candidates workers understand the Business World development company, 3.23% want a prospective workers understand the Psychological tools, 1.94% the company wants the prospective workers understand the Job profiling and Facilitation, 0.25% of companies want candidates workers understand Business law/criminal law/law/contract., 1.94% of the company want the workers understand Marketing, 1.29% of the company want the prospective workers understand about Technical, 0.32% the company wants the prospective worker can understand Manufacture Production Process, 1.69% want the would-be workers can understand SQ, 0.64% in Export and import, 0.97% Orientation Towards the Customer, 0.32% 0.32% Industry, Data analysis, 5.17% Financial Analysis, 1.94% work experience.

## CONCLUSIONS

The relevance of the competencies desired by the industry with the competence graduates who applied for a job are often not appropriate. Any industry often complain about the quality of the skill and competency of university graduates

Collaboration is built by forming the body of the Advisor (board of advisors) between practitioners with students. Through this advisory body, a variety of things that are less relevant to the desired competencies between quality by the industry and developed at the University for students discussed next so that the University can obtain relevant information about the needs of the industry (Barrows & Walsh, 2002).

Through the existence of a Career Fair that is held by the University, the company can also convey to the students needs desirable so that this interaction can pave the student insights to be able to fulfill the wishes of the company. (Hertzman, Moreo, & Wiener, 2015) also convey that communication interactions continue to practice sustaining this will increase students ' confidence and improve communication skills of the students. It is the desire of all parties which consists of students, educators and industry to enhance cooperation in improving the quality of human resources and university graduates .

The desired Competencies desired by company can also be delivered through a process of training or internship. Students can interact with other workers and peer leadership, acquiring insight what things desired by company and learn communication with the company. This activity is also part of developing student Employability Skills through internship programs (Kim & Park, 2013).

In addition students will need to obtain an internship opportunity. Research (Hertzman et al., 2015) showed that students wanted the experience to be involved in the program of internship. This experience will improve students ' perceptions towards the desired skill by the company, upon graduation students will have experience and getting to understand the desired by the company.

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# THE MEASUREMENT OF THE EFFECT OF BRAND NAME TIME PLACEMENT IN VIDEO ADVERTISING TO BRAND RECALL

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## EXTENDED ABSTRACT

The survey from Carat advertising agency in Indonesia stated that only 18-22% of the viewers who do not skip the skip-able advertising video on YouTube. Unfortunately, Most companies put the brand name at the end of the video causing the lack of brand recall. In 1960, Coke and Pepsi companies were the first to implement putting the brand name at the end of the advertising video successfully make the viewer recalled their brand name. However, there is no further research about the other time placement of the brand name in advertising video. Therefore, the objective of this research is to measure the brand recall in a 30 seconds advertising video in 10-second interval. In the experiment, three different videos were created with three different time placements of the brand name. After that, the videos were distributed to 120 respondents by using the judgment sampling method and they needed to answer questions. To analyze the result of the experiment, the Chi-Square test and the Marascuillo procedure were applied to find the significant differences between the variables. From the experiment, it is proved that the brand name on the last 10 seconds would give the most effective brand recall than the other.

**Keywords:** : *Brand Recall, Social Media Marketing, Advertising*

## INTRODUCTION

YouTube provides many advertising formats for a company who wants to advertise their product. One of the formats is a Skippable advertising video. It allows the viewer to skip the video advertising after 5 seconds. Based on the interview session with a digital planner from Carat advertising agency, Rico Hardiyanto, it becomes the preferable format for a company because it is cheaper than the Unskippable advertising format on Youtube. However, both Skippable and Unskippable advertising format could give the clearer vision and more interesting form of advertising because those are the in a video form. Unfortunately, there are only 18-22% of the viewers who do not skip the Skippable advertising format on YouTube and most of the companies put the brand name at the end of the advertising video. On the other hand, the brand name is the important brand element for increasing the brand awareness toward the products or services (Brahmbhatt, Vyas, & Anvesha, 2016). To measure how well the brand name is associated with the product category by the customers, there is a qualitative measurement, called brand recall (Bashin, 2016).

In 1960, Coke and Pepsi companies were the first to implement putting the brand name at the end of advertising video successfully make the viewer recalled their brand name (Raymond, 2002). However, there is no further research about the other time placement of the brand name in advertising video such as placing the brand name at the beginning or the middle of the advertising video. Therefore, this research needs to be implemented.

## LITERATURE REVIEW

Brand recall is a qualitative measure of how well the brand element; especially the brand name is associated with the product category by consumers (Bashin, 2016). The values of the brand are specifically associated with its presence in the memory of shoppers when the shoppers aware about the brand. Thus, the benefit of emerging the brand recall is to aid the brand awareness of the product in consumer's mind. Brand awareness itself is the consumer's capability to recognize the brand elements such as brand name, logo, jingle, character, and slogan that related to the strength of the brand in consumer's mind (Keller, 1998) or the consumers would know a brand precisely, when they ever observed and listen about brand (Brewer & Zhao, 2010). The brand elements itself is a trademark instrument that serves to recognize and differentiate a brand (Keller, 1998). It includes 6 main components: brand names, logo and symbol, slogan, characters, jingles, and packaging. Since the brand name is the primary factor on brand awareness (Davis et al, 2008), the experiment was focused on the utilization of it in the advertising video. Some brand elements such as logo and slogan were also be used, but it were not the main focus of the experiment. Brand name is the major signing



instrument utilized by a branded entity and it is hard to make references to a brand entity without the utilization of its name (Round & Rouper, 2015).

Implementing the marketing communication strategy plays the important part in emerging the brand awareness to the consumers (Shabbir, Khan, & Khan, 2017). One of the elements of marketing communication strategy that be used in this research experiment is advertising. It is the way to deliver the information of products and services, which usually persuade the target market and paid for by using the diverse media (Bovee, 1992). ). In this research experiment, only the online advertising and mobile advertising were used to measure the brand recall.

The online and mobile advertising are using the same media which is the Internet, but it differentiate from its gadget. YouTube is the media that discussed in the background of the problem and it is one of the online and mobile advertising media. This research experiment was focused on the problem of the company which using the skippable video ads format on YouTube that allows the viewer to skip the advertising video after 5 seconds. Beside that, it is called user-generated content (UGC). On UGC, product or services presented can create the brand image better than in traditional advertising media. In the online video, the content message has strong influence to create a positive response from the audiences, such as positive word-of-mouth or higher intention to forward the message (Hsieh et al., 2012). Because of its big impact, the advertiser needs to be careful on creating and managing the online video advertising on UGC. One of the important instruments on online video advertising is the placement of the brand.

In an advertising video, the right timing of the emerging of the brand name could help the viewers to remember about it. In 1960, Coke and Pepsi Companies put their brand name at the end of the advertising video (Raymond, 2002) to make the viewers remember about it after watching the advertising video. Beside that, placing the brand name at the end of the advertising video could increase the curiosity of the viewer to watch the entire advertising video (Loewenstein 1994; MacLachlan and Jalan 1985; Menon and Soman 2002). In the other side, the time placement of the brand name in the beginning of the advertising video could reach the advertising effectiveness. It could generate the positive brand attitude such as the persuasiveness of the advertising (Baker et al, 2004). However, It explained about the relation between the brand name time placement and the content of the advertising, not about the relation between the brand name time placements to the memory of the viewers.

Consumer connection with the online advertising can be ordered into a progression of stages: preattention, attention, and behavioral decision (Hao & Hui-Yi, 2014). To achieve the effective online advertising, the advertiser should reach the viewer's attention stage. However, The attention of the viewer is limited and selective so that not all of the messages in video advertising could be noticed and understood (Basil 1994; Wedel and Pieters 2007).

## METHODOLOGY

This research conducted an experiment to measure the respondents' ability in identifying the brand recall. The subjects of this research experiment are 120 students of School of Business and Management, Bandung Institute of Technology (by judgment sampling) because they were reachable and related to the product or topic advertised which is instant noodle as the common food consuming by the subjects.

There are three steps of creating the advertising video: designing the video, shooting the video, and analyzing the advertising insertion rules. First, the three storyboard of the video should be made; Video 1: Brand name in the first 10 seconds, Video 2: Brand name in the middle 10 seconds, and Video 3: Brand name in the last 10 seconds. It gives the visualization to prepare the shooting activities. In creating the storyboard, the equalization of the condition is needed to be considering in the experiment. There are several essential criteria to control the variables:

- The duration of the videos is 30 seconds
- The brand name was mentioned once and put in the last 5 seconds of the 10 seconds duration
- The brand logo was also be shown simultaneously with the brand name but no longer than 5 seconds
- The concept of the video embraced the target market behavior

In the video shooting process, the help from the semi-professional video maker was needed from Lembaga Film Mahasiswa team from Bandung Institute of Technology. Then, in gathering experiment data, each of the respondents was given the different video. The respondents picked the video randomly. Besides determining the videos, the experiment procedure is needed to be determined. Based on the limited time and space, the experiment limitations of this research are:

1. The researcher used the smartphone and headset in showing the videos to the respondents
2. The researcher used the artificial brand name and product, which is instant noodle
3. The experiment was conducted in time limit:

- Wednesday at 12 pm until 13 pm

- Friday at 10 pm until 11 pm

This experiment was conducted when the respondents (SBM ITB students) were taking a break time after class

#### 4. The experiment took place in Taman Sari Food Festival

Chi-Square is a test to analyze the correlation between 2 binomial variables (Dunlap, Brody, Greer, 2000). To analyze the correlation of binomial variables in this research, the contingency table is needed. Before conducting the contingency table, the hypothesis must to be set. Below are the hypotheses of this research:

H0: There is no difference in proportions

H1: At least 1 group different

After determining the contingency table, the degree of freedom (df) should be made by using the formula: (number of columns minus one) x (number of rows minus one). Beside that, alpha level of significant should be determined. In this the research, it determined by the researcher at 0.05. In addition, the critical value of  $\chi^2$  also needs to be determined by using the chi-square distribution table.

In order to find the significance different of the variables, the p-value should be determined. After knowing the p-value, it needed to be compared by the critical value of  $\chi^2$ . If the p-value is greater than the critical value of  $\chi^2$ , the null hypothesis (H0) should be rejected. Then, it concludes that there is a significant difference of the variables.

After knowing that there is a significance difference of the variable, the Marascuillo procedure need to be conducted to know the exact variable. It is used to test differences between the various proportions. Beside that, it provides magnitude of variation in the pairs of several proportions (Wagh, Razsvi, 2016). The first thing to do in implementing the Marascuillo procedure is determining the proportion of the sample. After that, the possible pairwise is needed to be determined by using the formula:

$k(k-1)/2$

k= Population

After conducting the formula, the critical range is needed to be determined by using the formula:

$r_{ij} = \sqrt{X^2_{1-\alpha, k-1} \pi_i(1-\pi_i)n_i + \pi_j(1-\pi_j)n_j}$

After knowing the critical range of each possible pairwise, it needs to be compared with the difference value of the proportions. If the difference value of the proportions surpass the critical range value, the difference is statistically significance.

To add the additional information about the effect of identifying the advertising and brand recall to the further action to skip the video advertisement and other reason to skip and not to skip the video advertisement on YouTube, the interview session was conducted to nine respondents who already took the previous experiment about identifying the advertising and brand recall. In analyzing the data from the interview session, the answers of the respondents were recorded by using the phone recorder. After that, it transformed into a written transcript. Then, gathering all of the respondents' answer made a conclusion.

## FINDINGS AND ARGUMENTS

The recall analysis on advertising video was divided into two parts: overall and gender analysis. The overall analysis shows the data of the number of the respondents who could or could not identify the brand recall on advertising videos. Meanwhile, the gender analysis indicates whether gender could affect the respondents in identifying the brand recall. Below are the contingency table of the ability of the respondents in identifying the recall.

Table 1 Contingency Table of Brand Recall on Overall Analysis

Brand Recall	Video 1: First 10 seconds	Video 2: Middle 10 seconds	Video 3: Last 10 seconds	Total
Yes	19	25	31	75
No	21	15	9	45
Total	40	40	40	120

Table 2 Contingency Table of Brand Recall on The Comparison of Gender Analysis for Video 1

Brand Recall	Male	Female	Total
Yes	9	10	19
No	11	10	21

Total	20	20	40
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Table 3 Contingency Table of Brand Recall on The Comparison of Gender Analysis for Video 2

Brand Recall	Male	Female	Total
Yes	12	13	25
No	8	7	15
Total	20	20	40

Table 4 Contingency Table of Brand Recall on The Comparison of Gender Analysis for Video 3

Brand Recall	Male	Female	Total
Yes	15	16	31
No	5	4	9
Total	20	20	40

After tested with the chi-square procedure, the significant difference happened only in the overall analysis. The chi-square stat is bigger than the critical value of  $\chi^2$ , therefore the Marascuillo procedure should be implemented to find out which variable that has the significant difference.

Table 5 Chi-square test result Brand Recall on Overall Analysis

Degree of Freedom	2
The alpha level of significance	0.05
Critical value of $\chi^2$	5.991
Chi-square stat	7.68
Decision	Reject H0

- Sample proportion
  - $P1 = 19/40 = 0.475$
  - $P2 = 25/40 = 0.625$
  - $P3 = 31/40 = 0.775$

Table 6 Marascuillo Procedure for Brand Recall on Overall Analysis

Contrast	Value	Critical Range	Significant
p1-p2	0.15	0.26917217	No
p1-p3	0.3	0.25192689	Yes
p2-p3	0.15	0.24742783	No

Table 7 Significant Difference for Brand Recall on Overall Analysis

Significant Difference	Video 1	Video 2	Video 3
Video 1	-	No	Yes
Video 2	-	-	No
Video 3	-	-	-

The Marascuillo procedure shows which the brand name time placements showing the significant difference of brand recall. It indicates that the brand name time placement in the beginning and the end of the advertising video would give the different effect of the respondents in identifying the brand recall.

From the interview, six out of nine respondents said that the advertising and brand recall did not affect to the further action to skip the advertising. The reason why the viewers want to skip the video advertisement on YouTube because their objective is to watch the video they wanted to watch, it is not important to watch the further advertising if they already get about the information of the products or services, and sometimes the advertising video is not suit with the viewers' interest. Another case with the reasons why the viewers prefer to watch the whole video advertising and do not skip the video advertising is the video advertising had successfully attracted the viewer attention in five seconds and the respondents said that the advertising concept which includes the storyline might result the further action to watch the video advertising without skipping the video.

## CONCLUSION

In identifying the brand recall, there is a difference of the respondents' ability to identify the brand recall and it is significant. Most of the respondents could identify the brand recall when the brand name was placed in the end of the advertising video. This result generates the findings that the most effective brand name time placement is still at the end of the advertising video. It proven that the theory from Raymond in 2002 is still right and applicable. Beside that, gender might not affect someone in identifying the brand recall because there is no significant difference between male and female in identifying brand recall.

From the result of the interview session, it can be concluded that the advertising and brand recall of the products or services might not affect the viewer to skip or not to skip the video advertising on YouTube. It might be successfully attracts the viewer to watch the advertising video further if it appeals the customer attention in the first 5 seconds of the video. It proven the theory from Hao and Hui-Yi that stated, "To achieve the effective online advertising, the advertiser should reach the viewer's attention stage." After that, it could reach the next step in behavioral decision to watch the complete advertising video.

This experiment describes the most effective brand name time placement which can generates the brand recall. However, It has two weaknesses. First, The product category in dummy advertising video was too common. It is well known by the participants or it is not the new product. After that, in creating the video, the equalization of the condition should be considered. To get the maximum result, the videos must be identical. However, it was really hard to equalize the condition. It was hard to make the same concept of the videos with three different brand name time placements. The cost of production of the videos was also expensive, thus the videos has the limitations in execution.

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# MODELING INSTITUTION WITHIN THE SERVICE ECOSYSTEM: SERVICE DOMINANT (S-D) LOGIC PERSPECTIVE

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## EXTENDED ABSTRACT

One of the foundations of service science is service-dominant logic which has a premise that service ecosystem is a system of the service system and strongly emphasize the role of institution. An institution in service-dominant logic viewed as a structure to arrange the dynamic network actors which interrelated with others. The institution is an operant resource to guiding the social interaction to enable value co-creation. Because structures of rules and resources are interrelated with systems of reproduced relationships, changes in structures correspond with changes in systems as well. In this research, we will propose model the institutional process to facilitate and improve the value co-creation by using agent-based modeling. The question of the study is how to model the institutional process to facilitate and improve value co-creation. Under what circumstances, the institution will be established in value co-creation process.

**Keywords:** *service-dominant logic, service ecosystem, institution, value co- creation, agent-based modeling*

## INTRODUCTION

Service-Dominant (S-D) Logic is recognized as a foundation for the development of service science and service systems study (Maglio and Spohrer, 2008, Vargo et al. 2010). In an S-D logic state that service ecosystems align with the system theories (Barile and Polese, 2010, Ng, et al., 2011). It provides a foundation for service systems as a network of the agent who interacts that integrate the resources for value co-creation (Ng, et al., 2012). In S-D logic, ecosystems viewed as a system of systems, dynamic networks of actors and their interaction. Moreover, in line with a recent study which includes multi-stakeholders (e.g., firms, customers, government entities) which constitute the complex economic systems (Ostrom, 2010). S-D logic state that all social and economic actors are resource integrators of value co-creation.

However, in the service ecosystems also view strongly emphasizes institutions or social norms (Williamson, 2000) as a guidance and foundation of interaction to enable the value co-creation (Vargo and Lusch, 2011a, b). The institution was a critical aspect of value co-creation (Most recently, Vargo and Lusch, 2011). In this study, we use the fundamental premises of service-dominant logic co-creation in service ecosystem (Vargo and Akaka, 2009, Vargo et al., 2010). Most recently, value co-creation within service ecosystems is driven by the resource integration, shared institutions or norms as a glue of interaction that enable value co-creation. Institutions as operant resources which capable of guiding the social interaction as a necessary framework to enable value co-creation. The role of norms also establishes as part of structure (Giddens, 1984) or institutions (Williamson, 2000).

Institutions influence and stabilize the systems but also affect the structure as well as the relationship in the systems and the structure guide them in the service ecosystem. The ecosystem is viewed as dynamic network actors which interrelated with structure, i.e., institution (Ng, et.al. 2011, Vargo, and Lusch, 2011a, b). Because structures of rules and resources are interrelated with systems of reproduced relationships, changes in structures correspond with changes in systems as well. Thus, to fully conceptualize how value is co-created and service systems are formed, we need to understand the actions (resource integration practices) and institutions that shape their action (Edvardsson et al. 2011).

In this research, we will propose model the institutional process to facilitate and improve the value co-creation by using agent-based modeling. It is used to describe the interaction among the agents to achieve a collective endeavor (create value). The question of the study is how to model the institutional process to facilitate and improve value co-creation. Under what circumstances, the institution will be established in value co-creation process.

## LITERATURE REVIEW

Importantly, resources have been considered as a critical component of value co-creation in service systems as well. Resource integration may construct the main routine in value co-creation. It is because as actors enact practices to integrate resources, they interact with other actors and contribute to value co-creation processes. These processes intersect with other

value co-creation processes and form networks of relationships—or systems, in Giddens' (1984) terms (Akaka and Chandler 2010).

All of the social and economic actors is a resource integrator in service-dominant logic, which are capable of contributing to value creation. Within this mindset, service providers make value propositions and service beneficiaries are always co-creators of value. Most recently, Vargo and Lusch (2011a, b) have suggested that the integration of resources drive value co-creation within service ecosystems, mainly shared institutions—common rules or norms for the governance of interaction. Importantly, S-D logic's emphasis on the integration of operant resources points toward institutions as a primary resource in value co-creation. Because institutions are capable of influencing and guiding action, they can be considered as operant resources. More importantly, because they guide social interactions, institutions can be regarded as a necessary resource for value co-creation to occur.

Institutions are not organizations. Meanwhile, institutions are socially-created schemas norms, and regulations (Scott 2014) as “rules of the game.” The institution is defined as any structure or mechanism of social order and cooperation which enforcing the rules of individual behaviors within human society (Stanford Encyclopedia of Social Institutions).

## METHODOLOGY

The methodology in the study is using agent-based modeling. We model the institution by using agent-based modeling to enable and regulate the interaction among autonomous agents to achieve some collective endeavor (create value). In the Institutional process, it is not known whether these agents may decide to participate or not in it is not known in advance what agents may take part in personation. The institution does not know what the particular goals of individual agents are. Also, the institution has no control over the internal decision-making of agents, and they may not necessarily comply with institutional conventions.

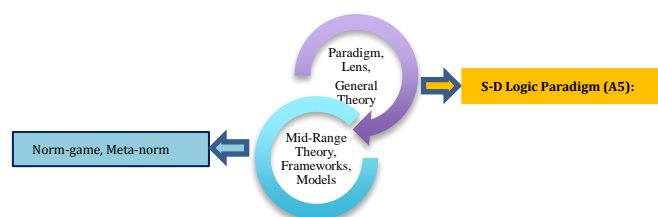


Figure 1. Methodology

### Agent and the Rule of Game

In the model, we have two agents, i.e., customers and providers. Both of them are resource integrators. Provider and customer as resource integrator live as neighbors in the network (random, small, and free). The provider will interact with their customers. Providers (resource integrator) will interact with the customer (resource integrator) by the connectedness (e.g., provider 1 has 60 customers, they will only interact with those customers, also the same for other providers). For each interaction of customers and providers will get the payoff which depends on the strategy they choose. After they get the payoff, strategy from provider and customers which interact each other will have a chance to mutate. The rule is described as follows.

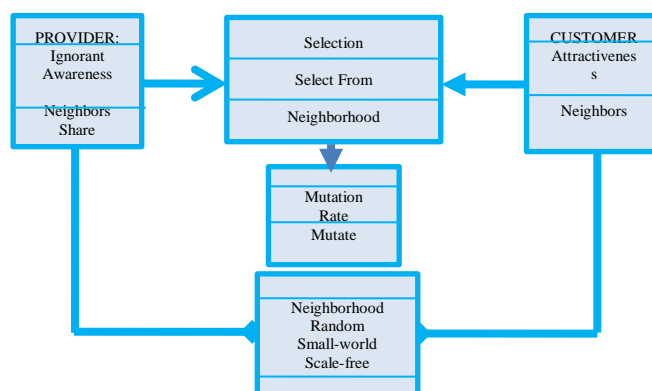


Figure 2. Rule of Game

### Definition of Ignorance (Not share) and Tolerance (Share)

Ignorance is defined regarding deviations away from whatever is taken to be the scientific truth (e.g. parsons, 1959; 295). We assume that ignorance as defect action from norm game (norm violation). Ignorant— which determines how likely is a provider to take Not Share action (defect). Awareness in cooperative settings is used to denote “knowledge created through

the interaction of an agent and its environment (compliance to a norm). Awareness – which determines how likely is a provider to punish a defecting provider (a provider who taken not to share action). We use eight levels (3 bits) to represent the strategies based on norm game (Axelrod, 1997).

#### Definition of Attractiveness

The important indicator of attractiveness is a value of relationships with customers (Pulles et al., 2016, p. 137). Therefore, when providers have a positive expectation when they interact with their customers, then they will be perceived as attractive (Schiele et al., 2012, p. 1180). Attractiveness—which determines how likely is a customer to take Accept action. We also use eight levels (3 bits) to represent these based on norm game (Axelrod, 1997).

#### Institution Arrangement

Each provider interacts with the customer to share the resources to create the value. In this process, coordination and collaboration among them are needed. Our hypothesis is if the agents in the network can share their value (co-creation) then the institution (following the code of conduct or rule of the game or norm) is established.

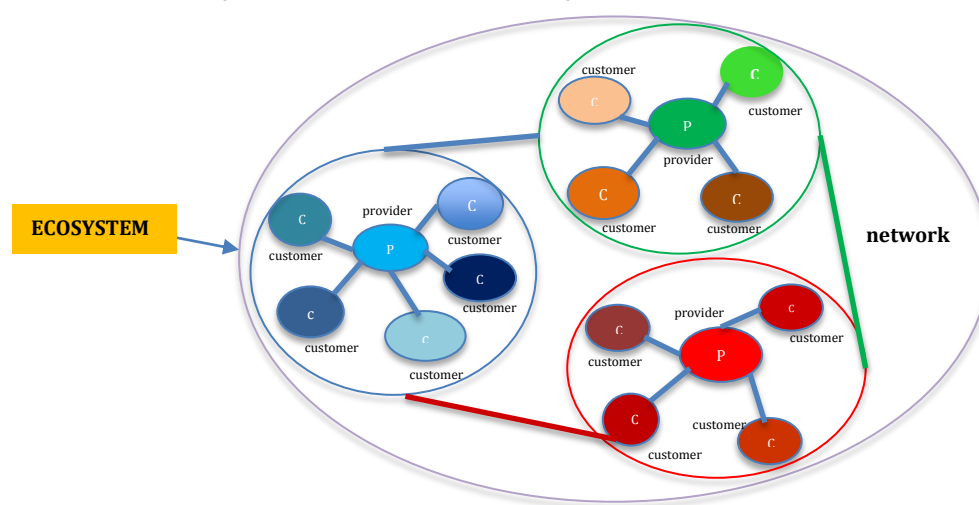


Figure 3. Relationship between customers and Providers

The assumption of strategy and Payoff of interaction is adopted from Prisoners Dilemma Game is described in the following table.

Table 1. Payoff of Interaction

Customer	Accept	Reject
Provider		
Share	<b>COLLABORATE</b> (3,3)	<b>NEED TO INFORM</b> (1,4)
Not Share	<b>BEWARE</b> (4,1)	<b>COLLAPSE</b> (0,0)

From the payoff table, if provider shares the resource and customers accept it, then the collaboration will happen. Another is if the provider shares the resource and customers reject it, then provider need to inform to the customers. If the provider does not share the resource, but customers accept it, then provider no to beware of it. Meanwhile, if providers do not share the resource, customers reject it then the system will be collapse since both of them is not cooperate each other.

## FINDINGS AND ARGUMENT

### The Algorithm in the first Phase

In the simulation, we set there are 20 providers, and each of provider has ten customers. The strategies for initial population of 20 providers and 200 customers are chosen at random from the set of all possible strategies. For each iteration, they will play in two phases. For the first phase, provider- $i$  will play Prisoner's Dilemma Institution Game (PDI) Game. The provider's choice is based on the level of Ignorant, and the customer's choice is built on the level of attractiveness. The score of each player is resolved by the player's choices and the choices of the other stakeholders. In the second phase, each provider plays the Norm Game. If the provider- $i$ 's choice is not to share, then for each provider  $i \neq j$  will have the opportunity to punish provider- $i$  depends on his/her awareness.

Player whose strategies were relatively successful is selected to have more offspring by using adaptive mechanism. This process will repeat for 100 generations. These followings are the algorithm for the model process which based on two scenarios. We would like to answer under what circumstances the value co-creation will happen by using norm game and meta-norm game (Axelrod, 1997).

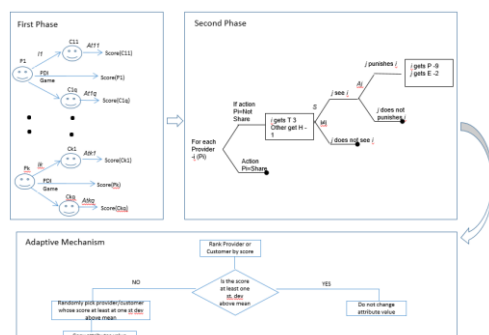


Figure 4. Algorithm of the Institution Arrangement using Norm Game (scenario 1)

The result of this simulation for scenario 1 is described in the following Figure.

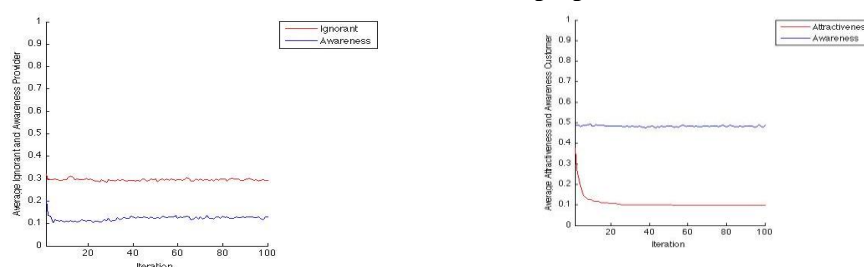


Figure 5. Result of simulation in scenario 1

### The Algorithm in the Second Phase

In the simulation, we set there are 20 providers, and each of provider has 10 customers. The strategies for initial population of 20 providers and 200 customers are chosen at random from the set of all possible strategies. For each iteration, they will play in two phases. For the first phase, provider- $i$  will play Prisoner's Dilemma Institution Game (PDI) Game. The choice of provider is based on the level of Ignorant, and the choice of the customer builds on the level of attractiveness. The player's score is determined by the player's choices and the other players' choice.

In the second phase, for each provider play the meta-norm Game. If the provider- $i$ 's choice is "not share," then for each provider  $i \neq j$  will have the opportunity to punish provider- $i$  depends on his/her awareness. If provider- $j$  see provider- $i$  but does not punish provider- $i$  then for each provider  $k \neq j$  will have a chance to punish provider- $k$  depends on his/her awareness.

Player whose strategies were relatively successful is selected to have more offspring by using adaptive mechanism. This process will repeat for 100 generations. These followings are the algorithm for the model process which based on two scenarios. We would like to answer under what circumstances the value co-creation will happen by using norm game and meta-norm game (Axelrod, 1997).

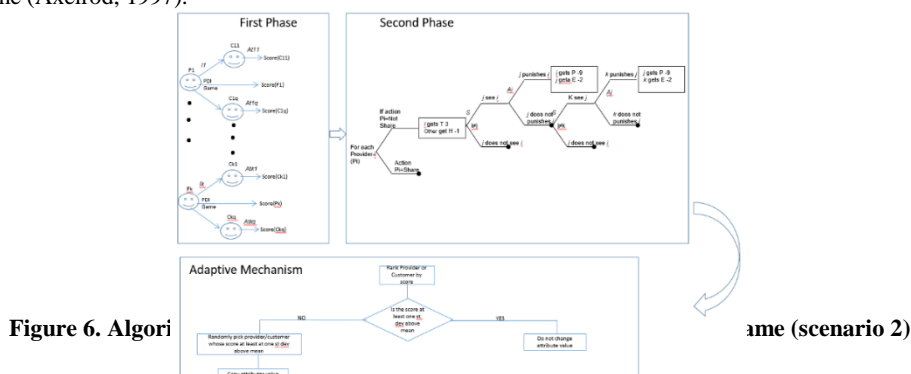


Figure 6. Algorithm of the Institution Arrangement using Norm Game (scenario 2)

The result of this simulation for scenario 2 is described in the following Figure.



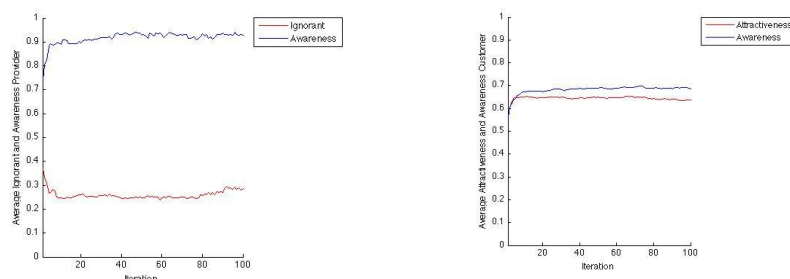


Figure 7. Result of simulation in scenario 2

## CONCLUSIONS

If the agents in the network can share their value to co-create, then the institution (following the code of conduct or rule of the game or norm) is established. Under norm game, the ignorant level from provider still high. Provider's awareness is still low to share the resource together with customers as well as the level of attractiveness of customers. It means that the institution still does not work as long as the ignorance is still high. Under meta-norm game, the ignorant level of the provider is decreasing, and the level of awareness is increasing. It means the institution work as long as the ignorance is low and each party has the awareness to share each resource to shape the value co-creation. Based on these findings, we may define institution will work well to develop the value co-creation as long both of resource integrators, i.e., customers and provider willing to share and they aware of the importance of sharing.

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## SOCIAL MEDIA AS PLATFORM TO DEVELOP PUBLIC OPINION IN IMPROVING TOURISM IN BANDUNG CITY

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### EXTENDED ABSTRACT

In contrast with the past, One of the key factors essential for economic development, both for local communities and for international interests is the tourism department. In developed countries, such as France, tourism sector redounds more than 40% for economic accretion. According to this opportunity, Bandung offering tourism area which objective for developing local people to have income from the tourism sector. The main objective of this paper is to propose what are tourists needs for helping their activity in Bandung, also to know is that the current condition is helping enough for tourist.

**Design/methodology/approach** - The authors used data mining methodology and conjoint analysis to ensure the research with value co-creation approach.

**Findings** – The model is constructed based on comments in social media. Model cover to enhance what is the best combination factors to develop tourism sectors in Bandung. The data that get covered almost all the tourism factors because of gathering information from all stakeholder.

**Research implications** – The contribution of this research is to help Bandung tourism government for developing tourism sector.

**Originality/value** – Develop tourism sector in Bandung.

**Keywords**— Co-creation, Conjoint analysis, Data mining, Develop, Tourism

### INTRODUCTION

Tourism has been considerably recognized as one of the abundant and promiscuous growing industrial sectors in the world (Brokaj, 2015, p. 75). The proof suggests that tourism can help local people to develop their economic lives, therefore many people in tourist attractions will have jobs, escalate employment and thereby generate economic accretion as one of the cornerstones of sustainable development (Creaco and Querini, 2003). Hence sustainable tourism conducts economic growth. Bandung is the capital city of west-Java province has a lot of variety of foods and tourist attractions. Sure enough that Bandung has big potency for the tourism sector, but the infrastructure to support these activities is still lack. Therefore Bandung needs to develop their infrastructure, infrastructure refers to structures, systems, and facilities serving the economy of a business, industry, country, city, town, or area, including the services and facilities necessary for its economy to function (Brokaj, 2015, p. 75). Thus the objective of this study is to help develop tourism in Bandung.

To recognize what the current condition in Bandung tourism also to know what factors should be improved and what factors become the strength of Bandung Tourism, authors use social media as the fastest way and the most describing the current condition. After that, conjoint analysis is used to know the best combination for tourists wants to ensure this research.

### LITERATURE REVIEW

According to Lim et al, 2009 touristic place must have transportation, Accommodation, popular destinations, leisure & sports, culture, shopping, and food. Whether Pearce and Schott, 2008 have five categories in the tourism area, which are: transport to the destination, transport at a destination, accommodation, attractions, and activities, and package. So authors generalize that transport to the destination, transport to destination, activities, information, accommodations are variable that necessary in Tourism. To develop tourism in Bandung, not only the government who responsible of, communities, scholars, and tourists itself must work together along

with to maintenance this sector. All stakeholder give the ideas, opinions, as well as works together also called value co-creation.

### **Value Co-Creation**

Service Science is a discipline method; It entangles more than one discipline for instance science, management, and engineering to create, design, and apply the highest value as a result of two or more organizational interactions (Novani et al., 2015). Service Science, Management, and Engineering (SSME) or service science is also established as a collaborative path to investigate, improve, and innovate the value co-creation process (Novani et al., 2015; Spohrer & Maglio, 2008; Spohrer & Maglio, 2010). Presently, service and co-creation can be view as a whole part. Co-creation defined itself as a mutual creation of value and experiences (Ercsey, 2016; Ercsey, 2014).

Another study, service-dominant logic (SDL) explains the co-creation value is developed simultaneously by consumer and provider's activities. Service-dominant logic (SDL) is a concept that the customers actively participate and collaborate with the provider in exchanges; customers co-create value with the firm (Ercsey, 2016; Vargo & Lusch 2008). SDL concentrates the relations among resource and co-creation into marketing subject. As we know, marketing mostly focuses on customer activity. In this situation, the consumer activity is the process of co-creation value and the support of the activity the co-creation process together bring through the providers to suit their services to the consumers' needs.

### **Social media**

The customer's need and provider's service can be meet at one point by using the platform. There are many platforms to simplify the interaction between customers and providers; one of them is social media. Social media, such as Twitter, Instagram, website, blog, facebook etc, is part of social network services/sites (SNSs) conducts users to connect and interact with others for a social or professional relationship (Yang et al, 2014). Social media can help the firm to monitor the online business environment, identify the potential problem and mitigate the issue, and collect information and create a collective memory and evidence for learning and further improvement through evaluation and sharing of experience (Sigala, 2012). Many companies using this platform to gather information search, complaint, feedback, sharing and referral from their customers (Yang et al., 2014; Johnston et al., 2013; Ward and Ostrom, 2006; Ko, 2013; Hsueh and Chen, 2010; Trusov et al., 2009)

### **Smart Tourism**

The collaboration of co-creation value of customer and social media can create smart tourism. Tourism is social, cultural and economic phenomenon, which involves the movement of people to countries or places outside their common environment for personal or professional purposes (Gretzel et al.; UNWTO, 2015). Smart tourism can be seen as e-tourism or the technological orientation of the industry and the consumers were laid early with the extensive adoption of information and communication technologies (ICT) in tourism, for example, web-tourism and social media (Gretzel et al., 2015; Buhalis 2003; Werthner and Ricci 2004).

### **Conjoint Analysis Basic Concept**

Conjoint Analysis is a multivariate technique used specifically to understand how respondent develops preferences for products or services. It is based on the simple premise that respondent evaluates the value of a product/ service/ idea (real or hypothetical) by combining the separate amounts of value provided by each attribute (Hair, et al., 1999).

### **Data Mining**

Data mining derived from work done in the area of statistics and machine learning as an interdisciplinary area, data mining has evolved from this scratch for a series of patterns, database design, artificial intelligence, visualization, etc (Yoo & et all, 2012)

## **METHODOLOGY**

The authors will conduct this study in a service science perspective framework. Collecting data from the costumers (tourists) through social media (Twitter) is one of the methods to generate the indicator regarding the

tourism issue in Bandung. Data cleaning, then, will be also undertaken to obtain clear data source from the raw data. System dynamic methodology will use as a modeling tool that can fulfill certain aspect of tourism as outlined in the following (Mandal et al., 1998)

The technique for data collecting and data processing will explain in this flow chart



## FINDINGS AND ARGUMENT

The findings are to understand what are the tourists wants from Bandung city and what the best combination that must apply nearby. The attributes from data mining helping the researchers to find deeper what customers feel. The conjoint analysis used to know what is the combination that must apply to the tourism sector in Bandung nearby. From the literature review, we got severals attributes and we processed the attributes through data mining. Below the word cloud result from data mining from Twitter as social media,



More big font printing for word cloud, more often people talk about it on Twitter. Otherwise, more small, more rare people talk about it. So for the next step with conjoint analysis, we excluded some word cloud results with small font and has a purple color.

We conducted 49 combination questionnaire with 14 respondent, but we eliminated 1 respondent that is not a tourist. The result from conjoint is:

### Importance Values

atrbt1	16.411
atrbt2	20.888
atrbt3	17.054
atrbt4	17.856
atrbt5	21.072
atrbt6	6.719

Averaged Importance  
Score

Transport to Bandung (Factor 1)	Transport at Bandung (Factor 2)	Outdoor Activity (Factor 3)	Indoor Activity (Factor 4)	Source of Information (Factor 5)	Accommodation (Factor 6)
Plane	Damri	Swimming	Shopping	Newspaper	Hotel
Train	Angkot	Offroad	Visit Musem	Facebook	Villa
Bus	Taksi	Visiting Park	Visit Library	Twitter	
Travel	Gojek	visiting farm	Cullinary	Instagram	
	Grab	attend	Attend	Tv	
		Festival	Culture		
	Uber	Historis		Radio	

From the outcome of the conjoint analysis, we propose combination for developing the tourism sector in Bandung first make the information about tourism in Bandung more attractive, the second is transportation at Bandung itself.

### CONCLUSIONS

Tourism in Bandung is still lack, they need a lot of things to do. It is hard to find the right public transportation and the spent time when using public transportation still can be predicted. The promotion and the information also the minority, tourists hard to find the appropriate information. For this reason and for further research the government needs to build application and integration website about tourism.

Based on the finding, the authors fathom that tourism has the impact to everything. Not only to financial aspect also to the human behaviors. The limitation of this study does not include the financial and human behaviors aspect.

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# VALUE CO-CREATION MODELING AS A STRATEGY OF START-UPS DEVELOPMENT IN THE DIGITAL CREATIVE INDUSTRY

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## EXTENDED ABSTRACT

Digital creative industry tends to growth rapidly in the future, but digital start-ups in Indonesia still difficult to develop their business. Limited resources like funds and talents become the major issues faced by many start-ups in Indonesia, not just digital start-ups. Collaboration is perceived as an effective strategy to solve those problems. By using collaboration, start-ups interact and collaborate with other stakeholders in the digital ecosystem to create value together or it is usually called as value co-creation. The purpose of this paper is to investigate the structure and analyze the interaction process of stakeholders in the digital creative industry in Indonesia, especially in Bandung. To reach the objectives, the authors used system dynamics model to know the behavior caused by the collaboration strategy to the number of digital start-ups and their profit. The authors used two programs for two scenarios namely collaboration in funding and human resource development. There are two scenarios: low and high collaboration. The result found that collaboration has an important role in developing digital start-ups in Bandung. By using high collaboration in those two programs, the number of digital start-ups and their profit will increase in the next years.

**Keywords:** *value co-creation, system dynamics, digital creative industry, start-ups.*

## INTRODUCTION

Research has shown that digital creative industry, which combines information, digital technology and the creative elements have grown since the last decades (Sneha, 2016). In Indonesia, the digital creative industry development is predicted will experience a significant increase along with the increasing of the internet users (Kemp, 2017). This phenomenon was supported by the rapid growth in the communication, information and digital technology. Digital technology is expected can generate GDP for Indonesia by USD 150 billion (almost 10%) in 2025 (Das et al, 2016). But, the current condition shows that the productivity of Indonesia is still low (Van der Eng, 2016), so it can hamper the GDP growth. This condition can be an opportunity and challenge for start-ups in Indonesia, especially digital start-ups to make some business innovation to increasing the productivity performance in Indonesia. But unfortunately, some literatures have shown that start-ups, especially start-ups in the digital creative industry are difficult in creating or adopting new innovation (Webb and Sayer, 1998; Mehrtens et al, 2001; Beckinsale et al, 2006). There are so many obstacles faced by the start-ups like funding problem, limited talent or human resources and other problems. Therefore, strategies are needed to overcome these obstacles.

Collaboration is perceived as one of the strategies can be used to help start-up in increasing their ability to creating some innovation in their business (Todeva and Knoke, 2005). In the collaboration concept, each stakeholder must be able to work together (collaborate) in creating shared value (Value-Co-creation).

By using the concept of value co-creation, the stakeholders can collaborate to make some service exchange and do some works together like sharing ideas, funding, talented human resources, or even can help each other by utilizing their expertise to develop a sustainable business in the digital creative industry.

Although business in the digital creative industry becomes an important issue today, literature that analyzes the digital creative industry in an Asian country is very limited. Many researchers just focused on the value co-creation in other industry like a study conducted by Balaji and Roy (2016) or a study that just focused on the

digital ecosystem, like a study conducted Henfridsson et al (2013). They just focused on the digital ecosystem as a whole, not focused on the digital creative industry. Therefore, through this study, the authors try to fill the gaps by conducting a study about the value co-creation modeling to increase the performance of start-ups in the digital creative industry in Indonesia by using a system dynamics model. The purpose of this study is to (1) analyzing the problems faced by the digital start-ups in Bandung, (2) analyzing the scenarios of collaboration strategies needed to develop the digital start-ups in Bandung, and (3) projecting the effect of collaboration effect to the number of digital start-ups in Bandung. The case studies were selected in this study is start-ups in the digital creative industry in Bandung, especially at the Institute for Innovation and Entrepreneurship Development (LPIK) ITB and Bandung Digital Valley (BDV).

## **LITERATURE REVIEW**

This research is undertaken in some literature and construct of value co-creation. The basic theory used in this paper is value co-creation that discuss about collaboration concept.

### **Value Co-Creation**

Ramaswamy and Ozcan (2014) defined co-creation as a process to create value together between one stakeholder with other stakeholders to reach a win more-win more outcomes. Ramaswamy (2009) said that individual, not just a product receiver, but also a value co-creator. This statement was supported by Vargo and Lusch (2016) in their service dominant logic, said that “the customer is always a co-creator of value”. Based on the definition, we can conclude that the key concept of value co-creation is about how each individual collaborates with other individuals to create value together.

### **Collaboration in Digital Industry**

Digital industries are industries that use digital resources and platforms and usually targeting markets that are rarely entered by the other industries. (D’Adherio. 2001; Klein and Rai. 2009; Rai et al. 2012 cited by Bharadwaj et al. 2013). In current ecosystems, many people used digital platforms to interact or communicate with others so it can make them easier in achieving their needs and goals. But unfortunately, the interactions among the digital actors are still not effective (Berthon et al, 2016). Whereas, interaction among actors and networks are important factors in the collaboration or value co-creation process. Therefore, a value co-creation model is needed to analyze the interaction among actors in the ecosystem.

## **METHODOLOGY**

The method used in this research is mix method research (by using qualitative and quantitative approach). In this research, the qualitative approach has been conducted before by using interview method. The qualitative result shows that the collaboration among stakeholders in the digital creative industry is still not optimal, or even sometimes there is no collaboration. It is caused by the lack of interaction, communication, and coordination among the stakeholders. Whereas, network and interaction become the important key in making collaboration or value co-creation process. Due to those problems, the author will use system dynamic approach to analyzing the structure and interaction of stakeholders. This system dynamic is expected can analyze the effect of collaboration on the start-up’s development. In this study, the system dynamics is used to know the behavior will be created if the collaboration strategy is applied to the service system. Here is the general scheme of this study.



## RESULT

### Causal Loop Diagram (CLD)

Here is the CLD for this paper.

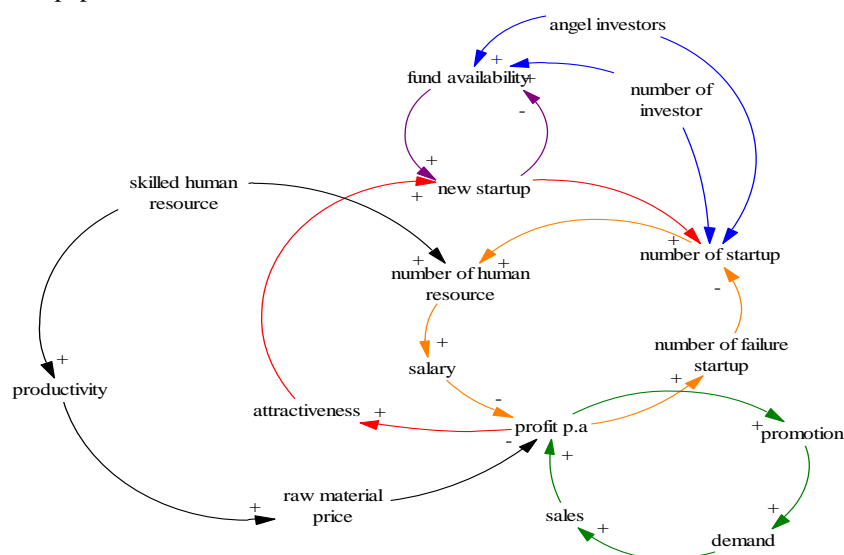


Figure 1. CLD of Digital Start-ups Development

### Stock Flow Diagram (SFD)

Here is the SFD for this paper.

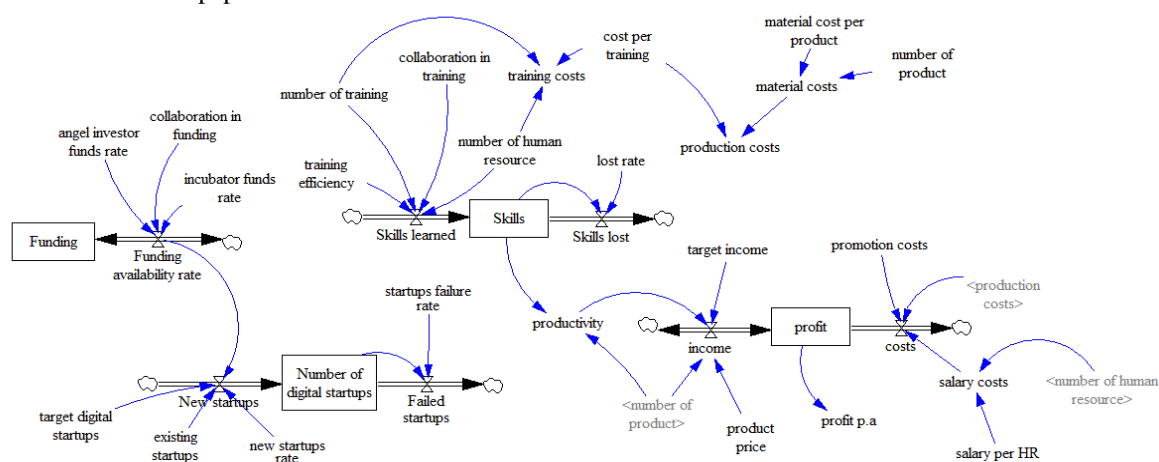


Figure 2. SFD of Digital Start-ups Development in Indonesia

### System Dynamics Model

In this system dynamics model, the authors used two scenarios: low and high collaboration. The both of start-up's development strategy (funding and skilled human resource) are simulated using those two scenarios. It is because the authors want to know the effect of collaboration (high and low) in those three programs to the number of digital start-ups and the profit. After conducting CLD and SFD, here is the result of system dynamics model for this research.

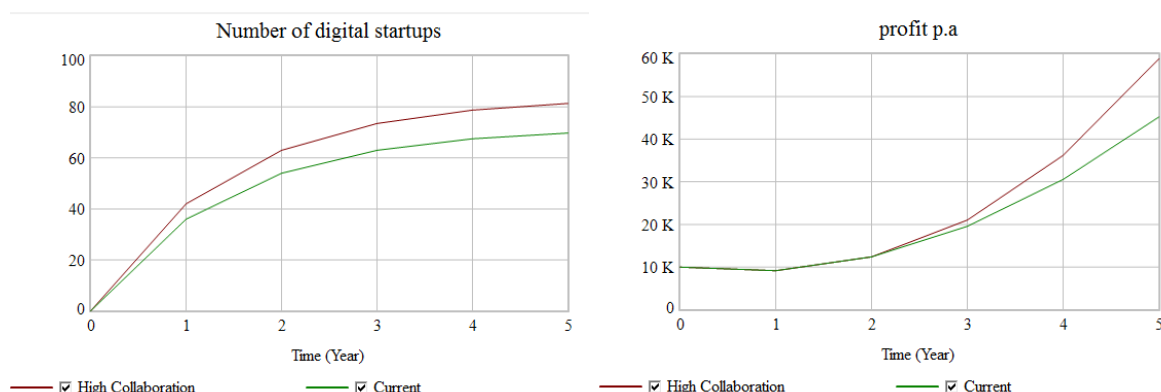


Figure 3. System Dynamics Model

Based on the system dynamics result, the number of start-ups will increase by the presence of high collaboration among stakeholders. By collaborate with other stakeholders like government, academia, and industry, start-ups can develop their business effectively, it will make them can get funds and the human resource needed have a good skill in developing the business. So the optimum profit can be achieved and the number of digital startups will constant. The digital creative market will be more attractive and attract people to start their business in the digital creative industry. Meanwhile, if the collaboration is low, the start-ups are expected will difficult in developing their business, so although the number of startups still increase, but it will be lower than the high collaboration. Then, when initial investment is done in the beginning of the simulation, the average profit will fall, but since the human resource have a good skill, they can manage their business effectively that can make the profit become higher and can achieve the optimum profit.

## CONCLUSION

The result shows that the profit and the number of digital start-ups were projected will increase if there is a high collaboration among stakeholders. But, since this result is conducted in Bandung, the result may be different if it was conducted in another country. The result of this study is expected can be a reference for the government in making some effective policies to increasing the number of start-ups and help them in developing their business. For academia, this research is expected can give some theory contribution for the research field related to the value co-creation, system dynamics, and digital creative industry. Then, this study also is expected can give some effective collaboration strategy for the stakeholders in the digital creative industry. In addition, this study recommends the start-ups to collaborate with academia in developing and getting new talent or skills in business development.

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# DATA MINING APPLICATION TO DETECT VIRAL IN SOCIAL MEDIA

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## EXTENDED ABSTRACT

In the digital era, ideas or even information can spread very quickly like a virus. A current hot topic of much discussion is "viral marketing", which describes a phenomenon where consumers share and disseminate relevant information in the social media like YouTube, Instagram, Twitter and other social media. Until now, there is limited information that can describe the cause of news became viral. Therefore, people need to be vigilant and be wise in sorting information obtained. The purpose of this paper to detect viral in social media. Through this paper, the authors try to use viral news as media that can help startups in promoting their products. The method used in this paper is mixed method research. Data mining will be used to collect the information needed to analyze the viral information collected from social media. To analyze the viral contents, the authors use STEPPS (Social Currency, Trigger, Emotion, Public, Practical Value, and Story) as viral characteristics. The expected result from this paper is an algorithm that can detect the viral percentage of posts in social media.

**Keywords:** *data mining, viral marketing, social media.*

## INTRODUCTION

Today, viral marketing is perceived as one of effective marketing strategies that help companies in achieving high sales by spreading information about product or services to the potential customer. (Dobele et al., 2007). Many companies have used this strategy to increasing their sales since the competition in the business environment rapidly increased. Meanwhile, in this digital era, internet technology can be used as a media to help startups to advertise their products or services with some marketing strategy using any social media (Fadil, 2015).

Social media (such as Blogs, Facebook, Twitter, Instagram, etc.) has become a very important part in people's lives. According to the New Digital in 2017 Global Overview report from We Are Social and Hootsuite, there is about 2.8 billion active social media users in the world (Kemp, 2017). Meanwhile, active social media user in Indonesia is 79 million users. For example, in 2017, the Twitter user in Indonesia is 18.9 million with penetration 16.8% (Loras, 2017). It makes Indonesia become the capital Twitter over the world.

Besides being used to meet social needs, social media is also can be used to support business activities. Social media is used as one part of a marketing strategy. Many companies are using social media as a means to advertise and market their products. Many companies have used this strategy to increasing their sales since the competition in the business environment rapidly increased. It can be a good opportunity for Indonesia to use social media, especially viral marketing to increase its economic growth.

However, academic literature that discusses in more detail about the reason for news became viral on social media is still limited because not all the news that has the proficiency level criteria can be viral. Therefore it is important to conduct research on the factors that can determine information becomes viral and its impact on marketing activity, especially for the start-ups. If viral can be detected clearly, the viral can be used as a tool to increase the marketing activity, so it can help the start-ups in Indonesia in promoting their products to the customer. To detect viral, the authors use data mining as a process of sorting a large of data, like data in social media to generate some patterns to help people in solving some problems (Han, et al., 2012).

Based on the background above, the purpose of this study is to find a general pattern of viral posts or tweets so the authors can build an algorithm that can detect viral. The algorithm, then, will be generated to predict the

probability of the posts and tweets that contain viral pattern. The authors used the principals and method of data mining as the initial data collection from social media sites like Instagram and Twitter or other internet websites. Here are the research questions of this study:

1. How does a viral pattern logically look like?
2. What is the algorithm structure that can detect viral?

## **LITERATURE REVIEW**

### **The Concept of Viral and Viral Marketing**

The concept of viral is much related with viral marketing. Viral marketing is a marketing strategy that takes some advantages by using the information that spreads on the internet (Scott, 2008, cited in Adelsarbanlar & Khoshtinat, 2016). Viral marketing is different with other marketing strategies, it have different goal. There are three important concepts that need to be discussed to differentiate between viral, word-of-mouth (WOM), and memes.

According to Dahan (2012) quoted by Snyder (2004), many experts argue about viral definition. Many marketers said that viral is traditional word-of-mouth leverage across the internet. While Nahon and Hamsley (2015) said viral is not word-of-mouth. There is difference between viral and word-of-mouth. Word-of-mouth is social information sharing to influence others; meanwhile, viral is a flow of spreading social information among people in a short time. A process to spreading the information in the social networks by one people to other people is called as virality (Nahon & Hamsley, 2015). Then, meme or internet meme is an internet content, such as pictures, rumors, videos, jokes, or websites that is propagated by one person to others using social networks or internet (Shifman, 2013). Based on the definitions, it can be conclude that there is difference between viral, WOM, and meme.

### **Elements of Viral**

According to Berger (2015), viral has six elements: social currency, trigger, emotion, public, practical value, and stories (STEPPS). The first element is social currency that is defined as an important value(s) for people which make them want to share the content. The second is the trigger that related to a reminder of the content. The next is emotion, related to the strong emotion, whether positive or negative emotion. Meanwhile, public or known as social proof is the decision to share affected by what everyone else around us. People have a tendency to imitate something that going public. Then, practical value is related to the content that helpful will be share to people they know. The last element of viral based on Berger (2015) is story that is defined as remarkable stories since people communicate through stories.

### **Data Mining and Social Media Mining**

According to Han et al. (2012), data mining is data processing activity from a huge and complex data source by implementing simplification and generating a pattern of the easiest method to gain usefulness and to ultimately create knowledge. Also, data mining is a process to identify patterns from a lot of data that to solve some problems (Berzal, et al., 2001). Zafarani et al (2014) defined social media mining as the extraction of trending data available in social media in the form of comments, trending topics, and all the related information to them. In conclusion, data mining can be defined as a process of collecting some useful patterns from a large and complex, it can be data from social media, to be used as a solution to solve some problems.

## **METHODOLOGY**

The method used in this study was mixed method research. According to Creswell and Plano (2011), mixed method research is a method used to collect and analyze data by combining both quantitative and qualitative method. In this paper, the authors used secondary data obtained from data mining sourced from a variety of social media. The information required in this research is the information regarding the comments in social media, information posted on social media until the time of posting information on social media. To obtain information about how the information could be viral, there are several steps that must be carried out. The first step for this research is retrieving data from the posts or tweets that already exist in social media. In this research, the authors just limit the posts or tweets form two social media: Instagram and Twitter. The authors just use tweets or posts related to the social and political topics. The second step is cleaning data from stop words. The result obtained will be in the form of keywords. Then, the authors will identify the keywords into

STEPPS's elements. Then, the authors will build a word tree and then weight the keywords based on the level in the tree. The authors will build an algorithm that can detect viral. Through this algorithm, the author will know the percentage of posts or tweets will become viral. Here are the steps used in this research.

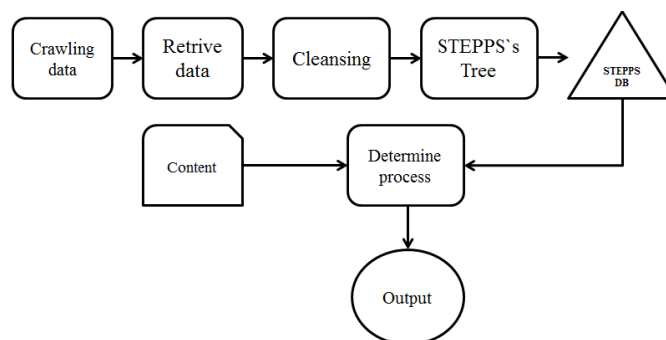


Figure 1. Research Design

## EXPECTED RESULT

To achieve the objective of this research, the authors characterized posts from Instagram and tweets from Twitter into six elements of viral, which are Social Currency, Trigger, Emotion, Public, Private Value, and Story (STEPPS). In this study, the authors use STEPPS as elements of viral to identify the viral news. In this research, the authors just use posts or tweets shared in Indonesian. Here is the example of keywords that have been classified into STEPPS.

No	Social Currency	Trigger	Emotion	Practical Value	Public	Stories
1	agama	Pulau Seribu	emosi	Saran	Ahok	ditinggal nikah
2	islam	aksi 212	seneng	menurut aku	Habib Rizik	disiram air keras
3	Al-Maidah	aksi 411	hajar	Request	Jokowi	kisah Angeline
4	pemimpin	kampanye	benci	Katanya	presiden	nenek pencuri singkong
5	ideologi	kudeta	marah	bantu jawab	Raja Salman	pembunuhan dengan pacul
6	komunis	rusuh 1998	omong kosong	Katanya	Soekarno	racun sianida
7	PKI	kebangkitan PKI	bego	Berhasil	DJ Snake	pilot mabuk
8	palu Arit	logo BI	dendam	makasih	Zedd	ibu-ibu memaki polisi

In this study, the authors are building algorithm for STEPP's tree and then weighting each keyword base on the STEPPS's elements. The weighting process will be based on the literature review. In this study, the authors want to build a self-learning algorithm to detect viral. Here is the example of word tree for social currency.

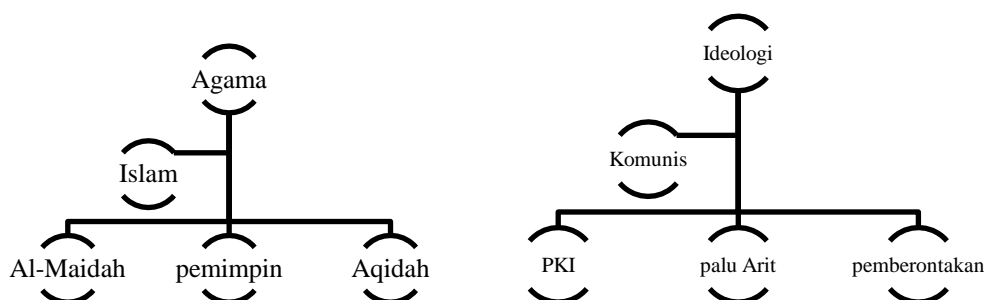
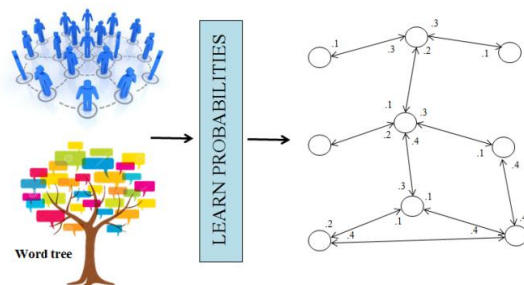


Figure 3. Word Tree

This paper is expected can build an algorithm that than detect viral by detect probabilities for posts or tweets to become viral. So, the authors expect can detect some posts or tweets that has high probability to become viral. Here is the figure that explain the expected result from this paper.



**Figure 4. Viral Detection Process**

## CONCLUSION

In this research, there are six elements of viral like social currency, trigger, emotion, public, practical value, and story (STEPPS). By using these elements, the authors will build an algorithm that can detect the percentage of posts or tweets in social media will become viral. The limitation from this this research is this research just focused on the viral detection for posts or tweets that using Indonesian. So, for future research, the researchers can use other information that using different language. The managerial implication of this research is this research is expected can help startups by giving strategy about how to use viral marketing as a strategy to promote their products of services to the potential customers.

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# DEVELOPING CREDIT ENHANCEMENT MODEL FOR PPP (PUBLIC PRIVATE PARTNERSHIP) INFRASTRUCTURE PROJECTS IN INDONESIA (A REVIEW OF PPP UMBULAN PROJECT IN EAST JAVA PROVINCE)

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## EXTENDED ABSTRACT

Government budget constraint requires private investment in infrastructure through PPP (Public Private Partnership) scheme in Indonesia. Thus, this analysis has objective to exercise some initiatives on credit enhancement model to enhance the project which financially unviable but economically viable. The analysis is conducted by two key methods; (1) interviewing some experts as representing of Government, lenders and investors, and (2) reviewing the case study of PPP Umbulan Water Supply Project with the capacity of 4,000 liters/second in East Java Province ("Umbulan Project"). From the interview, feasibility and bankability of project is the pre-requisite to attract private investment. Umbulan Project without credit enhancement is not both feasible and bankable with negative Net Present Value (NPV) and Project IRR < WACC (approximately 12.11%). Therefore, some options to enhance the project are (1) providing Viability Gap Fund (VGF) with minimum 40% of total investment; (2) providing Availability Payment (AP) to achieve 15% of target return of investor by giving subsidy; (3) providing subordinated loan with flexible repayment amounting 42% of investment to secure the senior loan; and (4) government guarantee to ring-fence the political risks caused by GCA. The key consideration to determine the best option is the GCA/ regional budget capability.

**Keywords:** PPP, VGF, AP, Guarantee, subordinated-loan

## INTRODUCTION

It is stated by Indonesian Government that the priority of current administration was to fulfill the gap of infrastructure of Indonesia by attracting private sector through PPP scheme. But some PPP projects not to sufficiently attract the private investors to invest. In addition, some projects that will be offered to the market have poor of returns and even for in cases are not feasible and bankable. To cover the projects that are financially unviable, Government has to enhance the project by giving its supports. Such Government support is governed by Presidential Decree No. 38/ 2015. In order to exercise the form of Government support in Indonesia PPP infrastructure project, the study will explore one of PPP Project under the regime of Presidential Decree No.38/2015. The project is PPP Umbulan Water Supply in East Java Province with capacity of 4,000 liters/second. It is the first PPP project in water supply system which applied Government support to increase its feasibility and bankability in Indonesia. In the structure, Government Contracting Agency (GCA) is the East Java Provincial Government which held a PPP tender in looking for private partnership. Umbulan Project is structured as DBOT transaction which mandates business entity to design, build, finance, and conduct testing as well as commissioning on the new facilities consisting of building intake, production facilities, pump houses and the transmission systems to 16 destination points (tapping off-take) in five regions (Surabaya City, Pasuruan District, Pasuruan City, Sidoarjo District and Gresik District). The PPP company will operate and maintain the new facility for a period of 25 (twenty-five) years from the date of commercial operation. At the end of the concession period, GCA will take over the new facility from the PPP Company.

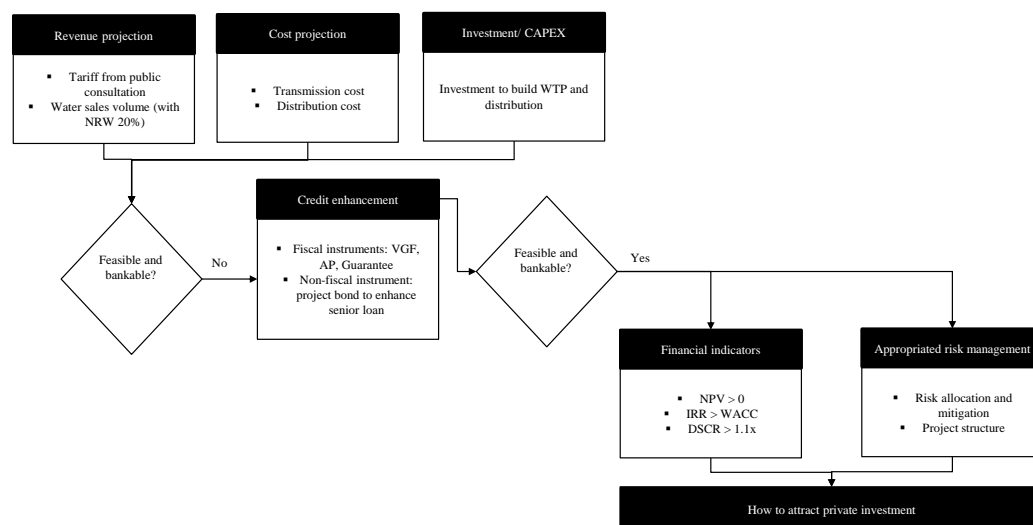
Basically Umbulan Project is commercially unviable but has important economic benefit for the public. Due to being not commercially viable, Umbulan Project has been offered to investor more than 30 years but with zero result. Just in 2016, the project is success for in getting Government fiscal subsidy and GCA (Government Contracting Agency) tried to retender with the new scheme. Finally, there were many private investors submitted their proposal in the bidding. This lesson learned is very interesting to be elaborated to analyze how

important Government support to increase the project feasibility and bankability. The final project will exercise credit enhancement model in form of the fiscal instruments and also non-fiscal instruments to increase the quality of non-commercial PPP project in Indonesia.

From above issues which are faced by PPP Umbulan project, the final project will be scoped as following questions:

- How Government of Indonesia could enhance the viability and bankability of PPP project in order to increase the private investment as well as lender financing?
- Are there other types of credit enhancement model, particularly non-fiscal instruments that can be created through financial market solution to increase the project feasibility and bankability in order to attract private investor as well as lender financing?

The workflow of this final project will be divided into 3 parts of process: (1) data collection which consisted of primary data and secondary data. The primary data will be gathered by interview and discussion, meanwhile secondary data will be cultivated from PPP Umbulan financial assumptions, related law and regulation and best practices study; (2) data analysis which started by setting project parameters, building credit enhancement scenarios and simulating into financial model; and (3) conclusion from the analysis for the purpose of recommendation to the Government. The analysis will be structured from the private investment perspective in PPP Umbulan project. The generic framework of the financial feasibility and bankability of PPP Umbulan project in order to attract private investor is as follows:



**Figure 1. Framework of the Financial Feasibility and Bankability of PPP Umbulan Project**

## LITERATURE REVIEW

### METHODOLOGY

The analysis uses a Discounted Cash Flow analysis (DCF) model which is premised on the principle that the value of a company, business, or collection of assets can be derived from the present value of its projected free cash flow (FCF). A company's projected FCF is derived from a variety of assumptions and judgments about its expected financial performance, including sales growth rate, profit margins, capital expenditures, and net working capital (NWC) requirements (Rosenbaum and Pearl, 2013:135-142). Discounted cash flow (DCF) analysis is useful for investment project appraisal and corporate valuation. The Net Present Value (NPV), Internal Rate of Return (IRR) and payback period are indicators of project appraisal. It is the way to combine the assessment of both opportunity and risk in anticipating future cash flows.

DCF model defines the concept of free cash flow which represents the remaining amount of operating cash flow for equity and debt holders, after servicing investment in fixed assets and working capital needs. It is useful in calculation because allows a project to pursue opportunities that enhance shareholder value (Rosenbaum and

Pearl, 2013:135-142). Opportunity cost is significant because any financial decision must be measured against a default low-risk investment alternative or the inflation rate. Risk becomes a significant factor when the financial decision being considered involves some statistically significant probability of loss. Calculation of risk factors beyond opportunity cost can often be very complex and imprecise, requiring the use of actuarial analysis methods and in-depth market analysis. When risk is included in discounted cash flow (DCF) analysis it is generally done so according to the premise that investments should compensate the investor in proportion to the magnitude of the risk taken by investing. A large risk should have a high probability of producing a large return or it is not justifiable.

In the case of Umbulan project, below table is the formula in calculating Free Cash Flow ("FCF"):

**Table 1. Free Cash Flow Model on Water Supply Project**

Components of FCF	Remarks
Revenue	<b>Sales of bulk water (volume multiples water tariff)</b>
(-) Operating & Maintenance (O&M) Cost	Laborers, electricity, maintenance, raw water, administration and insurance
= <b>EBITDA</b>	<b>Earnings Before Interest, Tax, Depreciation and Amortization</b>
(-) Depreciation	Depreciation and Amortization = concession period
= <b>EBIT</b>	<b>Earnings Before Interest and Tax</b>
(x) (1-tax (25%))	Corporate tax
= <b>EBIAT</b>	<b>Earnings Before Interest and After Tax</b>
(+) Depreciation	Depreciation and Amortization = concession period
(-) CAPEX (net of subsidy)	Investment cost (total CAPEX)
(-) Net working capital changes	Changes of current asset and current liabilities
<b>Free Cash Flow (pre-financing after tax)</b>	<b>Cash availability for project (debt and equity)</b>

Source: Rosenbaum and Pearl, 2013

## FINDING AND ARGUMENT

It is clear that all stakeholders in PPP structure require feasible and bankable project in order to attract private investment in infrastructure development. With the condition of PPP project is financially unviable but economically viable, Government supports should be available to enhance the project. Below table describes the inter-relation perspective between Government, investor and lenders on PPP project in Indonesia.

**Table 2. General Perspective of Key Stakeholders in PPP Project in Indonesia**

No	Parameters	Government	Investor	Lender
1	Project indicators	Government has the obligation to enhance project to be feasible and bankable before tendering the project to invite private investment.	Investor requires the project can generate return with indicators of: <ul style="list-style-type: none"> <li>NPV &gt; 0</li> <li>Project IRR &gt; WACC</li> <li>DSCR &gt; 1.1x-1.2x</li> </ul>	Pre-requisite of project to be financed are: <b>Project profile</b> <ul style="list-style-type: none"> <li>NPV &gt; 0</li> <li>Project IRR &gt; WACC</li> <li>DSCR &gt; 1.1x-1.2x</li> </ul> <b>Project sponsor</b> <p>Sponsor has good capacity and track records, particularly to cover the risks during construction and operation</p>
2	Project commercially unviable	Government provides Government support in forms of: <ul style="list-style-type: none"> <li>Viability Gap Fund (VGF)</li> <li>Availability Payment (AP)</li> <li>Government Support</li> </ul>	Investor requires Government support to increase the viability of project	Lender requires Government support to increase the viability of project
3	Risks allocation	Government will bear the political risks	Investor will bear the construction and operational risks	Lender will require the guarantee to cover the credit default
4	PPP process	Competitive bidding with international best practices' standard	Competitive bidding with international best practices' standard	Competitive bidding with international best practices' standard
5	Concession standard	Using best practices standard	Using best practices standard	Using best practices standard
6	Strategic position	Regulation, monitoring and evaluating the PPP project during concession	Building, Operating and Maintaining the PPP project during concession	Financing the project and make sure the debt repayment during its maturity

For the credit enhancement models, if it refers to case of Umbulan Project, many options of Government support to enhance the project to be feasible and bankable. Bellow table is the summary of those Government supports impacting the Umbulan Project feasibility and bankability.

**Table 3. Umbulan Project Feasibility and Bankability Supported by Government Support**

No	Variable	No credit enhancement	Credit enhancement		
			VGf	AP	Sub-ordinated loan
1	Investment	Rp1,951 bio	Rp1,951 bio	Rp1,951 bio	Rp1,951 bio
2	WACC	12.11%	12.11%	12.11%	12.11%
3	Credit enhancement	0 (no Government support)	42% of investment (as construction cost subsidy)	Subsidy for Capital Cost Recovery (interest+ principle) and OPEX (fixed energy charge + fixed O&M)	42% of investment (debt repayment after senior loan)
4	Feasibility indicators: • Project IRR • NPV	8.80% (485,255)	14.00% Rp183 bio	15% Positive	14% Rp183 bio
5	Bankability indicators: • Minimum DSCR • Average DSCR	0.52x 1.04x	1.15x 1.57x	Covered by Government	1.01x 1.50x
6	Conclusion	Not feasible and not bankable	Feasible and bankable	Feasible and bankable	Feasible and bankable
7	Government appetite • Pros	-	No operational & demand risk	Amortized cash payment (multi years)	Transferring risks to SOE
	• Cons	-	Huge money (cash) from state budget (one-time financing)	Charges based on operational & demand risk	Potency to make losses in SOE

Other Government support is guarantee through PT PII or IIGF. This guarantee is required for all type of above Government supports. Indicative of GCA's Obligation which is covered by Government Guarantee in Umbulan Project are quantity of raw water, quality of raw water, approval/ permits, land acquisition, clean water absorption, and failure in payment of water charge. Meanwhile the risks that will be shared both private and Government are inflation, change in law discriminatively, and force majeure. Those risks allocation is stated in guarantee agreement as well as in recourse agreement. Moreover, from all types of Government support, it can be concluded that all supports have objective to enhance project to be feasible and bankable. Due to having similar output, Government should determine the suitable support instruments based on the Government or GCA capability to fulfill each requirement. If the GCA faces the budget constraints, AP is the suitable model for enhancing the project. In contrast, if the GCA has enough budgets, VGf is the best option to choose without the long term burden risks. For the subordinated loan model, it is too risky for the SOE who has responsibility to take the very long term financing. It needs the back to back guarantee from state budget through Government injection to SOE. PT SMI is the ideal institution to have this mandate due to directly under the MoF. But strengthening PT SMI is the pre-requisite to implement this subordinated loan model.

## CONCLUSION

Government, investor and lender are the key stakeholders in PPP structure have same understanding to see the PPP project. The project which is financially unviable, Government has obligation to increase its feasibility and bankability in order to attract private investment before proceeding into tender process. Due to having similar output, Government should determine the suitable support instruments based on the Government or GCA capability to fulfill each requirement. If the GCA faces the budget constraints, AP is the suitable model for enhancing the project. In contrast, if the GCA has enough budgets, VGf is the best option to choose without the long term burden risks. Besides that, government also can utilize the sub-ordinated loan instrument to enhance the project by involving the SOE in financing business.

As recommendations, government should understand that Government supports, essentially, is the last resort instruments to enhance the project feasibility and bankability. Thus every PPP project should be optimized by the revenue stream to recover the return through “bundling revenue model”. For instance, water project has revenue not only from bulk water charges (public tariff) but also can be directly selling to industrial estate without via PDAMs, toll road with TOD concept, etc. Besides that, the optimum structure of Government support needs to be exercised by using combination of both VGF and AP in one PPP project rather than single instrument. In parallel, government also should encourage the capital market to directly invest in PPP project via long term investment model as part of credit enhancement to senior loans. The last, capacity and capability of GCA in preparing PPP project tender also should be increased to make credibility and certainty of PPP process.

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# EVALUATING AND DEVELOPING COMPETENCY MODEL FOR PT MNH

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## EXTENDED ABSTRACT

The current business issue in PT MNH is expenses for employees are increasing, but followed by a decrease in employee productivity. The research will find out why it happens based on the human capital practice point of view. The research begins by analyzing the company competitive advantage by conducted VRIO analysis. From the results of VRIO analysis, the competitive advantages of PT MNH is the marketing, health and safety, and corporate culture; but those doesn't solve the current problem of PT MNH. The research suggest that PT MNH focused on improving the competencies of the employees. The results showed that PT MNH should focus on the production, distribution, and human capital and by the implementing the competency model for the employees in the company's operational activities.

**Keywords:** : VRIO analysis, competitive advantage, competence, compensation, AHP

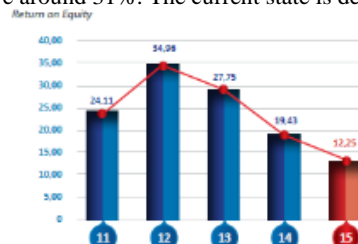
## INTRODUCTION

PT MNH Industri Persero is a state own company in Indonesia covering electronics, telecommunication, and component sectors. PT MNH vision is "To Be a World Class Electrical Company", so the company is expected to operate with international business standards and be able to play in the global market. The company profits in 2015 is IDR 36,674,748,826 and the total assets including the subsidiaries is IDR 3,159,192,915,112. PT MNH located in Bandung and have 498 employees in 2015. PT MNH client majority come from the government project like E-KTP, solar energy lamp in the railway, or the radar system for the Indonesia military.



**Figure 1. PT MNH Net Income**  
(Source: Annual Report of PT MNH)

Net income from 2011 to 2014 can be seen in Figure 1. From 2013, net income declining 28% and keep declining from 2014 to 2015 by 28%. It indicates that there is a problem in PT MNH. PT MNH could the net income up to 77% in 2011-2013. There can be many reason why this problem happened in the operation process by PT MNH. Electronic industry contribution to GDP is only about 23% whereas ever achieve around 31%. The current state is decline (Kemenperin, 2016).



**Figure 2. PT MNH Return On Equity**  
(Source: Annual Report of PT MNH)

Return on equity (ROE) is also decreasing and 2015 have the smallest number of ROE. Based on the Figure 2, the declining ROE may cause by the operation cost is increase or the employee is underutilized. From 2012, the return on equity

decreasing 20% and from 2014 to 2015 decreasing around 36%. Besides the financial performance, PT MNH also have employee performance decreased. The ratio of employee productivity is declining from 0.19 in 2013 until 0.07 in 2015. The formula for employee productivity come from employee productivity/employee spending. PT MNH increased the employment expense in 2015, indicates the company care about the employee welfare. PT MNH increased the employee salary based on the inflation rate, so it will continue to increase year by year. The increasing employment expense can be seen by the employee spending and personnel cost per employee. Unfortunately, the employee didn't give much profit to the company. The employee still give profit to the company but the number is decline from IDR 99.377.410 in 2014 to IDR 72.664.073 in 2015. The research must be conduct to answer the problem. PT MNH is weak in production, distribution, and human resource system.

## **LITERATURE REVIEW**

### **Value Chain Analysis**

Value chain analysis is one way to identify resources and capabilities that have the potential for creating competitive advantage for a firm (Barney, 1991). In the other word, value chain defines as value creating activities all the way from the basic raw material source for component supplier through the ultimate end-use product delivered into the final customer hand (Dekker, 2003).

### **VRIO Analysis**

Value, Rareness, Imitability, Organization (VRIO) analysis is framework which allow resource can be a source of sustainable competitive advantage of a firm. The 4 characteristics have been theorized to make the result of sustainable competitive advantage for a company (Judgev, 2007).

### **Employee Competence**

Employee competencies are those traits, skills or attributes that employees need to perform their jobs most effectively. The competence assessment will use Spencer & Spencer and Spencer competency model. Spencer and Spencer similarly defined competency as an underlying characteristic of an individual that is casually related to criterion-referenced effective or superior performance in a job or situation (Spencer and Spencer, 1993).

### **Analytic Hierarchy Process**

The Analytic Hierarchy Process (AHP) is a multi-criteria decision-making approach (Saaty, 2008). The AHP has attracted the interest of many researchers mainly due to the nice mathematical properties of the method and the fact that the required input data are rather easy to obtain. The AHP has a special concern with consistency.

## **METHODOLOGY**

The corporate analysis will be about the strategy to do the operation process until the product is sold to the market. The corporate analysis will use value chain analysis. The output from the corporate analysis will be input for the corporate competence. Based on the corporate competence, the next step is do VRIO analysis to know the business competitive advantage. According to Barney, a firm can only benefit from a sustainable competitive advantage if its resources reunite the four criteria. The use of this framework is very helpful to analyze sustainable competitive advantage. Based on the business issue and the current competitive advantage, the research aim to suggest new proposed competitive advantage for PT MNH to sustain in the business. After proposed the new competitive advantage, PT MNH need new competency development for their employee. The proposed competency development will help PT MNH to find the right talent or develop the current employee to meet the expectation in the critical role. One of the proposed solution is about compensation package for the employee. The proposed compensation package will use Analytic Hierarchy Process (AHP) to make the weighting and judgement. AHP has many application in the multi criteria decision making, planning, and resource allocation in conflict resolution (Dekker, 2003).

## **FINDINGS AND ARGUMENT**

### **Organization Strategy**

The organization strategy consists of value chain analysis of PT MNH. The value chain will consist of primary activities and support activities. Primary activities is the activities that have direct interaction with production and customer. Support activities will support the primary activities to work well and organized.

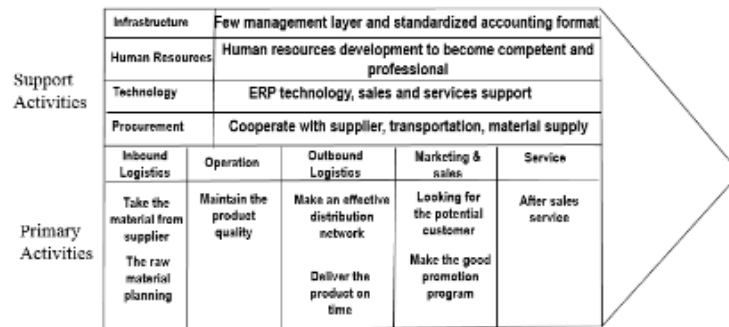


Figure 3. PT MNH Value Chain

### VRIO Analysis

Based on the core competence, the research will find the current competitive advantage by using VRIO analysis. To know the competitive advantage, the Focus Group will be conduct. The participant will be the head position because the head position know well about business process in PT MNH and all the business performance. The expertise, chooses the elements to be included in the sample, because he or she believes that they are representative of the population (Malhotra, 2008).

The guideline will be structured in a series of 4 variables to be asked about the business activities in which a firm engages, the question about value, rareness, imitability, and substitutability. The respondent will fill the questionnaire by Likert Scale 1-5 for every questions. The VRIO result is calculated by addition of Value, Rareness, Imitability, and Organization.

Table 1. Current Competitive Advantage

Competency	Total
Market research	16
Marketing strategy	16
Health and safety environment	16
Culture	16

The current competitive advantage is not solving the current problem which is the production process and human resource management. If the problem is not solved now, the problem will keep on going and will weaken PT MNH position in the market. The proposed competitive advantage based on the business issue and interview with the head division consists of 3 aspects, which is production process, distribution process, and human resource management.

### Proposed Competence

The competence development will start by analyzing the competence needed for the future target of PT MNH and the current business issue. The purpose of the human resource is balancing act by hiring qualified personnel who are well suited to the firms need and the company must do training and developing employees to meet the firms need (Roberts, 2011). The competence development will consist of core competence, functional competence, managerial competence, and technical competence.

### Core Competence

The core competence is part of core corporate values. To make the core competence, it must consider the corporate value and corporate business strategy. The current core competence is customer oriented, continuous learning, achievement oriented, and team collaboration but it is not cover the current business condition and the corporate value, so the proposed competence add organizational awareness and commitment, and analytical thinking. The proposed competence is:

Table 4. Proposed Core Competence

Core Competence
Customer Oriented
Continuous Learning
Achievement Oriented
Team Collaboration
Organizational Awareness
Organizational Commitment
Analytical Thinking



### Functional Competence

The next step is functional competence, functional competence is for specific position and job desk. The functional competence is come from the proposed competitive advantage for PT MNH in the future. The functional competence will be divided into production process management, effective distribution process, and human resource management.

**Table 6. Proposed Functional Competence**

Department	Competency
Production Process Management	Impact and influence, concern for order and quality, achievement orientation, analytical thinking
Effective Distribution Process	Technical expertise, achievement orientation
Human Resource Management	Initiative, self-confidence, interpersonal understanding, team work, developing other

The managerial team must have their own functional competence because they have crucial position in every division. The managerial team have a big role which is decision making and must responsible about the end result. The proposed managerial competence will be explained in Table 7.

**Table 7. Proposed Managerial Competence**

Department	Competency
Finance and Accounting Division	Self Control, Information Seeking, Directiveness, Analytical Thinking
Human Resource Management	Information Seeking, Interpersonal Understanding, Self Control, Relationship Building
Technology and Innovation Division	Customer Service Orientation, Technical Expertise
Business Development and Investment Division	Achievement Orientation, Team Work, Technical Expertise, Information Seeking
Production Division	Achievement Orientation, Technical Expertise
Logistic Division	Information Seeking, Technical Expertise
Strategic Management	Directiveness, Information Seeking, Achievement Orientation, Technical Expertise

### Managerial Competence

The head position have responsibility to solve problem, influence people, leadership, and make decision. The managerial competence will still use PT MNH managerial competence because every head position have the same responsibility. The managerial competence for PT MNH is strategic oriented, decision making, developing others, and networking.

### Technical Competence

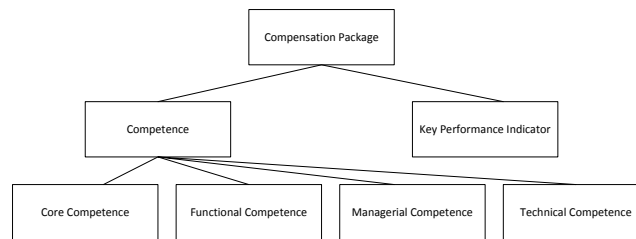
Technical competence are behavior related to the technical proficiency. Technical competence combines skill and knowledge. For the research, the technical competence will be assign for Unit Business Information and Communication Technology (ICT) especially the head position. For example, the technical competence for general manager is:

**Table 9. General Manager Job Qualification**

General Manager	
<b>Education</b>	Bachelor Engineering degree
<b>Experience</b>	Minimum 5 years experience in project management, engineering, and marketing
	Experience in ICT and minimum Engineer IV
<b>Technical Competence</b>	Project Management
	Quality Management
	System Design
	Project Risk Management
	Marketing Strategies
	Bidding and negotiation skill
	Sales Management

### An Example of Competency Based in Compensation

For the proposed compensation plan, it will used the competence and Key Performance Indicator (KPI) as the compensable factor. "Compensations include any direct or indirect payment to employees, such as bonus, stock, and benefit" (p. 4) (Gerhart, 1992). To make decision about aspect that will be the most important for the compensation, it will use AHP method by using BPMSG AHP Online System program. First things to do is determined the goals. The goal is compensation in PT MNH. The next step is to make a hierarchy based on the factor that affect compensation. The hierarchy consists of two levels. The first level is about the compensation based on competence and KPI. The second level will be the criteria, which is core competence, functional competence, managerial competence, and technical competence. The hierarchy process for the compensation is:



**Figure 7. AHP Hierarchy**

The total calculation for the compensation package said that the competence based or basic pay have the biggest priority compared to KPI or incentive pay. Assuming the salary is IDR 10.000.000, the competence is 75% and the KPI 25% based on the AHP result. The proposed compensation package will be:

**Table 12. Compensation for Competence and KPI**

Factor	Weight	Maximum Value
Competence	75%	IDR 7.500.000
KPI	25%	IDR 2.500.000

Based on the competence based compensation, the total salary allocated for competence id IDR 7.500.000 and it will consist of core competence, functional competence, managerial competence, and technical competence. The performance will be assessed by the performance appraisal session.

**Table 13. Compensation for Competence**

Factor	Weight	Maximum Value
Core	56.50%	4,237,500.00
Functional	26.20%	1,965,000.00
Managerial	11.80%	885,000.00
Technical	5.50%	412,500.00
Total	100.00%	7,500,000.00

## CONCLUSION

- Based on the VRIO analysis, PT MNH core competence are market research marketing strategy health and safety environment, and the company culture.
- The proposed core competence for PT MNH based on the current business issue is in production process, distribution process, and the human resource.
- The proposed competence is combination from the current competence and proposed competence, it will still use PT MNH competency dictionary but with adjustment with the business issue, company value, and the proposed core competence.
- The proposed competence will be for the core competence, functional competence, managerial competence, and technical competence.
- The proposed competence can be used in compensation package. The compensation package will be for the basic compensation.

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# DETERMINANTS FOR SOCIAL SUSTAINABILITY OF THE PHARMACEUTICAL INDUSTRY: CUSTOMER VALUE REQUIREMENTS, BUSINESS VALUE REQUIREMENTS, AND ISO26000

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## EXTENDED ABSTRACT

The importance of social sustainability has already been established in the literature. The relationship between pharmaceutical industry and social sustainability has been acknowledged, too. Hence, identification of value requirements from different dimensions is essential for achieving social sustainability. A comprehensive research that includes consideration of social value requirements from customer point of view, business point of view, and ISO 26000 is yet to be conducted. This research approach investigates the discrepancies between the social sustainability practice by the pharmaceutical industry, ISO 26000 requirements, and customer perception about the social sustainability. Pharmaceutical industry of Bangladesh has been chosen as the research context. The research output figures out various determinants of social sustainability contributing to the sustainable development in a developing country like Bangladesh. The findings also reveal the discrepancies between the perception of the customers regarding social sustainability and the currently practiced social sustainability by the industry. A qualitative field study approach involving ISO 26000 is used to carry out the research. The findings would enable companies to achieve competitive edge by minimising the discrepancies between the perceptions of companies about social sustainability and the expectations of the customers.

**Keywords:** : Social sustainability, ISO 26000, Pharmaceutical industry

## INTRODUCTION

Over the last three decades, sustainability has been an established management agenda and has raised academic debates both by researchers and managers. The World Business Council for Sustainable Development (WBCSD) brought widespread attention to the notions of sustainability and sustainable development to the boardrooms of organisations (Schaltegger and Burritt 2000). Sustainability has seemingly morphed into corporate social responsibility efforts and these social responsibilities will eventually lead to social sustainability since they are considered as the preconditions for achieving sustainability (Zink 2005; Málóvics, Csigéné, and Kraus 2008). One of the main principles of corporate social responsibility is conducting business in a way that is consistent with the morals and values of society (Hutchins and Sutherland 2008). Though social sustainability is one of the main 'pillars' of sustainable development there has been a few studies that conducted to identify the discrepancies of social sustainability and their mitigation approaches to meet ISO 26000- the international standard for recognizing social sustainability. There are discrepancies between the perceptions of the customers and the businesses about social sustainability, too. Moreover, there has been limited research on social sustainability in developing countries and most of them are confined to developed economy. It has been observed that the companies in developing countries are practicing various social responsibilities arbitrarily, internally and externally. Since they are not practicing the social responsibilities in a sustainable approach and not following any standard guideline, such as, ISO 26000, the valuable resources of the companies are not being used efficiently. Therefore, it is necessary to figure out these discrepancies between the perceptions and approaches to minimise the gap based on ISO 26000 so that resources are utilised sustainably to meet business's and customer's expectations. So, there is a significant research question to answer: what are the discrepancies between the practiced social sustainability in pharmaceutical industry, ISO 26000 requirements, and customer's perception towards social sustainability? This research investigates the discrepancies between the social sustainability practice by the pharmaceutical industry, ISO 26000 requirements, and customer perception about the social sustainability. This research approach uses the 'Stakeholder Theory' (Freeman 1984) and 'Resource Based View' (Barney 1996; Wernerfelt 1984) as the theoretical foundations. A qualitative research method has been used to carry out the research.

The pharmaceutical industry of Bangladesh has been chosen as the research context for this study where more than 170 pharmaceutical companies are currently operating. No study on the social sustainability of pharmaceutical industry of Bangladesh has been conducted yet. The research findings show that there is significant discrepancies between customer's social value requirements, currently practiced social sustainability by the pharmaceutical industry, and ISO 26000 requirements.

## LITERATURE REVIEW

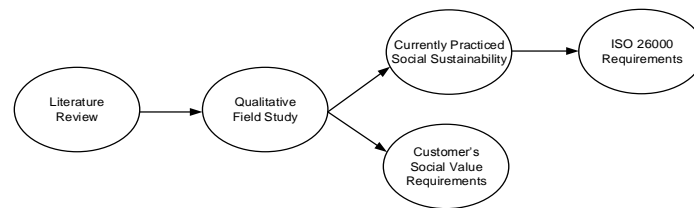
Bowen (1953) was a pioneer in defining the social responsibilities of 'businessmen,' as "the obligations of businessmen to pursue those policies, to make those decisions or to follow those lines of action which are desirable in terms of the objectives and values of our society" (Bowen 1953, p.6)). Although profitability is essential for business, society often has a number of other expectations. This can be viewed as organizations entering into a social contract that obligates them to consider the societal interests when making decisions (Andreassen and Drumwright 2001). That is why the pressure on companies to practice social responsibility has gained momentum in recent times as a means of sustaining competitive advantage in business (Cheah, Chan, and Chieng 2007). Since there are numerous stakeholders of the businesses, most of the researchers focused on social sustainability from business point of view (e.g., Esteban 2008; Hossain, Islam, and Andrew 2006; Hutchins and Sutherland 2008; Nussbaum 2009; Smith 2008), whereas a number of other scholars considered social sustainability from customer point of view (e.g., Charter et al. 2002; Gupta 2011; Luo and Bhattacharya 2006). Therefore, it can be summed up from the literature that the customer's perception of social value requirements and the business's perception of social value requirements may or may not be the same. Moreover, in reality it is very rare to find that the customer's social value requirements and a business's social value requirements are exactly same since the customer's expectations and business's goals always differ. Although these two requirements are the core elements of social sustainability, research study on this issue is very rare. Moreover, it has been observed that the companies in developing countries are practicing various social responsibilities arbitrarily, internally and externally, and not following any standard guideline, such as, ISO 26000. As a result, resources are used inefficiently. Therefore, it is important to investigate the discrepancies between the practiced social sustainability, ISO 26000 requirements, and customer's perception towards social sustainability to meet business's and customer's expectations.

Previously pharmaceutical giants have disregarded moral obligations to society, and therefore, have overlooked their social responsibility (Lefebvre and Miller 2006). Few years ago, the pharmaceutical industry started flirting with the literally young and attractive concept of corporate social responsibility, and since then the two have been a stable couple (Nussbaum 2009). In an age where consumers have developed heightened expectations of safety and health, firms in the pharmaceutical industry are now expected to be responsible to economic, societal and environmental needs (Cheah, Chan, and Chieng 2007). In the pharmaceutical industry, multinationals have been criticised for not having sufficiently met the needs of poverty-stricken countries in terms of access to medicine (Leisinger 2005). There are more grounds why pharmaceutical industry is interrelated with the term 'sustainability' (Esteban 2008). Firstly, sustainability has been on the radar screen of the major pharmaceutical companies for the last two decades. Secondly, pharmaceutical industry's products and services focus on health and human wellbeing, businesses in this sector may be more concerned about issues of sustainability. Thirdly, managing sustainability helps to add business value. Though research study on the benefits of social sustainability is not scarce, study on the social sustainability of pharmaceutical industry is not common, particularly, in the context of developing country.

Generally, pharmaceutical companies in the developed countries are required to follow strict regulations and guidelines. In addition, companies face stakeholders' pressures regarding performing social sustainability activities. On the contrary, companies in the developing countries, like Bangladesh, operate in a comparably relaxed environment and are not required to follow strict regulations and guidelines. Moreover, there are significant differences between cultural, environmental, and moral judgments of the developed and developing nations. But still, some companies are performing social sustainability activities to a certain extent in the developing country context. Thus, it will be interesting to find out the rationale behind performing such social sustainability activities by the companies and to see how those activities are influencing the company's performance in such a context. Therefore, Bangladesh has been selected as the chosen research context. Pharmaceutical industry is one of the largest industries of Bangladesh. Among the 49 countries classified as least developed countries, Bangladesh is the only country with adequate pharmaceutical manufacturing capability and is nearly self-sufficient in pharmaceuticals (Azam and Richardson 2011). There are more than 170 pharmaceutical industries are currently operating in the country and drugs are exported to 87 countries including Europe, America and other countries (DGDA 2013). Certainly, this industry is having a robust growth here; but the knowledge and implementation of sustainable development or social sustainability is still just a growing concern. Some of the key players in this industry (i.e. big companies) have already launched social responsibility activities in the name of social sustainability, such as, set up of hospitals and clinics, schools, village transformations programs, donations for poor, no-child-labor policy, zero tolerance policy on corruption, etc. Therefore, examining this developing stance of the terminology, social sustainability, may demonstrate the leading edge of actual sustainable development by the pharmaceutical industry of the country.

## METHODOLOGY

Because of the exploratory nature of this part of the research the qualitative method is considered as the most appropriate. In the qualitative phase of this research the field study approach was adopted as the research method (Zikmund et al. 2013). The reason for employing this approach is to search for and identify social value requirements related to social sustainability of the pharmaceutical industry in the context of Bangladesh that have not been identified yet in the literature review. For the collection of qualitative data, semi-structured in-depth interview technique was used. A set of questions were developed for qualitative study for interviewing the retail and corporate customers (see Figure 1). For this study, content analysis method was used for qualitative data analysis (Quaddus and Xu 2005) which involves identifying the categories related to research, sorting the occurrences into categories, and counting the occurrences of each of the categories. For fulfilling the objectives of the exploratory study this particular research employs the two-step process of inductive and deductive analysis (Berg 2008) to



**Figure 1:** Conceptual research framework

scan and endorse the themes and sub-themes from the raw data. All the social value requirements produced by the analysis and the literature review were justified as per rule of the qualitative study. To collect data about currently practiced social sustainability activities by the pharmaceutical companies of Bangladesh a total of eight companies were chosen. These companies were chosen considering their domination in the local and export markets. Sincere attention was given while selecting the companies to make sure that feedback about all the currently practiced social sustainability activities are received. Also, contents from ISO 26000- the international standard for recognizing social sustainability (ISO 2010)- has been used for data comparison purpose.

## RESEARCH FINDINGS

### **Findings from the comparison of customer's social value requirements and currently practiced social sustainability:**

After collecting the data about currently practiced social sustainability, it was revealed that only a small number of pharmaceutical companies in Bangladesh practice social sustainability and that's also to a certain extent. To be more specific, only one pharmaceutical company is trying to practice social sustainability in a structured way. But rest of the pharmaceutical companies are doing it in unstructured ways, without following any guidelines. For this reason, though the companies are investing on social sustainability activities, the outcome of these activities are not anticipated. It was also apprehended from the findings that most of the companies are trying to contribute to the society directly, such as, providing grants, donating drugs, finding for community education and community development, etc. Few of the companies are even trying to look after their employees by taking care of the employee's health and safety, and non-discrimination in the recruitment process. But none of these eight companies are transparent to the stakeholders or to the regulatory bodies about their policies, income, or CSR. Also, these companies are not following the social sustainability standards when it comes to marketing, pricing, drug safety, or equal access of the products.

### **Findings from the comparison of currently practiced social sustainability and ISO 26000:**

ISO 26000 is a 106 page document with seven principal clauses, two Annexes and a bibliography. When compared the social sustainability activities currently practiced by the pharmaceutical companies in Bangladesh with the ISO 26000 it was found that all of the social sustainability activities are supported by the clauses of ISO 26000. Clause 6 of ISO 26000 is the longest part of the standard and it contains substantive guidance on seven core subjects: organizational governance, human rights, labour practices, the environment, fair operating practices, consumer issues, and community involvement and development. Customers from the field study emphasised on ten aspects of social sustainability requirements (overall transparency, marketing, customer relationship, employment and labour practice, overall community development, local community development, product and service, operating practice, direct social contribution, social media and mobile phone). It was found from the comparison results that all these aspects of social value requirements (except the use of social media and mobile phone technology for awareness) are strongly recommended by ISO 26000 for achieving social sustainability.

What is apprehended from the comparison between 'customer's social value requirements and ISO 26000 is that all of the customer's demands related to social sustainability (except 'awareness through social media and mobile phones') are strongly supported by ISO 26000. It was also revealed from this comparison that only a few companies are trying to adopt social sustainability practice in the country and even they are doing it in a very limited extent. This indicates that even in a third world country like Bangladesh the demands of the customers regarding social sustainability are not much different than what is strongly recommended by the international guidance standard on social responsibility and pharmaceutical industry is

hardly barely trying to achieve social sustainability. The findings clearly revealed that there are enormous discrepancies between the requirements of ISO 26000 and currently practiced social sustainability performances by the pharmaceutical companies in Bangladesh. There are also massive discrepancies between the currently practiced social sustainability performances by the pharmaceutical companies and the customer's social value requirements for achieving social sustainability.

## CONCLUSIONS

This study has two significant theoretical contributions. Firstly, in this approach, 'social sustainability' dimension is integrated with the 'ISO 26000' dimensions in the context of developing country which was not done before. Secondly, the concepts of 'social sustainability' and 'pharmaceutical industry' are integrated in this research approach. There is few research approaches exist about 'sustainability' and 'pharmaceutical industry', but there is rare approach available about the 'social sustainability' and 'pharmaceutical industry' in the context of developing country. The research approach also contribute practically in several ways. Firstly, the proposed research approach will help the pharmaceutical industry in Bangladesh to advance sustainable development while safeguarding the interests of the customers. Secondly, this approach will help the pharmaceutical industry in Bangladesh to develop mitigation strategies for sustainability.

The only limitation of this research approach is that it used limited number customers and companies for collecting data. A comprehensive survey involving more customers and companies would deliver more accurate results. Further research can be directed to the development of mitigation strategies for fulfilling all the customer social value requirements. Further research may also directed at measuring the impact of social sustainability on the company's performance in conjunction with 'customer values requirements' and 'ISO 26000' which can be implemented by other businesses in consideration with the business contexts.

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## SOCIAL NETWORK OF DOMESTICATED ELEPHANT COMMUNITY IN NORTHEASTERN THAILAND

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### EXTENDED ABSTRACT

Social Network of Domesticated Elephant Community in Northeastern Thailand is qualitative research. The purpose of this research is to describe the creation and relationship of social network of domesticated elephant community. The study areas Surin Province and Buriram Province. The social network of domesticated elephant community was started from large families whose ancestors were mahouts (Kru Ba Yai) and owned a large number of elephants in Taklang village. There are 3 social networks as follows: 1) Primary group is a family relationship 2) Secondary network is less related in family than the first group. 3) The extended network is Baan Taklang Elephant Club. In this research, the primary group is focused and studied. The mahout groups are still interacting with each other for the expectation to create stable income for the mahouts and security for elephants as the major reason. The minor reason is to maintain the culture between mahouts and elephants. According to this, there should be the creation of "One-Stop Service of Cultural Conservative Tourism". The unique of social and cultural conditions of Kuy mahouts are the key mechanisms leading to the formation of a mutual group which leads to a good social network.

**Keywords:** Social Network, Domesticated Elephant Community

### INTRODUCTION

An article of Social Network of Domesticated Elephant Community in Northeastern Thailand is part of a research on the model of Social Network of Domesticated Elephant Community in Northeastern Thailand. The researcher is interested in this topic because the current elephants in Thailand are facing the problems of losing habitat and feeding ground. These problems occur because of the invasion of the forest for agriculture. Also, the elephants are hunted by capitalists for business such as cutting for ivory, killing elephants for their baby elephants and counterfeiting the wild elephants' identity cards to the domesticated elephants' identity cards. Domesticated elephants are considered animals that are placed in a non-natural environment. They are restricted to their habitat which they should naturally live in herds. They are restricted to feeding ground and risk eating plants with chemical contamination that can cause health problems. They are also restricted to obey the owners who may take them to stray in a big city. Finally, they are restriction to natural reproduction. This can be said that the elephants are facing a problem of security in life. The value of elephants was reduced by taking the elephants to beg in the big cities. The main reason for the elephant experiencing such problem is due to the fact that Thailand is entering a stage of economic development. In order to develop the economy in Thailand, the areas that elephants used to live or find their food are changed to be a farmland. As a result, the elephants lose their habitat and feeding ground. Meanwhile, the introduction of modern technology in the country has reduced the demand for elephant labor gradually, so the mahouts need to adjust the way of life by selling elephants or taking the elephants to stray in various tourist attractions for money. In addition, the domesticated elephants are facing the problem of being hunted and killed for their ivory or baby elephants. Domesticated elephants are considered animals that are placed in a non-natural environment. They are restricted to their habitat which they should naturally live in herds. They are restricted to feeding ground and risk eating plants with chemical

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contamination that can cause health problems. They are also restricted to natural reproduction. The elephants are abused and the mahouts use drug to control them. The elephants are facing the previous problems in the aspects of security and they are reduced the value as a symbol of Thailand (Surin Province, 2009).

Although the mahout groups have changed their way of life along the development path by taking elephants into the tourism business and into the way of straying, there are still some mahout groups in the domesticated elephant community can maintain their traditional way of life with elephants. This is partly due to their pride in their ancestors' way of life who are known as "Mor Chang" (Mor Chang is a person who specializes in elephants). Mor Chang groups have organized the activities every year to create a unity. The origin of domesticated elephant community is currently located in Tha Tum district, Surin Province. However, some have evacuated to Satuk District, Buriram province as the seasonal flooded forest which is an elephant feeding ground called "Wang Talu" is reduced. As a result, the mahouts need to evacuate to settle down in Satuk District, Buriram Province to find new feeding ground for their elephants. Still, they remain to live in close area and have a relative community so that it is easy to ask for collaboration. The domesticated elephant community uses their strength as "elephant group" which has a "close relationship" to solve the problem of taking elephants out of the community and inherit the culture between mahouts and elephants to the next generation. Moreover, the elephants are well taken care of and the mahouts can earn sufficient income for themselves and their families. (Suwat Unthanon, 2010).

## **LITERATURE REVIEW**

In this research, the social network is the main concept used to describe phenomena. The social network concept is based on the theory of Exchange theory which is a big and old theory of sociology. This theory can be used to describe small social relationships from the level of individual to the level of society. It can be described that social networks are the integration of various groups in societies that focus on solving social problems by concentrating not only on "the area" but also "the same interest" in the community as the determination of relationship. It does not focus whether the members of the networks are in the same area or not. The network activities are done together from several small groups. So, network shows nature of humans that do the activities to meet the objectives of the group and bond with each other (Jeremy Boissevain, 1974). Like the elephant community in the Northeastern which gathers as a group to solve the same problem. If social network is used as driving force or power to solve the current problems, it can lead to a successful solution. The advantage of this research is to gain knowledge about the network and relationship building of the domesticated elephant community network in the Northeastern. This can lead to the development of a network of elephants in the Northeastern making it stronger and more helpful to solve elephant problems in the domesticated elephant community. The research data will be presented as follows.

## **METHODOLOGY**

An article of social network of domesticated elephant community in Northeastern Thailand and the relationship of social network of domesticated elephant community in Northeastern Thailand are qualitative research presented by applying the methods of field data collection and in-depth interview with key informants; elephant mahouts whose ancestors serving as chiefs of mahouts (Kum Luang) or "Kru Ba Yai". Ten mahouts who have the highest position are mostly relatives were interviewed about the creation of social network of domesticated elephant community in the past. The data were checked by using Triangulation techniques. The research is presented by depiction and context, concept and theory interpretation without bias (Supang Chantawanich, 2004). Ten more key informants from nonrelative families are asked the questions on the topic of interdependence on information, power, occupation, and elephants raising. Thus, twenty key informants whom the researcher interview frequently within the past year provide the information. Then, it is analyzed the patterns of relationships that influenced interdependence among the mahout groups in elephant community in the Northeastern by UCINET 6.0. The study areas include Krapo Sub-district, Tha Tum District, Surin Province. and Tha Muang Sub-district, Satuk District, Buriram Province.

## **FINDINGS AND ARGUMENT**

An analysis of the domesticated elephant community network creation needs to study the lineage of the elephant chiefs of mahouts whose ancestors served as the highest position (Kum Luang) or Kru Ba Yai. The position of

Kru ba yai was given to a person who went into the forest and caught more than 25 wild elephants. Kuy people totally respect the people who served this position. Mor Changs are the leaders that the villagers in the community respect, believe and praise because they are considered a person who has a magic and can communicate with gods, Pakum ghosts, ancestor spirits and people in the village. According to the belief in each community, the leaders of the Kuy community are the ones who define the tradition and practice. There is a division of command line. In the group, Mor Changs respect each other's rights and duties, obey the commands and follow the old tradition, belief, practice and exemption strictly. While living together, leaders are people who come from an acceptance of members in mahout group and the villagers in the community. The leaders get the position as they left to catch the wild elephants in the forest. In the mahout group which leaves to catch wild elephants in the forest, there is a hierarchy of command lines differently. In the group, every Mor Chang has his own duty and responsibility. Every instruction and command depends on the highest authority of the group leaders (Siripong Thongchan, 2006). The last groups entering to catch wild elephants before the dispute between Thailand and Cambodia which finally led to the forest closure were Kum Luang, Sala Ngam Ngam, Kaew Kaew, Sala Ngam, Luang Daeng, Suksri and Kamang Luang, Tamaram Ngam. The village with the most densely populated elephants is Taklang, This village is known as the largest elephant village in the world. It can be said this is the "center" of the domesticated elephant community. Large families who own a large number of with elephants in Taklang. (Mr. Boonmee; alias, interviewed on March 1, 2017).

The beginning of the social network of domesticated community is a more formal around 1993. The main reasons to start this community were drought, resulting in lack of water for elephants and insufficient elephant food. Therefore, some mahouts sold elephants to resort owners for the elephants show and took their elephant to stray in big cities. "The elephant group" from Surin province takes the elephants to stray in Bangkok. Most members in each group are closely related as relatives. Besides the gathering to be elephant groups to stray in a big city to earn money, in 1993, the mahout groups gathered to "Baan Taklang Elephant Club" because of the realization that the number of elephants began to decline. When they were sick, it cost a lot of money. This made the elephant owners have to sell elephants to pay off debt. Therefore, the establishment of the fund makes it difficult for elephant owners to sell elephants. The fund is supported by the Elephant Lover Foundation for medical assistance and annual elephant treatment. The members of Baan Taklang Elephant Club can be divided into 3 groups. (Mr. Prachuab; alias, interviewed on April 3, 2017)

A major turning point for the mahout groups is the government's role in solving problems and promoting the elephant raising in elephants community by setting up an Elephant Study Center. The location of the center is at Baan Taklang, Tha Tum District, Surin Province. This center was founded by a government organization in 1993 to solve the problem of the domesticated elephants. The government focuses on an increase of the income for the elephant community. It also attempts to solve the stray elephant problem, create the stability and security for elephants and inherit the culture between mahouts and elephants to the next generation. Later in 2006, Surin Province collaborated with the Elephant Study Center to launch the project "The Return of Elephants to Develop Homeland, Surin". This project aimed at "the motivation to increase income and reduce costs" for the mahout groups. According to the close relationship, it creates a sense of togetherness within the elephant community as there is the same goal or benefit in line with the social network concept which explains that network show nature of humans that do the activities to meet the objectives of the group and bond with each other. The report of the project reveals that it cannot make enough money for the mahout groups and it cannot meet the demand for adequate elephant habitat and feeding ground (Mrs.Sri; alias, interviewed on April 3, 2017).

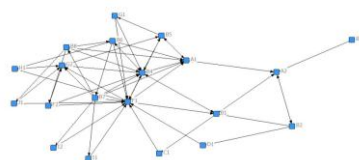
When analyzing the elephant community network from the previous data, it was found that the social network of domesticated elephant community was started from the large families whose ancestors were Kru Ba Yai and owned a large number of elephants in Taklang village. The people in the community are good neighbors and help each other in the aspect of career. Later, it has been developed as the Elephant Study Center in order to raise money for the mahout groups. The mahout groups consist of members from many villages close to Baan Taklang such as Nongbua village and Krapo village. It can be said that this is the expansion of the relationship. After that, a larger group was formed by being members of the Baan Taklang Elephant Club which had members from elephants in Chumphonburi District, Surin Province and Phiman Phonngern village, Satuk District, Buriram Province. Then, they joined as members of the project "The Return of Elephants to Develop

Homeland, Surin". From the document review, it was found that there were 20 villages in Krapo Sub-district, Tha Tum District, Surin Province and 3 villages in Tha Muang Sub-district, Satuk District, Surin Province (Phiman Phonngern village, Baan Nonyang village, Tha Muang village) participated in this project. The relationship of the social networks of domesticated elephant community can be divided into 2 groups as follows: 1) Primary group is a family relationship that is closely related to large families whose ancestors were Kru Ba Yai and possess a large number of elephants. 2) Secondary network is less related in family than the first group. The elephant groups are not all related as relatives but may come from different villages. However, they gather as a group because their same goal is to bring elephants out to stray in big cities to raise money. 3) The extended network is Baan Taklang Elephant Club which has been communicated by people in the secondary network. In study of the construction of social network of domesticated elephant community in Northeastern, the researcher focuses on the network of the primary group whose ancestors served the highest position as Kru Ba Yai. This group inherited the elephants from their ancestors who went into the forest to catch wild elephants and are mutually dependent on each other in the aspect of career which is in line with Social Network concept. Social Network states that social status and interdependence in the aspect of power affect the interpersonal relationships within social networks. The mahout groups also influenced the mahout groups in a nearby area. The key informants in the mahout groups are from 5 families whose ancestors served the highest position as Kru Ba Yai. These families were originally lived in Ban Taklang but they moved to settle in the villages nearby Baan Taklang village later.

The analysis of context and social and cultural conditions leading to the creation of the social network of domesticated elephant community in the Northeastern consists of the following important conditions: 1) kinship and family inherited from the ancestors who served the highest position as Kru Ba Yai. This shows the context under the social and cultural conditions and family bond of Kuy people. The social aspect of the elephant village is a relative group who build houses in the same neighborhood. Most of them have the same surname such as the family of Suksri, Submak, Salangam and Saendee. In the past, all of these families were the origin of Mor Chang (mahout) at the level of "Kru Ba Yai" or "Kum Luang Pud" (Mr. Pong; alias, interviewed on March 27, 2017). Moreover, they are good neighbors who help each other and interdependent on occupation. Big family will receive a large number of elephants from their ancestors. Having elephants means being wealthy. The more elephants they own, the wealthier they are. As a result, they become local powerful person in the community. 2) The interdependence and exchange of advantage among the mahout groups are caused by the change of economic and social situations. Since the past, Kuy people who owned the elephants have been intertwined in the society that everyone supports or helps each other like in the present Thai society. Families are composed of various ages of people. The senior will be leader and young people or old people will help each other to plow the field or harvest the crops because it is the work that need be finished in the determined time. Especially, the kinship or families are interdependent on the occupation. They build houses in the same neighborhood and are good neighbors to each other. Later, the economic and social conditions have changed; therefore, there was an adaption in careers of the mahout groups as an elephant group in order to take elephants to stray in a big city to raise money. They also expect the elephants to be a tool to raise money by straying in a big city and asking people to make merit with elephants such as walking under the elephant for good luck, buying food for elephants and buying the products from the elephants (the ring made from hair of elephant's tail and ivory). It is said that the integration of the elephant group is aimed at interdependence on sufficient income for their own and their families. Furthermore, mahouts have been gathered as a "club". The integration of the elephant club intended to reduce the cost of elephant care when they are sick. It is supported by both organizations outside the community and some wealthy elephant mahouts in the community.

This supports the mahouts in Baan Taklang and the area nearby, not to bring elephants out of the community or sell elephants to the capitalists. The important aim to be a part of the club is the need of interdependence which is reducing the cost of elephant treating. The project "The Return of Elephants to Develop Homeland, Surin" is the largest group of elephant community which aims to receive monthly income for living and elephant raising from the government. The government intends to solve the problem of stray elephants which is a social problem. It also needs to create the security for elephants and mahouts (Mr. Muandee; alias, interviewed on April 9, 2017) The analysis of the social network of the domesticated elephant community is an analysis of the relationship in the form of interdependence which consists of 3 activities. The interdependence in the aspects of information,

power and interdependence concerning with occupation and elephant raising. According to 3 activities, it was found that the key person of the network is B4. B4 is the mahout groups who come from big families, their ancestors served as the highest position (Kru Ba Yai) and possessed a large number of elephants. The second important group is F1 which is a kinship group with the key person. The most influential members of the social network of the domesticated elephant community who are asked for help from other groups the most are B4, B6 and B7 as shown in Figure 1.



**Figure 1 : Relationship of Social Network of Domesticated Elephant Community in the Northeastern.**

*Reference: Researcher, 2017.*

## CONCLUSIONS

Most mahout groups at present are originally related to Baan Taklang, Krapo Sub-district, Tha Tum District, Surin Province. They learn and inherit the way of raising elephant from their ancestors which is considered a cultural heritage as they use the Kuy language to train the elephants. The mahout groups will choose the suitable locations for elephant raising such as the watershed area which provides plants for elephants. However, nowadays the belief is diminished for a number of reasons. One major reason is Thailand's development under modernization concept. This causes any culture that is not universal culture to disappear gradually. The results of this study are in line with the findings of R. Peter L. Cuasay (2002); The study of Time Borders and Elephant Margins among the Kuay of South Isan, Thailand. This research reveals that Kuy people who live in low Northeastern struggle to defend themselves so that they do not become the outsiders according to the concept of modernization by creating identity under different ethnics and cultures so as not to be swallowed up with other cultures. However, there are still some groups of young people who think that the beliefs and cultures involving in ghosts and spirits are credulous. At the same time, some community members still respect the mahout groups from large families for the reason that the groups were the descendants of former elephant community leaders who contributed to the community and were wealthy. The researchers recognize that these social and cultural conditions are an important mechanism leading to the creation of a mutual group that leads to a good social network.

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2. Mr. Prom (Alias), interviewed on March 16, 2017
3. Mr. Prajuab (Alias), interviewed on April 3, 2017
4. Mr. Sri (Alias), interviewed on April 3, 2017
5. Mr. Pong (Alias), interviewed on March 27, 2017
6. Mr. Muandee (Alias), interviewed on April 9, 2017
7. Mr. Pin (Alias), interviewed on April 9, 2017

# SOCIAL NETWORK OF SOCIAL FORCES TO PREVENTABLE ON COMPLEXITY UPON CORRUPTION IN LOCAL ADMINISTRATION ORGANIZATION OF THAILAND

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## EXTENDED ABSTRACT

This article is part of the dissertation “Social Forces’ Networks to Preventing for the Local Administration Organization in the Northeast of Thailand” had describe the individual’s to corporate with the community to legitimize anti-corruption. It is a real event from the actual field of Nong Bua Lam Phu Province Thailand in the northeastern part of Thailand and has reviews in the local administration organization of Thailand by the issue of conceptual. The objective aims to study the social network which the social forces effective to anti-corruption in the local administration organization of Thailand. We employed qualitative documentary research. The data were reviewed approximately from the area of Nong Bua Lam Phu Province Thailand under the Office of Public Sector Anti-Corruption Commissions (PACC) in the year 2008-2010. There were focused in corruption two types as the position fraud and the budget money cheating. There are seven characteristics on corruption has founded in local organization administration. The attributed common as (1) Evasion in legal (2) common interest (3) righteousness (4) position misacting (5) defame (6) exemption (7) embezzlement.

**Keywords:** *social network, social forces, preventable on complexity upon corruption, local administration organization of Thailand*

## INTRODUCTION

There are the corruption which is the phenomenon to be distributed to spread widely complex and the appearance of spread has changed dramatically in the context of society and politics. The epidemic of corruption is a long-standing behavior in complex, socio-economic, political contexts that have benefited nothing in the structure it is upon on the parties to control and enforce their authority make people in the society accustomed to and accept fraud. (pronsak pongpael, 2001)

Thailand may be a country of corruption at all levels as soon as the level of local government organization. The Thai government has been decentralized to the local government, in the form of local government organization, i.e. Provincial Administration, Municipal Service Organization, Sub-district Administration Organization, Bangkok Metropolitan and Pattaya is the closest to the people. There are three components to the structure: local administration, government and local councils, which comes from the election in kinship, when elected from kinship often use personal relationships to assist in patronage. At the local level the elections are held by the influence, it is widespread in the area and has the influence support, or authority to overwhelm and assist personal relationship, no control by external forces that are not mutually independent. Therefore, it is the cause of corruption spread easily. (Clark Neher, 1999)

By the way also Khon Kaen province NaKhonRatChaSiMa province and NongBuaLamPhu province. It is one of the three provinces with high corruption in the Northeast of Thailand, which is the area with key informants reporting to be clear the incidents of corruption. He is knowledge able in the local circumstances surrounding environment their own best are individual, which a demand to prevent local communities village, who follow-up with the monitoring of the implementation event. Their own communities same ideological ideas, had projects in area are combined into social forces and social network power with preventable corruption by effectively.

## OBJECTIVE

In this study use the second objective of the research “Social Forces’ Network to Preventing on Corruption in Local Administration Organization in the Northeast of Thailand”, which is related to the study of the role of social forces in preventing corruption in local administration organizations.

## CONCEPTUAL FRAMEWORK

There are cause of corruption (1) Economics and Living (2) Politic (3) Social environment and Traditional (4) In effectiveness in State Administration (5) Gap in Law (6) Having Position that beneficial for committing corruption (7) Being involved in unavoidable situation / being influenced by situation (8) Others. This article has introduce the concept of corrupt which has 3 characteristic as (1) White corruption (2) Grey Corruption (3) Black Corruption.

To include 7 points by Social Forces can solve the problem of corruption as (1) Applying Knowledge to work (2) Being a tool to achieve target (3) State’s open policy (4) Nonviolent movement (5) Learning resources (6) Individual experience for solving corruption (7) Creative criticism. In the action under the social networking framework can movement social forces, will social forces be driven to prevent corruption, There are 5 elements to prevent corruption so as (1) Being member of the network (2) Mission/ Activities (3) Creating network’s objectives (4) Having public mind (5) Relationship system and communication

**Figure 1. CONCEPTUAL FRAMEWORK**

In the story of social network relate with social forces and how use social forces management to prevent corruption on the way of community then this research has taken the theory and concepts in the story social network, social forces to prevent corruption used to study and understand. The implementation of social networks by studying the qualitative research methodology used to collect data, and analyze network data and from field work with key informants each person of social forces to prevent corruption in local administration organizations in the northeast of Thailand. There are show the top high level in report of corruption index in the northeast of Thailand can use of the network in and power forces of social or community and village and to be expand the movement built the network fraud prevention power of the society in each province, upon with interactions the circumstances be restricted by time and interactions which have and education whose goal is to provide in-depth information as follows, so as Khon Kaen province, NaKhonRatChaSiMa province and NongBuaLumPhu province.

## METHODOLOGY

The qualitative research methodology to be use as belief as a principle of social behavioral principle that continues with the international principle to exist in accordance with the international principle (Shy PoShiTa, 2011). Reasons to use qualitative research and qualitative approach to be use because of (Creswell and Clark, 2007 quote in Thanapauge Chamaratana, 2011) the general information has wanted to get and context of the research area and collect the information related to creating a social forces network and network expansion including dynamic processes complex of social vitality, to prevent corruption by phenomenology to interaction from Central Decentralization of Government.

## FINDING

The social network by the social forces played a role in detecting, monitoring, examining and preventing community from corruption. It is based on documentary research done by collecting related documents from local administration organizations in Three Province from 2008-2010 on the event cases that happens has found in the field of NongBua LamPhu province Thailand only and then there are two main types of corruption; (1) Public budget (2) Misbehavior dishonesty of public officer. There are the complex confusion due to the fact that one of the local administration organization of NongBuaLamPhu province Thailand have hired a private company in NongBuaLamPhu province to build a funeral pyre in the village of one sub-district in NongBuaLamPhu province, but the construction have problem that is not to be done follow the pattern. Then all of the councilman of that local administration organization and villagers and the near people village have a

complaint to the sheriff head of district and the governor of NongBuaLamPhu province and the director of the Sixth Auditing Region Thailand, who have includes that local administration organization as well.

The sophisticated complexity way of finding out how can dishonest, fraud and corruption. When a complaint by the people later, the contractor has delivered that construction work and withdraw money has handed over the construction work and asked to withdraw money to pay for construction. All of the villagers people offered to discuss the problem with the head of unit government as chief of district, governor of the governor of NongBuaLamPhu province and The Director of Sixth Auditing Region Thailand, and includes that local administration organization as well to due with the lack of construction floor plan and the Labor Inspectorate did not check through out the contract promise, but the president of local administration organization will ignore it and try to draw down the construction cost to the contractor, has changed the signature of the lawful signers that bank in the wrong way by bringing people who have no power to disburse to change the signature illegally disbursed up to three person. That bank did not approve the withdrawal because the signature was not the same from two person, so that president of local administration organization to inform with the lie false statement, said that the bank directory of the local administration organization has disappeared with the purpose is to change the signature of the payer but it turns out that bank book and bank checkbook are in the president of local administration organization possession. Finally illegal disbursement to the contractor. By the way all of villager have sent the leader of villager has report a litigation to the police and the chief of district and the director of sixth auditing region Thailand, have investigated the case construction crematorium, also local authorities collect the documents related to the construction of crematorium including bank books and checkbooks.

Hot spots in the sophisticated anti-corruption capabilities of social network's forces can preventable corruption complexities. The leader of villages and individual person and people of all, has sent the complaint to the supervisory line as the chief of district, the governor of NongBuaLamPhu province Thailand and The Director of Sixth Auditing Region Thailand and that president of Local Administration Organization have been know about the fraud and evasion in legal with common interest to make own righteousness based for carry out legitimate authority with right duties. But it turns out that the sheriff ordered the opposition to that complaint, alleging that there was a conflict of orders, supervisors ordered in bureaucratic duties, and local administrators conflicted with local officials, thus unable to pay salaries and wage money for councilman and money for the old people as well as welfare of the governed. In deed fact is not available, because of the undue change in the name of the withdrawers, the bank can not stop the disbursement and the bank account and the bank checkbook must be returned to the bank and the name of the payee must be changed correctly, but that president of local administration organization fear of guilty of falsehood so refuse to act on the change of signature but the final result was to change the handwriting to the original because of the criminal proceedings for six months with false allegations against the officer of state of falsehood and put it in a way not like damage to government money.

In the other way, the same story government officials has bullied to leave the area, the order go to at the city hall claims that there is a conflict with the president of local administration organization, by the order of the local government virtue of the resolutions passed by the provincial committees, for make ordered to go to the provincial office and there is a request for compensation, where the province assists offenders and punishes those who do not comply with the illegal, but the president of local administration organization have document to the governor of provincial cited by unlawful conflict throw offense to someone else, and then that president of local administration organization comes from the election but the government officials come from the examination. It is claimed that no wrong party or any party was due to the provincial office is not a disciplinary action in any way. If it is a conflict from the corruption in local politicians. The fact is that local government organizations have hired private companies in NongBuaLamPhu province Thailand to construct a crematorium, but not standard construction, have complaints by the villagers and councilman so the government officials then reported in the order of the sheriff, the governor of NongBuaLamPhu province and the director of the Ombudsman Auditing Sixth Region Thailand is fraudulent but that president of local administration organization continued to keep the construction until the contractor has delivered the construction work and withdraw money from the local government but cannot the money withdrawn because of have no authorized by the official who has the signature of the withdrawal, that president of local administration organization went to inform the police that the bank book and checkbook change the signature of the withdrawer, and make undue

payments to the contractor. All most of the villagers and the people complaint to the corruption in the construction with complexity use fraudulent trick but the court of NongBuaLamPhu has been sentenced to three years in misdemeanor charge and imprisonment for months in false allegations against government officials, that is the social networking of social forces to co-operation management the local administration organization although complexity corruption and hard to against. We can unfold characteristic which are divided into 7 categories such as (1) The first Evasion in legal have found that the local administration organization did not announce for quotations for development project, which active the social forces to complaint and monitored and examined process of the project. (2) The second **Common Interest** for bribe have found that alleged with colleague but the social forces to complaint and to be examined. (3) The third **Righteousness** have found that the local administration organization had improperly consented to the delivery of possession common interest in, conducting this action the social forces can monitored and examined process of the project then made a complaint. (4) The forth **Position Misacting** and **Misbehavior** have found ignored to bring charge against people who invaded public land. The social forces active to monitored and examined process of the project then made a complaint. (5) The fifth **Defame, False and Fake documents** have found that the local administration organization to forged signature onto purchase order paper on the book bank and check book bank the social forces achieve monitored and examined and complaint. (6) The sixth **Exemption** have found that the local administration organization had improperly consented to the delivery of possession common interest in, conducting this action the social forces can monitored and examined process of the project then made a complaint. (7) At last is **Embezzlement** and **Budget Misappropriation** have found that embezzled public fund have found that the local administration organization had improperly consented to the delivery of possession and use of land. The social forces made the complaint can monitored and examined process of the project.

## ARGUMENT

The social network of the social forces can prevent the corruption by bring natural community knowledge with society academic for to make policy for that search the truth anyway coordinate with similar upon the comprehension that enlightens society and the role to monitored and examined process of the project and then so hard the complaint.

## CONCLUSIONS

In the conclusion, the social network of the social forces can management on the government in good governance by the people can solve in the local's problem preventable the complexity corruption that the solution of equation in Thailand can eliminate corruption and reduce the illegal evasion and examine common interest refuse the righteousness of the politicians in the misbehavior officials government exemption had improperly consented to the delivery of possession common interest in that embezzled public fund had improperly consented to the delivery of possession and use of land. The social forces made the complaint can monitored and examined process of the project have to take part of process especially media and non-government organization (NGOs).

We have to promote publication in the participation and fill in empower people to have more opportunities to monitor and examine establish legal rules in system in the process of social network of the social forces discretion that are transparent and can be investigated and the government have to create motivation for general people to get into investigation system.

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# UNDERSTANDING COMMUTERS' DECISIONS TO EXPLORE POTENTIAL MARKET OF DEPOK-ANTASARI TOLL ROAD.

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## EXTENDED ABSTRACT

Recently, many infrastructure projects in Jakarta being constructed to reduce the congestion that caused by the commuters everyday. Depok-Antasari (Desari) Toll Road is one of the projects that estimated can be the congestion parser between Jakarta and Depok. This research suggests that through a series of data analysis gathered from Jakarta, Depok, Tangerang, Bekasi (Jadetabek) commuters, useful information for individual and managerial decision making can be generated. This research explores how data that gathered can be used (1) to assess the most sensitive variable affecting the decision making on route choice using Multi Linear Regression, (2) to determine the level of price that acceptable by the commuters' that using Desari Toll Road using Willingness to Pay and (3) to assess the market segment promising using Desari Toll Road using Cluster Analysis. Through various methods, university students are the ultimate target market that willing to pay above the Desari optimum pricing, IDR 9,976. The research also concluded that Jadetabek commuters very rely on facts and really consider the information source for the route decision making.

**Keywords:** Toll Road Pricing, Potential Market, Decision Making on Route Choice, Cluster Analysis, Social Interaction

## INTRODUCTION

As the fourth worst congested city in the world<sup>3</sup>, commuters from and into Jakarta and the number of vehicle growth that exceeds the capacity of road becoming the major contributing aspect. With almost 3.58 million of commuters across the Jakarta, Bogor, Depok, Tangerang, and Bekasi (Jabodetabek), Depok is the largest contributors (6.47%)<sup>4</sup>. Moreover, in the last 4 years, the growth of vehicles overcome the growth of road facilities (9.93% to 5%)<sup>5</sup>.

Congestion phenomena can caused various losses, such as opportunity cost, social cost, and death (Sugiyanto et al., 2011; Small, 2008). In the case of Jakarta, several actions has been implemented to overcome the congestion problem aside from road constructions, namely odd-even plate number rule in certain route, preparing the Mass Rapi Transit (MRT), and road pricing scheme.

To facilitate four million commuter from Depok. Depok-Antasari (Desari) Toll Road is construct and being predict to be able to parser congestion (Paskalis, 2015). Nowadays, Desari Toll Road is being constructed in cooperation between government and private sector. When finished, Desari Toll Road will be the first toll road that connects Jakarta and Depok directly and will be the alternative route of Lenteng Agung-Margonda road.

In order to assess the feasibility of the Desari Toll Road, the numbers predicted vehicle users (drivers) need to be calculated by using new information and the pricing policies. Thus, the cluster that promised to use Desari Toll Road will be divided out from the population. This research aims (1) to assess the most sensitive variable affecting the decision making on route choice, (2) to determine the level of price that acceptable by the commuters' that using Desari Toll Road and (3) to assess the market segment promising using Desari Toll Road.

## LITERATURE REVIEW

### *Decision Making on Route Choice*

In route choice, commuters' behavior develops from several relating cognitive processes that are influenced by internal/external factors. Drivers form perceptions about these attributes based on previous experiences, day specific experiences, and, in many cases, traffic information sources (Talaat, 2008). There are two theories that support the usage of information in decision making process; Theory of Planned Behavior (TPB) (Ajzen, 1991)

<sup>3</sup> According to *Traffic Index 2016 Mid Year* (Numbeo, 2016)

<sup>4</sup> According to *Komuter DKI Jakarta Tahun 2014* (Badan Pusat Statistik DKI Jakarta, 2015)

<sup>5</sup> According to *Statistik Transportasi DKI Jakarta 2015* (Badan Pusat Statistik DKI Jakarta, 2015)

and Theory of Interpersonal Behavior (TIB) (Triandis, 1977). However, TIB is more convenient used for this research due to *habit* variable that taken into account for the analysis of the new toll road constructed. Habit that involved in TIB can affects and plays big role to later decision making. *Beliefs, Roles, Intentions, and Habits* are included as explanatory variables while the *action on new information* will be the dependent variable in TIB.

### Road Pricing

Road pricing refers to fees that charged to road users. Since some of the influential researches are conducted, such as by Pigou (1920) and Vickrey (1963), road pricing is solicited to be the effective way to describe the economical concept for congestion context. Road pricing can discourage drivers to to use their vehicle with another mode, drive on other time, or use another route – same as basic economy theory whereby higher price affected demand to be lower (Ecola & Thomas, 2009). There are many types of road pricing<sup>6</sup>, while fixed rates in the most common one that is used in toll road on Jakarta and the surroundings. Fixed rates only objective is only to gain revenue for the maintenance cost and investment cost of the operator, which is different from Desari Toll Road main objective. To ensure that Desari Toll Road not only used for merely a revenue source, the road pricing type need to be modified by classified the drivers' by their willingness to pay (WTP) and ability to pay.

### Feasibility Policies

Feasibility policy (or also called “feasibility study”) is a study targets to objectively dig the strengths, weaknesses, opportunities, and threats of the existing or proposed business, program, or project in the environment, the resources, and the prospect of the business, program, or project (Justus & Kreigsmann, 1979). According to Justus & Kreigsmann (1979), a whole feasibility study should cover topics such as Introduction of Service, Accounting Statement, Management, Marketing Research, Financial Data, Legal Requirements, Tax Obligations, and Appendix. Marketing research will be the only focus in this research because the assessment on Desari Toll Road only for the promising drivers that will be using Desari Toll Road.

### Research Framework

Below is the research framework that adapted from Triandis' TIB which uses *roles, beliefs, emotions, and habits* as explanatory variables with *action on new information* as dependent variable.

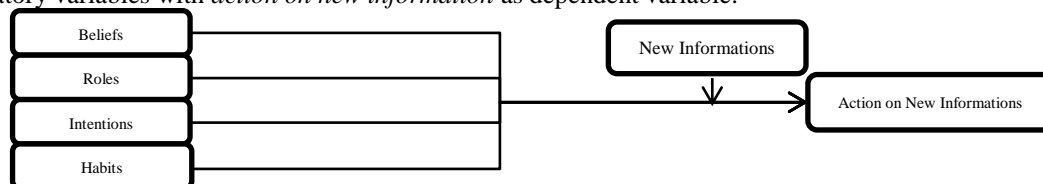


Figure 1 - Research Framework

## METHODOLOGY

This research use a quantitative approach. The constructed questionnaire consist of three part, (i) the general information of Depok-Antarasi (Desari) Toll Road potential user, (ii) adaptation of Theory of Personal Behavior and Theory of Interpersonal Behavior to capture the role of predictor variables toward dependent variables, and (iii) willingness to pay (WTP). A sample of 385 was taken from online and offline resources. This research started from problem identification and then continued with develop methodology that sourced from literature review of previous research.

MLR part began from Validity and Reliability test and Classical Assumption test, followed with the regression interpretation, and ended with the conclusion of Jakarta, Depok, Bekasi, and Tangerang (Jadetabek) characteristic. Then, WTP part is to construct the histogram for the distribution of WTP. As a first step to find target market, optimum pricing for Desari Toll Road is formulated using assumption of potential user number and Desari Toll Road investment cost. Lastly, commuters are clustered using CA with two clustering to get the best clustering and using WTP as control variable, and thus the cluster profiles can be described after finding the incision of these clusterings. Target market of Desari Toll Road is found by eliminating commuters that willing

<sup>6</sup> According to *TDM Encyclopedia: Road Pricing* (Victoria Transport Policy Institute, 2015)

to pay Desari Toll Road below the optimum pricing that determined before that already profiled from CA and the tendency of Desari Toll Road usage from the decision making.

## FINDINGS AND ARGUMENT

### Regression of Decision Making on Route Choice

The correlation between dependent and independent variables in the model is 32.1% ( $r = 0.321$ ), with capability of explaining variability of the response data from predictors is 10.3% ( $R^2 = 0.103$ ). Even though the model has a significant result ( $F_{-stat} = 11.029$ ,  $p\text{-value} = 0.000$ ), the most significant predictor to contribute to the model are *habits* ( $t\text{-test} = -2.059$ ,  $p\text{-value} = 0.040$ ), *roles* ( $t\text{-test} = 5.387$ ,  $p\text{-value} = 0.000$ ), and *intention* ( $t\text{-test} = 2.112$ ,  $p\text{-value} = 0.035$ ).

While *beliefs* is only significant for the samples drawn ( $t\text{-test} = -1.137$ ,  $p\text{-value} = 0.189$ ). Thus, the regression model constructed for this research is:

$$Y_{\text{Action on New Information}} = 8.876 - 0.174X_{\text{Habits}} - 0.082X_{\text{Beliefs}} + 0.251X_{\text{Intentions}} + 0.408X_{\text{Roles}} + \varepsilon_i \quad (\text{eq.1})$$

### Willingness to Pay (WTP)

The WTP result disperse between Rp0 to IDR 25,000, with the highest proportion (29.74%) have WTP between IDR 7,500 to IDR 10,000. The second high proportion of the respondent have WTP between IDR 5,000 to less than IDR 7,500. The proportion of respondent (10.76 %) that have WTP between IDR 2,500 to less than IDR 5,000 is almost same to the one that have WTP between IDR 10,000 to less than IDR 12,500 (11.35%) (see Figure 2 for detail)

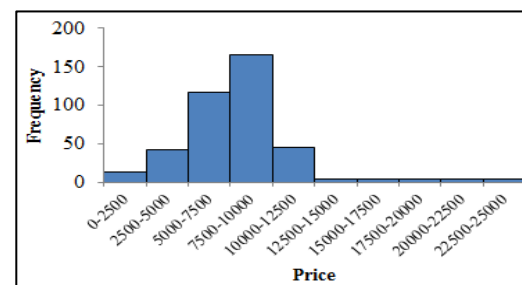


Figure 2 - WTP of Desari Toll Road

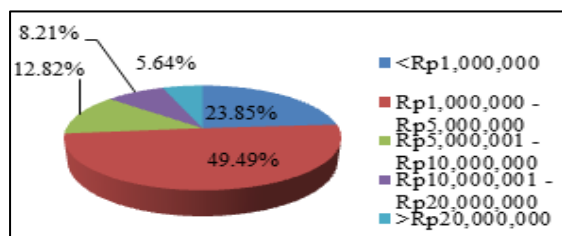


Figure 3 - Commuters' Monthly Salary

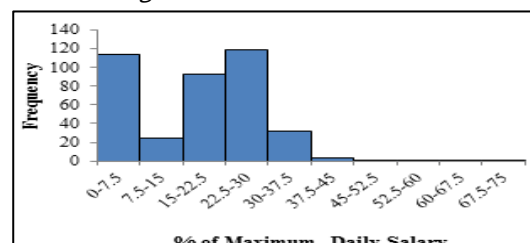


Figure 4 - Percentage of Salary

Related to the commuters' monthly salary, almost half of the commuters are coming from the cluster with monthly salary between IDR millions up to IDR 5 millions. Nearly quarter of the commuters have monthly salary less than IDR 1 million and one-eighth of the commuters have monthly salary start from IDR 5 millions to IDR 10 millions. The rest of the commuters have monthly salary above IDR 10 millions per month (see Figure 3 for detail).

Among all of the commuters, most of the commuters use around 7.5% of their salary for paying the toll road. This proportion might come from those who have monthly salary from IDR 5 millions. While for those who have monthly salary below IDR 1 million, the proportion of monthly income for paying transportation around 30% (see Figure 4 for detail).

### Road Pricing

To find the hypothetical optimum pricing of Desari Toll Road, the investment cost is divided with the assumption of potential user of Desari Toll Road to find the Breakeven Point (BEP) in  $n$  year. With the assumption of 29,160,580 potential user yearly<sup>78</sup>, and Rp2,909,000,000,000 investment cost (Aditiasari, 2016), the price that charged for Desari Toll Road for one-way trip for 10 years BEP is Rp9,976.

<sup>7</sup> According to *Komuter DKI Jakarta Tahun 2014* (Badan Pusat Statistik DKI Jakarta, 2015)

<sup>8</sup> According to *Statistik Transportasi DKI Jakarta 2015* (Badan Pusat Statistik DKI Jakarta, 2015)

$$C_{10 \text{ years, investment cost}} = \frac{\text{IDR } 2,909,000,000,000}{29,160,580 \times 10 \text{ years}}$$

$$C_{10 \text{ years, investment cost}} = \text{IDR } 9,976$$

### Cluster Analysis (CA)

The analysis of target market uses the WTP as the control variable. First, the 9 commuters that reject the Desari Toll Road are excluded from clustering due to their inability and unwillingness. With 381 respondents, two clustering are made due to many variables and to check whether there is intersection between the clustering. Cluster A focuses on profession while Cluster B focuses on activity. Cluster A divided into 3 clusters while Cluster B divided into 2 clusters. The profile of each cluster is shown in Table 1 and Table 2.

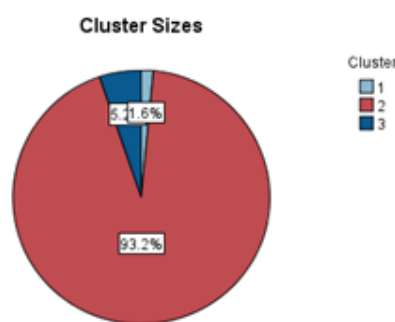


Figure 5 - Cluster A



Figure 6 - Cluster B

Table 1 - Cluster A Profile

Cluster	Profession	Income (IDR)	Transportation Usage/week	Willingness to Pay (IDR)
A1	University Students	Up to 5,000,000	2-4 days	15,000-17,000
A2	University Students and Employees	1,000,000 to 5,000,000	2-4 days	5,000-10,000
A3	Specialty Professionals	5,000,000 to 10,000,000	2-3 days	7,500-10,000

Table 2 - Cluster B Profile

Cluster	Origin	Destination	Activity	Duration of Activity/week	Willingness to Pay (IDR)
B1	Banten	Depok	Studying and Business	4-6 days	5,000-10,000
B2	Jakarta	Depok	Working and Studying	4 days	15,000-20,000

## CONCLUSIONS

### Decision Making on Route Choice

There are two noteworthy discoveries uncovered from the regression of decision making on route choice with new information: Desari Toll Road study case. *First*, according to TIB by Triandis (1977), the *habits* can intervene the decision making on route is proven and significantly affected the decision making besides of *beliefs*, *habits*, *roles*, and *intention*. The beta coefficient of *habits* is negative, which means that *habits* is inversely related to the *actions on new information*.

*Second*, from the regression result can be interpreted that Jadetabek commuters are the ones who rely on facts and their role as the receiver of information. At first, they use their *beliefs* to choose their main or alternative route, but after they see or hear the real condition of the route, they will change their mind. Same thing as *habits*, they would not mind to change their route from the familiar one if there is another more convenient one. On the other hand, *roles* plays big role in the commuters' decision making. *Roles* means the position of role that commuters are in when they are receiving information to make the decision. *Roles* can be the source of reliable

facts because the information that the commuters receive is real-time condition. After they get the information from the reliable facts, they will considerate their priority of their trip, whether it is cheap, familiar, short, or fast – then called as *intention*. Thus, can be concluded that variable that most sensitively affects the *action on new information* is *roles*, followed by *intentions* and *habits*, while *beliefs* is the only one that not significantly affect the *action on new information*.

### Target Market Determination

After the hypothetical optimum road pricing is found, the possible target market with WTP assumption can be determined. With pricing using IDR 9,976, the commuters that willing to pay below IDR 9,976 are excluded from the target market, thus called *non-target market*. The so-called *target market* is the ones that willing to pay above IDR 9,976 or 51 commuters (13.07%) as shown in Figure 4.

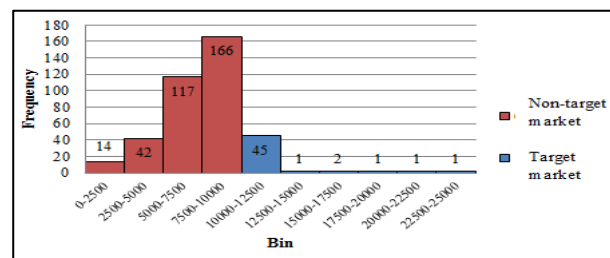


Figure 7 - Target Market of Desari Toll

### Target Market Profile

The target market profile is determined from the target market determination and the cluster analysis. With above IDR 9,976 is the target market, cluster A1 and B2 considered as target market. Furthermore, cluster A1 and B2 have intersection which becomes the ultimate target market and they are the university students from Jakarta that studying in Depok for 4 days a week and have income up to IDR 5,000,000 a month, using their usual transportation 2-4 days/week and willing to pay Desari Toll Road ranged IDR 15,000 to IDR 17,000. In addition from the decision making on route choice, the potential user of Desari Toll Road could change constantly due to the condition of the individuals on choosing the route.

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# CONCEPTUAL MODEL OF STUDENTS ABROAD'S BEHAVIOUR: AGENT-BASED MODELING APPROACH

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## EXTENDED ABSTRACT

Higher education pursuit can be achieved by students in the home country and abroad. Especially in international higher education. Students going abroad will face difficult decision after graduation, whether they will remain or return to their home country. Students abroad's behavior on changing decision should be seen based on their interaction with other agents, fellow students from the same country, natives in the host country, recruiters both from the home country and abroad. This paper uses agent-based methodology approach to simulate the behavior of students based on their interactions while studying there. There are three different scenarios conducted: tolerant condition, intolerant condition, and moderate condition. Tolerant condition results massive change in decisions each time students are interacting with other agents. Intolerant condition generates rather stabilized behavior and big gap between decision to return and remain abroad, while moderate condition generates more stabilized behavior in terms of value before interaction and value after interaction. A policy that increases network of recruiters from home country is recommended as a result from simulation.

**Keywords:** : behaviour; students abroad; agent-based methodology

## INTRODUCTION

Higher education nowadays is a compulsory requirement for people to have their first official jobs and to be promoted to the next level in the management in their companies. Higher education can be achieved not only in country of residence, but also abroad. With the globalization opening people's horizon, and the constant economic development especially in particular developing countries, students are able to have choices on where to study for their higher education. Countries also gain benefits by having high rate of university graduates for the development of their countries.

The prospects of studying abroad have their own interests for students, especially in developing countries. Aside from the better education quality, students consider that their qualifications will give them the advantage of getting the job faster and with better salary compared to students studying in their home country; and since the financial capabilities of families in developing countries have increased each year, the number of people studying abroad raise as well. That is for the students who can afford to go abroad. For the students who cannot afford to study abroad, nowadays many institutions (governments, private, and social organizations) provide scholarships for university students in the hope for them helping develop their home countries after they graduate. And with the help of financial support and personal financial capabilities, the trend of studying abroad has increased significantly (Bhandari and Blumenthal, 2009)

The case, however, has not always been successful. Many students in developing countries who spend some time abroad tend to search for better job for their life quality. The length of their stays reports the often-changing decision on where to stay after graduation. Especially for bachelor degree students, the exposure due to longer stays than Master and Doctoral students causes them to search for better life abroad.

Importantly, how students change their decision is based on the interaction that they find significant to them. The number of friends that they have while they are abroad often influences their decision on whether they will return to their country or remain abroad after graduation. Interactions with recruiters or companies in their country of origin and abroad are also considered as essential reasons on their decision. Although many factors (such as economic and political aspects) are also important, discussion on the personal life (Buchori, 2011) is highly crucial because it largely influences our lives now and in the future and personal life is the first thing that comes to mind when people choose where and how they live.

Therefore, this paper explores the conceptual model of behavior in decision and its changes based on the interactions for students abroad. This paper consists of several parts. First, is the background of the problem and the objectives of this paper. Second part is the literature review based on the concept of this research. Third is the methodology used in this paper, and the last one is the results and scenario analyses.

## LITERATURE REVIEW

Brain drain comes in two forms: the out-mobility of students, especially in higher education, and self-expatriates that entails the migration of professionals. Students out-mobility is the beginning of the brain drain process itself. Higher education research is very much changing (Tilak, 2015), especially in addition to international higher education. The level of schooling in countries, according Barro (1991), is the key determinant of the growth in those countries. It explained that

education is crucial parameter for personal and government development. The development of technology also becomes an important factor for a country's development. However, from the last research by Gungor and Tansel (2003), most international students are in STEM (Science, Technology, Engineering, and Mathematics) fields; which means that the loss of students graduated from this fields returning to their country also means the loss for technology development in the source country. In the mean time, the trend of students in the source country is not in STEM fields (Alburo & Abella, 2002).

However, not all of the mobility of students is seen as detrimental for source country; there is a silver lining to this phenomenon. According to Tremblay (2004), there are several effects of student mobility in the source and host country. Some of them are increase of funding by international students to universities and government; not only that, international students also help develop regional economy where they study by paying lodging and living purchases. For source country, technology transfer is easier to occur with students studying there.

A large amount of scholarships and exchange programs with universities abroad occurs, such as Erasmus Mundus (Altbach, 2004; Goodman & Gutierrez, 2011). Although most scholarships have been granted for international students with requirements to return home, these requirements can be bent.

## METHODOLOGY

Agent-based model (ABM) is chosen in this paper as the methodology. Agent-based model can be used as a conceptual model for determining the behavior of specific aspects that sees the behavior of agents and create emerging behavior of agents. The behavior of students should be seen by their personal intention, and whether interactions with others may influence their decision regarding staying intention after graduation. An advantage of using ABM is that the model making is rather simple without having to fully understand calculus (Wilensky & Rand, 2015).

The type of software that will be utilized in this paper is NetLogo, and we are referencing to Wilensky and Rand (2015). Simulation should be conducted to achieve objectives of a model, as simulation is defined as the picture of the behavior in real condition (Fioretti, 2013). In this case, ABM is meant to construct collective behavior based on individual interpretation of the behavior (Fioretti, 2013).

The model in this paper is based on before-after concept. Assuming a student is planning to go abroad, she will have her own expectations about environment there in the country that she will be studying in and initial plan before leaving about whether she will stay after graduation. This will be the beginning concept, or 'before'. After spending some time in the host country, she will have interactions with mainly the students from the same country, native students, recruiters from her country, and recruiters from abroad. We exclude family because we would like to see the influence of the people who have direct contact with the agent while she studies abroad. A student who interacts with other agents will change their previous motivation on their life after graduation, and it will occur every time a student meet someone. The motivation before a student leaves abroad varies; some students want to return and some would like to remain abroad. Therefore, we put random motivation for each student. When a student heavily interacts with agents from her home country, then the value or motivation decreases below her 'before' value; and when a student heavily interacts with agents from the host country, then the motivation after interaction will be higher than 'before' value. And the after concept is the tendency of a student to return or remain after her interaction with other agents.

The process of simulation commences with random movements of agents, and when 1 or more different agents are in the same place as student, then the interaction occurs. As explained previously, there are 4 types of agents who will interact with the student. When a student interact with students from her country, she will have tendency more to return to her home country based on their interaction.

$$V_{si} = V_b - E(X_i) \quad (1)$$

$V_n$  = Value after interaction with other students from the same country  
 $V_b$  = Value before interaction  
 $E(X_a)$  = Random number of increase/decrease value from interaction

Meanwhile, interaction with natives also changes the perception of students. The changing perception is based on the acceptance of natives there. For example, if a student is living and interacting with natives and the natives are being kind and accepting, it will have positive effect on the student, hence influencing her to want to continue living in the host country. In the meantime, if a student receives bad judgment from natives around her then she will have the tendency to return to her home country.

$$V_n = V_b + (E(X_a) * r_a) \quad (2)$$

$V_n$  = Value after interaction with natives  
 $V_b$  = Value before interaction  
 $E(X_a)$  = Random number of increase/decrease value from interaction  
 $r_a$  = Acceptance rate from the natives (environment)



The next two agents that interact with a student have similar attribute but different level of threshold. Recruiters fall into two categories: recruiters in the home country, and recruiters abroad. The more recruiters in the home country are currently recruiting and have high probability of accepting the student, then she has larger tendency to return home. Similar to recruiters in the home country, if recruiters abroad are recruiting and high probability of accepting the student, then she has larger tendency to remain abroad.

$$V_{ri} = V_b - (E(X_{ri}) * P(A_i)) - E(X_{ri}) \quad (3)$$

$V_{ri}$  = Value after interaction with recruiters from home country  
 $V_b$  = Value before interaction  
 $E(X_{ri})$  = Random number of increase/decrease value from interaction  
 $P(A_i)$  = Probability of recruiter from home country successful recruitment

$$V_{ra} = V_b + (E(X_{ra}) * P(A_a)) + E(X_{ra}) \quad (4)$$

$V_{ra}$  = Value after interaction with recruiters from abroad  
 $V_b$  = Value before interaction  
 $E(X_{ra})$  = Random number of increase/decrease value from interaction  
 $P(A_a)$  = Probability of recruiter from host country successful recruitment

However, equation 3 and 4 are only applicable if the recruiters are currently recruiting student; if the condition is when recruiters are not recruiting when interacting with student then there is no additional probability of increasing or decreasing value for students after interaction.

## FINDINGS AND ARGUMENTS

The behavior that we would like to see is the changing behavior of students after whether they would change their decision every time they interact with other agents. The behavior over time is seen in a year with every tick to be in daily basis. The result of the behavior can be observed in figure 1. First we set the positive environment abroad, whether student will have changing decision towards returning or not.

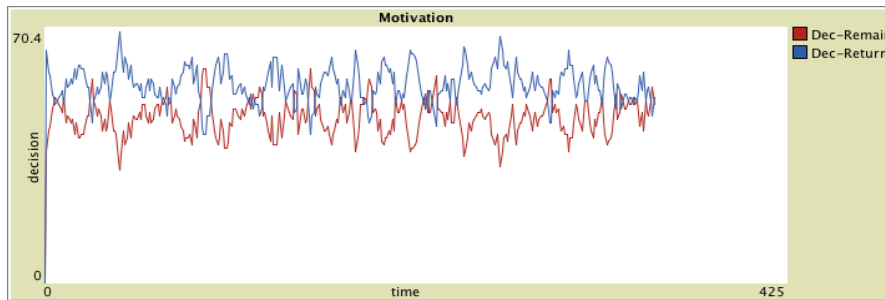


Figure 1. Behavior over time of students: tolerant case

When the rate of acceptance is changed into 'tolerant', the motivation varies largely between decision of remain or return. Since we state that the recruiters from home country is half of the recruiters abroad, the possibility should be major amount of students decide to remain. In the first term of the simulation, the changing decision happens fast; however, decisions show constant graph. Since this is based on daily basis, it is regular that the changes often happen during the year. And in the last period in a year, a student starts to have more changing behaviour.

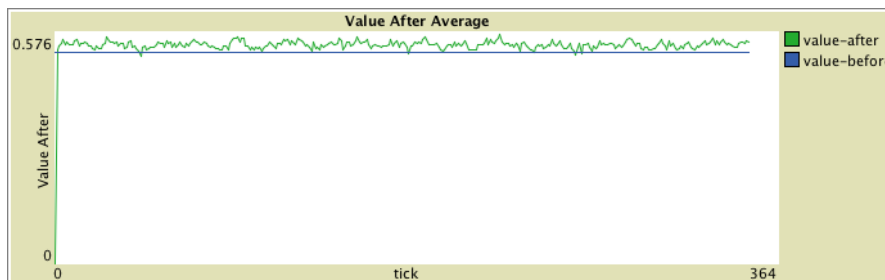


Figure 2. Changing value before and after interaction: tolerant case

Meanwhile the figure above shows that value after interaction also varies compared to value before interaction; it means that the interaction has effects on student. At some point the student's value after interaction becomes lower than value before interaction, the explanation for this drop is due to the high interaction with agents from their home country.

The second scenario is where the student is in 'intolerant' condition, where the condition is the natives have negative judgment to the agent. In this scenario, the acceptance rate decreases to almost minimum. The probability of being accepted by recruiters abroad is also set lower than recruiters in the home country. The result is very different from the first situation. The changing of decision does not change at all. The behaviour of students who would like to stay and return stays the same. As a result, students who would like to remain are lower than who would like to return.

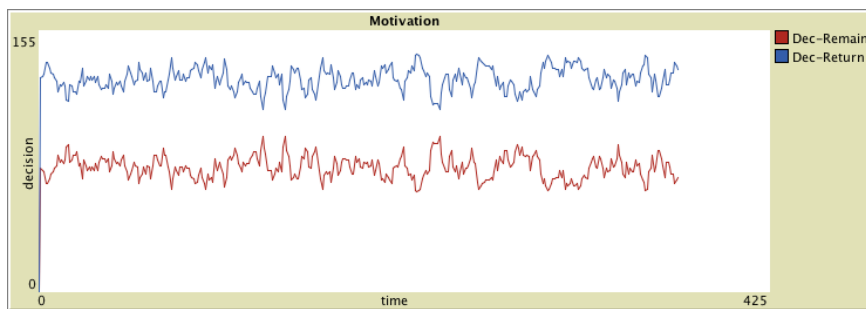


Figure 3. Behavior over time of students: intolerant case

While the value average occurs where value before interaction is always higher than value after interaction. This explains that each interaction influence a students to return because her value remains lower than her previous value. Therefore, this condition may be not favourable for students but may be beneficial for the source country because student would not have any interest in remaining abroad after graduation.

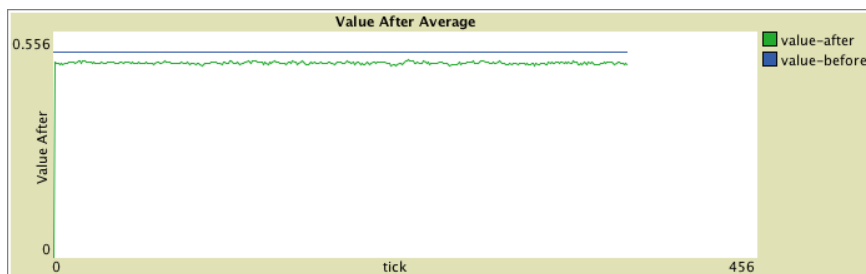


Figure 4. Changing value before and after interaction: intolerant case

The last analysis is when the condition is between tolerant and intolerant condition. The parameters (level of acceptance, probabilities to be accepted in jobs) are also set in the middle of tolerant and intolerant parameters. Figure ... below is the behaviour over time. The behaviour in throughout the year implies that the decision to remain and return does not produce clashes or extreme changes in decision as much as tolerant circumstances. This means in moderate condition of personal lives and working opportunity, decision to return is still above decision to remain; and only small part of the days that decision to remain is higher. Meanwhile, looking at value after and before interaction.

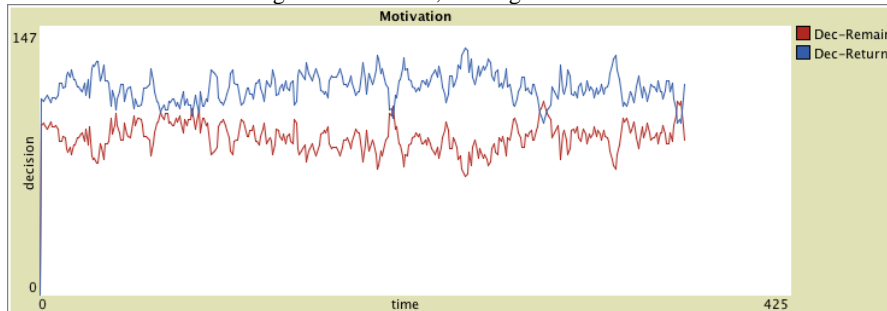


Figure 5. Behavior over time of students: moderate case

The similar result can be seen in the value after interaction compared to value before interaction. The dispersion of difference between before and after values is small but often changes. The change in decision is more sensitive than both scenarios. Therefore, we can conclude that this model is sensitive due to the condition of environment and the amount of interaction that a student has.

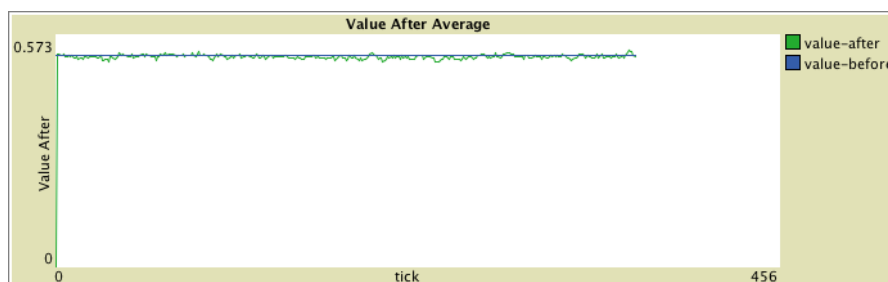


Figure 6. Changing value before and after interaction: moderate case

## CONCLUSIONS

This paper is a conceptual paper that explores the decision changes in students studying abroad on their decision after graduation. Here, we conduct three scenarios on conditions: tolerant, intolerant, and moderate. In tolerant condition abroad, students have constant changes on whether to remain or return to their home country. Meanwhile the opposite of this condition implies that students have fewer dilemmas on their decisions, and this condition makes students have almost certainty that they will return after graduation. And in moderate case, decisions are not changing as constantly as in tolerant circumstances. And by the looks of value before and after interaction, in tolerant case, value after interaction tends to be above value before interaction. While in intolerant case, value after interaction is always below value before interaction. In moderate case, value after interaction is much closer to value before interaction, although there is constant changes in value.

The recommendation that can be given to the government from source country is to increase the probability of recruiting graduates abroad and starting from the beginning of their study. Another way is to increase the network of recruiters from source country to connect with students abroad.

This paper is only the beginning of further development of the model. Adding more parameters and thresholds to the model will make model more realistic. Including more types of agents also may produce more realistic model since it will depict student agent in real life.

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# IS THE BIGGER REALLY BETTER: FIRM-BASED ANALYSIS OF GROWTH AND INNOVATION WITHIN THE SHIPBUILDING INDUSTRY IN INDONESIA

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## EXTENDED ABSTRACT

Like other firms, shipyards obtain a competitive advantage when they consistently produce a product that corresponds to the key criteria: cost, quality, and delivery. To achieve these, shipyards have to provide the contributing elements, which are; design, labour and materials. Complexity occurs when these resources are not provided by the yard, instead it often relies on external providers. Those decisions are made in a day-to-day basis by the yard managers. This form of production networks developed by the yards' manager has a unique element of 'project-based' and it has not yet incorporated in the competitiveness debates to explain the success factors within organisations. Face-to-face interviews constitute the core source of data in this study to help reveal the challenges and issues faced by the yards' manager. This approach was undertaken as it offers the opportunity for a detailed investigation to reflect the firms' adaptation process and to identify the types of strategy they developed to overcome issues in the operations. The paper will compare how different scale of yards – embryonic, growth, and advance shipyards, perceived the concept of competitiveness.

**Keywords:** competitiveness, project-based, shipbuilding, value element

## INTRODUCTION

Interaction and close relations that are prevailed between the yards manager and the networks has gradually resulted in the development of firms, be it in the development of a new product or the increasing capability to deliver the product on time. This study would like to understand how yards' manager in Indonesia overcomes production issues related with project and uncertainties. The shipbuilding industry in Indonesia is chosen to be the focus of this study due to its geographic position. It has profoundly influenced the nation's economic direction, including putting maritime and shipbuilding as their strategic industry. Given the role of the shipbuilding industry in the nation's economic growth and the diversity of institutions involved in its productions, an in-depth study of the Indonesian shipbuilding industry is an important contribution to the debating area of project-based production networks. The paper will begin by briefly outlining the context for the study. Furthermore, the design and methodology chosen for the data collection, which will be derived from 52 interviews with multi-scalar shipyards conducted during 2015-2016, will be discussed.

## LITERATURE REVIEW

Shipbuilding, commonly seen as a megaproject, can be considered as wild beasts in the sense of their complexity and uncertainty. The study by Sanderson (2012) has coincided with the increasing popularity over the last 25 years of a project form variously described as the megaproject (Flyvbjerg et al., 2003; van Marrewijk et al., 2008), the large engineering project (Miller and Lessard, 2000), or the service-led project (Alderman et al., 2005). These labels are applied to very large-scale projects with several shared features: (1) The project delivers a substantial piece of physical infrastructure or a capital asset with a life expectancy measured in decades, (2) The client is often a government or public sector organisation, and (3) The main contractor or consortium of contractors are usually privately owned and financed; the contractor often retains an ownership stake in the infrastructure/asset after the construction phase is completed.

The characteristics of the industry are also known as: high levels of complexity along various dimensions (Remington and Pollack, 2007), the potential for significant conflict of interest between the wide variety of public and private sector stakeholders (Alderman et al., 2005; Clegg et al., 2002), the need to make decisions

and to act under conditions of uncertainty as well as risk (Atkinson et al., 2006; Loch et al., 2006). There is substantial evidence that these challenges are often leading to cost overrun, delays in completion and failure to deliver against the objectives used to justify projects. Therefore, it seems that the importance of megaproject research has become increasingly popular in recent years (William, 2009; Flyvbjerg, 2009. Flyvbjerg et al., 2002, 2003; Miller and Lessard, 2000).

## METHODOLOGY

This study aim to address reserach question : *How do shipyards in Indonesia evolve and acquire competitiveness?*

Considering that the question is derived from the perspective that, as a megaproject, the shipbuilding industry encompasses issues of production activity involving multi layers of networks, this study attempts to achieve the following objectives:

- (1) To identify the challenges and opportunities faced by the shipyards in multi scalar perspective
- (2) To investigate the types of strategy adopted to overcome issues

The empirical research developed in this study consisted of qualitative method of inquiry. The key feature considered for the conduction of a qualitative interview is that it embodies a method that enables in-depth understanding (Alvesson, 2003; Roulston and Lewis, 2003). 52 semi-structured interviews were undertaken, followed by visiting number of shipyards to conduct observation. The interview respondents were managing directors, production managers or project managers. Participants were identified through *Snowball Sampling* (Scarbrough et al., 2004), which involved asking contacts to provide an initial list of potential interviewees from their own shipyard, suppliers' company, and/or other yard in their networks. The main strength of the interview is that it enables the researcher to focus in-depth on the topic directly and to obtain explanations (Yin, 2009).

## FINDINGS AND ARGUMENT

This study found that both organisational and technological complexity of interorganisational projects have increased because of an increase in the number of project partners involved and the interdependency among them. Furthermore, technological developments and more intense time pressure on the production of vessels has made the shipbuilding industry often characterised as a versatile and dynamic environment. Over time, the outsourcing of project work to subcontractors has increased significantly as a response to shorter production cycles, increased time pressure, and greater technical complexity. The increased outsourcing was driven by the need for cost reduction caused by the project demand of price competition on the global shipbuilding market. However, while outsourcing more and more work, the shipyards have clung to their orchestrating role in the process. This may have led to the formal and low trust nature of their current relations with subcontractors. This is also due to the fact that the shipyards have always been and still are the central actors in a project. They coordinate and monitor the activities of subcontractors, communicate exclusively with the end customer, and also bear the most of the risk on the project.

*[A table of shipyards' competitive dimension is currently being developed by the authors and will be displayed in the full paper. In summary, data from the interviews has identified three categories of shipyards, which are embryonic yard, growth yard, and advanced yard. The table will present and discuss the finding of shipyards' competitive dimension and value elements, which comprises: (1) human resource and work organisation, (2) operation and marketing, (3) infrastructure and financial assets, and (4) innovations]*

## CONCLUSIONS

This study intends to understand firm competitiveness by identifying challenges and opportunities in shipbuilding companies in Indonesia. Although recent organisational networks literature has tried to explain the competitiveness of the industry by using various theories and perspectives, little is known about how managers, as economic actors, foster competitiveness in a mature industry. Through the inductive and exploratory approach derived from the face-to-face interviews with yards' managers, differences in practice have been identified, followed by the identification of processes and strategy during the completion of shipbuilding projects.

Methodological concerns such as credibility, rigourosity, and generalisability have also been taken into account to ensure the quality of the approach. By comparing and contrasting different cases from different scales of shipyards, the objective of the study to explore (1) the challenges and opportunities faced by yards' manager, and (2) the types of strategy taken by the manager to survive and compete, has been accomplished.

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## HOW SOCIAL VALUE IMPROVE FIRM PERFORMANCE? SOCIAL INNOVATION AS MEDIATING ROLE

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### EXTENDED ABSTRACT

The activity that confirms social value in profit organization tends to be raised in business context. The knowledge on how social value can be stimulated and what impact of its creation has been widely explored in non-profit organization. Herein, this research aim to illustrate how social value can improve firm performance in conceptual framework which include (1) the organization competencies (i.e., social motives, market orientation, organizational context) (2) mediating element that bridge social value and firm performance (i.e., social innovation) (3) performance outcome as impact of social value creation (i.e., organizational performance, financial performance, and innovation performance). This paper discusses three core of conceptual model that can be correlated each other and the venue for further empirical studies.

**Keywords:** social value, profit organizations, firm performance, social innovation

### INTRODUCTION

In profit organization, the idea of social value creation have been associated with various activities such as corporate social responsibility (CSR), sustainability, cause-oriented marketing and purchasing, venture philanthropy, social investing, microfinance (Wilburn and Wilburn, 2014). These activity has gain attention in business leaders and profit organization to proactively respond the responsibility of a firm for greater good in society (Magolis and Wales, 2013; Wilburn and Wilburn, 2014) and improve business operation that moves beyond economic, social, and environment efficiency (Rexhepi et.al, 2013; Zhang and Swanson, 2014). Most of researchers assess CSR activity as social value creation and relates it with performance outcomes. Few study examine social value as business leaders belief/ideas to lead their organization to conduct social value activities. Assessment of social value has been fulfilled in non-profit organization (Dietz and Porter, 2012; Miller et.al, 2012; Felicio et.al, 2013; Dufays, 2014) and profit organization (Lestari et.al, 2015; Altinay et.al, 2016; Kurattko,2016).

Grant (2010) consider value in business context as strategic statement reflecting what organization believe in and how will they behave. With increasing demand of creating social value activities and resolving the question on the antecedent and performance impact from social value creation in profit organization. Conceptualizing social value measurement will reflect what organizational believe on social activities, the competences that stimulate the believe and strategic activities, and performance outcome as impact of social value creation.

This paper enriches the field of social entrepreneurship that particularly examine for profit organization by building the framework of organizational competences, strategic paradigm of social value, strategic social value creation, and performance impact. The structure of the paper is as follows. First, model of social value measurement in profit organization. Second, the organization competences that will stimulate social value. Third, mediating element that bridge social

value and firm performance outcome as impact of social value creation. Fourth, the venue of further research.

### Conceptual Framework

The concept of social value creation through organizational perspectives have been established in the context of non-profit organization research theme. It involves providing goods and services by an organization with social purpose such as promoting community development, advocating fairer policies, or dealing with a variety of social problem (Austin et.al, 2006; Sud et.al, 2009; Felacio et.al, 2013). The creation and the need to build social value concept in profit organization currently receive great attention from researchers. Wilburn and Wilburn (2014) defined social value creation regarding business activity that results from both profit and social advantages. Dietz and Porter (2012) defined it by the act of business serving greater good which drives from the attraction of social aspect and places higher priority over economic value. Whereas, Altinay (2016) illustrate social value creation by the process of community engagement. Meaning that the attention of social value creation in profit organization more emphasis in providing social purpose aside or accordingly with profit purpose. Some researcher illustrate social value creation by “noble behavior” (Mort et.al, 2003, altruistic objectives (Tan et.al, 2005), and value (i.e tolerance, equality, freedom) embedded in promotion activity based on social purpose (Wilburn and Wilburn, 2014).

The study of relationship between social value and firm performance which emphasize on firm competences revealed that social motives, market orientation, organizational context, and social innovation were affected social value (Lestari et.al, 2015). This paper aim to explore more within similar context from Lestari et.al (2015) but in some revision and improvement. The model (figure 1) conceptualize three main aspects such as organizational competences which stimulate social value, social innovation as mediating elements that bridge social value and performance, and performance impacts. Next section will discuss more deeply about those main aspects.

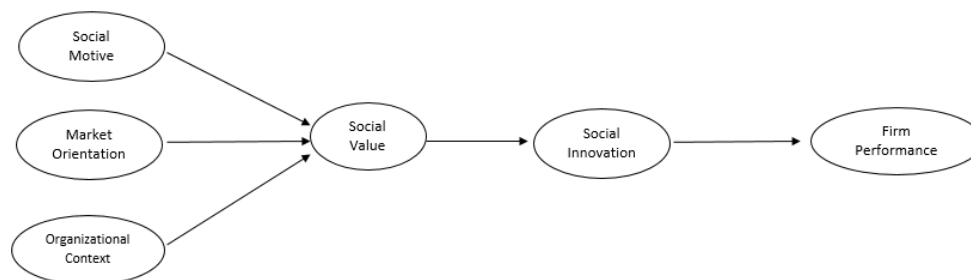


Figure 1. Model of Social Value Measurement in Profit Organization

### Organizational Competences

Value consider the believes/ ideas of the firm and how firm will behave (Grant, 2010). In this paper, social value consider the intention to bring greater good for society by empowering community, sustainable collaboration (Felicio, et.al, 2013; Altinay et.al, 2015) and minimize societal/environmental impact from business operation. The competences, that can stimulate these believes, are (1) social motives (2) market orientation (3) organizational context. Firstly, organization itself must have motivation toward social benefit that encourage organizational benefit such as gaining good public image, keeping good relations with stakeholder, and good reputation in community (Nielson and Parker, 2010). Paunescu (2014) argue that social motives is main driver to



stimulate social value in organization that will stimulate social innovation in the end. By assessing social motives, organization will know why organization have to have social value. Awareness to have social value should be supported by organizational context which include transformational leadership (Felicio et.al, 2013), knowledge for social acquisition (Mirvis et.al, 2016), and organizational commitment (glisson et.al, 2012; Paunescu, 2014). Social motives and organizational context support competences for reflecting internal analysis. Capability to recognize external environment to create strategic social value creation should be supported by market orientation. Kiessling and Iccakson (2015) argue that CSR activity will gain better firm performance if firm were costumer-oriented, smart to analyse what competitors do and government regulation. Not only knowing external environment, social value creation also supported by ability to recognize opportunity to enable social change (Felacio et.al, 2013).

Preposition 1a : Social motive is positively relaated to social value

Preposition 1b : Market orientation is positively related to social value

Preposition 1c : Organizational context is positively related to social value

### **Social Innovation as Mediating Element**

Social value creation in profit organization is relevant with corporate social responsibility activity. Sprinkle and Maines (2010) argue organization shouldn't abandon profit maximization aim in achieving societal goods within CSR scheme. Rexhepi et.al (2013) argue that CSR can be starting point for proactive innovation if the activity is properly understood and strategically create sustainable program. In addition, social initiatives that work to meet pressing unmet needs and improve people's live is considered as social innovation. If organization have well social value and create strategic social action will affect business performance (Rexhepi et.al, 2013; Kiessling and Iccakson, 2015; Mirvis et.al, 2016). To measure social innovation in profit organization, this paper use criteria from van der have and rubalcaba (2016) who clustering the concept of social innovation. Social innovation criteria include empowering change that statisfy human needs, improvement process of social value creation, and strategic investment that create shared value (economic and social) between parties.

Preposition 2 : Social value is positively related to social innovation

### **Performance Implication**

Various attempts has been completed to assess the relationship between social activities and firm performance by assessing annual report, consumer perception, and companies perspectives. From companies perspectives, Lestari et.al (2015) completed performance assessment by classifying performance into 3 aspects such as financial performance, customer performance, and innovation performance. This paper adjust performance perspectives from non-profit organization which Felicio et.al (2013) used. For profit organization, this paper used reference CSR assessment from Weber (2008), Bocquet (2013), Kiessling and Iccakson (2015). After analysing those literature, this paper propose some improvement and revision from Lestari et.al (2015). This paper improve those performance by enrich variables and revise performance implication into three type such as organizational performance, financial performance, and innovation performance. In organizational performance, this paper propose measurement in the effect of better reputation, customer loyalty, future recruitment pool, cost reduction in business performance. In financial performance, this paper propose assessment in ROI as investment return, ROA as operating business, growth in market share, growth in sales. In innovation performance, this paper propose measurement in new product success, time to market, increase innovativeness of product, and increase satisfaction in service.

Preposition 3 : Social innovation is positively related to firm performance

### Further Work

Greater understanding of antecedent of social value and its implication for business performance in profit organization will emerge as scholars complete empirical studies examining the phenomenon. The propositions associated with the current model are possible sources for empirical studies. Further empirical study should provide evidence of how the model will fit each other and the strength of variable to conform with model.

### Acknowledgement

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# BUSINESS STRATEGY AT PT LESTARI BANTEN ENERGI (LBE) IN OPERATION AND MAINTENANCE OF COAL FIRED POWER PLANT : AN ALTERNATIVE TO BECOME A STRATEGY FOCUSED ORGANIZATION

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## EXTENDED ABSTARCT

Electricity business in Indonesia with 8.1% demand for the last 5 years has been very attractive for investment. It is however a challenging for a new entrant such as PT Lestari Banten Energi (LBE) with 1 x 660MW Coal Fired Steam Power Plant to participate in electricity business sector. Hence, it requires a best fit strategy for the company to sustain and grow. Formulating the strategy is done by analysis both externally and internally. The result is then used to determine the best strategy for the company to compete in power industry. Cost leadership strategy for LBE is suggested considering its position along with resources and capabilities. The formulated business strategy is implemented through focusing on the internal process within the company. The strategy translation and aligning the company's day to day activities toward the company strategy into operational terms is reflected in the day to day activities by involving everybody in the company. Utilising balance scorecard model is expected to the result of a strategy focused organization. Monitoring is conducted continuously in order to ensure that strategy execution and implementation is on the right track with key performance indicators along with regular review and evaluation.

**Keywords:** Business Strategy, Key Performance Indicators, strategy focused organization.

### 1. Introduction

Electricity has been an important and urgent issue for many years in Indonesia. Development of the power plant under acceleration program Phase 1, 10.000 MW initiated by the Indonesia government is not running well, meanwhile the demand is still growing. According to the PLN annual sustainability report 2015, customers growth was 6.4% with improved electrification ratio by 88,4% from 84.3%. Electricity demand in Indonesia in 2015 was around 5.9% and expected to increase despite economy slow down. PT Lestari Banten Energi (LBE) is a subsidiary company of Genting Energy which was awarded to build a supercritical power plant as an independent power producers (IPP) in Indonesia. According to the PPA, PT Lestari Banten Energi (LBE) owns, operates, manages and maintains a unit of 660MW the power plant including the electrical interconnection facilities, special facilities in the plant to connect the plant with the national electricity network (Java-Bali grid). The project is estimated to cost US\$ 1 billion, financed by the lenders of Maybank, EXIM Bank of Malaysia, Citibank and RHB Bank for US\$ 735 million. In the commercial operation, PT Lestari Banten Energi operates and maintain the power plant to generate power with availability factor of 80%. The revenue of the company are based on the payment structure as stipulated in the PPA which consists of capacity payment and energy payment. Those capacity payment and energy payment are formulated according to the different criteria based on the net dependable capacity test and net electrical output.

### Business issue in PT Lestari Banten Energi

PT Lestari Banten Energi is a special purpose company of Genting Energy to start its power business in Indonesia. PT Lestari Banten Energi realizes that the long term contract in PPA has obligation to satisfy as well as participating in growing power generation industry in Indonesia. For long term run, PT Lestari Banten Energi has to formulate strategy on how it will achieve the company goals. The company has not formalised the

strategy to achieve the company's vision and mission. The main issue to be described in this paper is how the company aligns its vision and mission, and then formulate the strategy to achieve the company's goals, and further more to translate the strategy into operational terms in the daily activity. It is expected that the strategy implementation can gain competitive advantages where the employees are also involved. The strategy implementation is measurable, achievable and can be monitored regularly. And strategy in PT Lestari Banten Energi should be aligned with the vision and mission of the company as well as its implementation in the operational activities.

## 2. Literature Review

In the book of "The Execution Premium", Kaplan-Norton, 2008, described the methodology to develop strategy in a company in a closed loop process. In the framework below, can be seen the processes on each step defining the activities inside that is described and applied to PT Lestari Banten Energi. The dot line box describes about the contents of each process which is explained in the theory and its application for PT Lestari Banten Energi. The process is described according to the concept as well as the application in the PT Lestari Banten Energi. The process consists of clarify the vision, develop the strategy, translate the strategy and develop the plan to create a strategic plan. The next process is the implementation or execution and monitoring & review whereby they are set to be applied in PT Lestari Banten Energi. Monitoring and review process ensures that the process is a continual process involving continuous improvement in the company toward the strategy and its implementation.

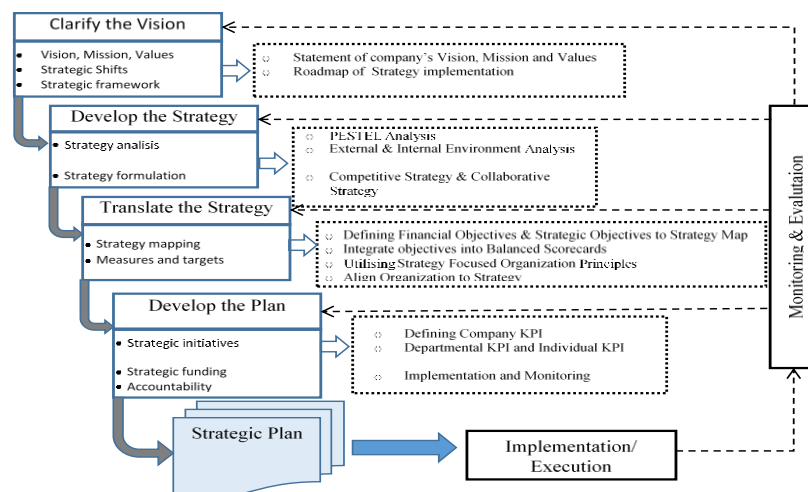


Figure 1. Developing Strategy, Adapted from "The Execution Premium", Kaplan – Norton, 2008.

### Clarifying the Vision

Company Vision is the statement at the highest level in the organization, defines the long term goals to be achieved within the targetted timeline. Company mission statement defines why the company exists and describes the fundamental purpose of the entity. Mission statement inform the executive and all employee about the overall goals will be achieved together. Values are the soul of the company. Somehow, due to certain condition or different situation and demand, strategy should be changed or adjusted in order to improve the company position or to achieve the stretch target. In this kind of situation, strategic change may be required. Those above with the implementation plan are described in a strategic framework.

### Develop the Strategy

Conducting strategic analysis is very important after defining the company vision and mission. Strategy formulation can be done by using many approaches, including positioning, the resources based view, core competencies, value based management, profit form the core, blue ocean, emergent strategy, experience co-creation and disruptive innovation. Combined operational and strategy approaches is expected to minimize the

risk, including enterprise risk management and internal controls. The formulated strategy can be translated into strategy map and then made operational through a Balanced scorecard. In conducting analysis, SWOT analysis method is utilised to analyse the external environment and internal environment.

(1) As part of the external environment analysis, PESTEL analysis is utilised to measure the component in external environment analysis to be carried out. In addition to external analysis, Value Net Analysis is also utilised. Value net analysis is a framework methodology to understand, utilising as well as optimising the cooperation among industry participants. It includes visualizing the sets of relationships from a dynamic whole system perspective. Value net helps the company to understand and discover the potential to improve their position through cooperative as well as competitive interactions as well as to identify the key players in the business. This consists of the company as the center, customers, suppliers, competitors and complementors. (2) Internal environment analysis is conducted through (i) Resource and capabilities analysis. According to Chapter 3 Strategic Management, Lumpkin and McNamara, describe the resources of the company consists of tangible resources, intangible resources and organizational capabilities. Tangible resources are defined as the assets of the company which are relatively easy to identify. Intangible resources are defined as the assets of the company that are difficult to identify and account for. Organizational capabilities are defined more to the company core competencies or skills that are utilised by the company to transform inputs into outputs. (ii) VRIN – Competitive Power Test - is standing for Valuable, Rare, Inimitable and Nonsubstituable. Finding the result on this assessment will contribute the potential of attractive and long-lived profitability. Valuable and rare express the determination of a company whether the resources and capabilities can support competitive advantages. Inimitable and nonsubstituable describe determination of the company to sustain the competitive advantages. (iii) Strengths and Weaknesses Analysis as part of SWOT basically give ideas how the internal condition of the company for the later steps in planning to achieve the company objectives.

### Strategy Formulation

In formulating the strategy, there are two references to be utilised in this paper. It looks into the competitive strategy whereby the generic strategies as defined by Michael Porter and the collaborative strategy which describes about the strategic grouping in the industry. **(i) Competitive strategy: Cost leadership and Differentiation.** In the Chapter 5 of Strategic Management, McNamara & Lumpkin describe three generic strategies where a company can use to overcome the five forces and achieve competitive advantage as defined by Michael Porter where each company can outperform rivals in their industry. Overall cost leadership, is based on creating a low-cost-position. Low cost position of the company gives benefit to the company by earning above-average returns even though in the strong competitive environment which enables the company to protect from its competitors even though they are in intensive rivalry. Differentiation strategy requires a company to create products and/or services that are unique and valued by the customers. A focus strategy is chosen based on the market niche where the combination of the cost and differentiation required to capture the narrow competitive scope. The company may select the target and implement the suitable focus strategy to achieve the advantages. **(ii) Collaborative Strategy - Strategic Group Analysis.** Companies in the same industry commonly sell their product in different price/quality ranges to different type of buyers with different geographic coverage area. They set their position according to how attractive the position to the company sale process. The position of the company in the market industry can be revealed in the strategic group mapping. The similar competitors in the same industry are plotted together under the same two comparable parameters, then plot them in the map to show their position among the others. Strategic groupings gives the value to the company in identifying the barriers to its mobility that protect a group from attacks by other groups. Mobility barriers are factors that deter the movement of firms from one strategic position to another. By implementing the strategic grouping also helps a company to identify the groups whose competitive position at marginal or tenuous. **(iii) Key Success Factors** are those competitive factors that most affect industry members' ability to survive and prosper in the marketplace, the particular strategy elements, product attributes, operational approaches, resources, and competitive capabilities that spell the difference between being a strong competitor and weak competitor, and between profit and loss (Crafting and Executing Strategy, 20E, Thompson, Peteraf, Gamble, Strickland, McGraw-Hill, page 72).

### Translate Strategy

Strategy map framework helps the strategy selection according to the company capabilities, resource based view, value based management or other strategies. Using the Balanced Scorecard, strategy is translated,

according to Kaplan-Norton in their book of A Strategy-Focused Organization (2001), into four different perspectives: (1) Financial. (2) Customer. (3) Internal Business Processes. (4) Learning and Growth.

### Develop the Plan

Strategic initiatives enforce the company to make action, to convert its resilience into positive change. In the initiative management, there are 3 processes to manage: strategic initiative selection, strategic funding and establishing accountability. Key Performance Indicators (KPI) are a set of quantifiable measures that a company uses to gauge its performance over time. These metrics are used to determine a company's progress in achieving its strategic and operational goals, and also to compare a company's finances and performance against other businesses within its industry.

Research methodology for data collection of the paper can be seen in the flow process below:

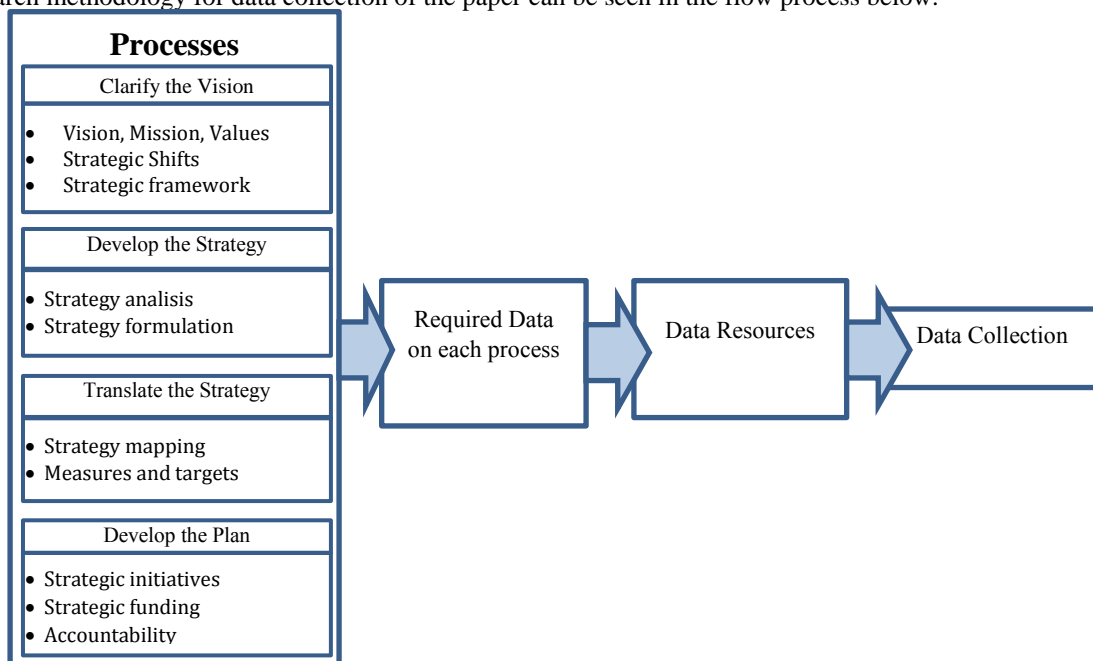


Figure 2. Research Methodology for Data Collection

### 3. Findings

By looking at the below figure, the position of PT Lestari Banten Energi in the strategic mapping can be seen:

Table 1. List Power Plant in Java-Bali System – Data 2008

No	List of Power Plant	Generated Energy (GWh)	Variable Cost (Rp/KWh)	Average Cost (Rp/KWh)
1	PJT II	587	185	185
2	Cilegon	3709	205	464
3	TJB	8523	171	511
4	CL	1106	556	556
5	IPP's Geo	4902	589	589
6	SSP	2275	247	636
7	JP	8642	262	644
8	PEC	8838	215	668
9	IP	42345	848	1016
10	PJB	28975	913	1066
11	PT LBE*	4928	292	416

\*projected

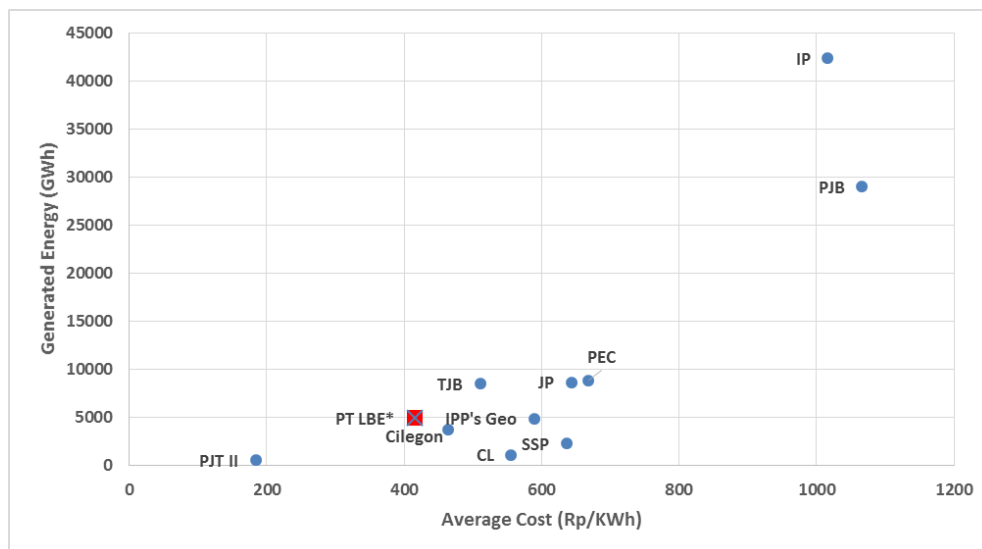


Figure 3. Strategic Group Mapping

Adapted from "The Final Project – The Analysis of Business Strategy using Strategy Diamond model A case study at PT Indonesia Power, John Ardi, 2010: page 48-49".

(PJT II: Perum Jasa Tirta II; Cilegon: PLN Pembangkitan Cilegon; TJB: PLN Pembangkitan Tanjung Jati B; CL: PT Cikarang Listrindo; IPP's Geo: Dayabumi Salak Pratama Ltd, Magna Nusantara Ltd, Chevron Geothermal Indonesia, PT Geodipa Energi; SSP: PT Sumber Segara Primadaya; JP: PT Jawa Power; PEC: PT Paiton Energy; PJB: PT Pembangkitan Jawa Bali; PT LBE: PT Lestari Banten Energi)

Above figure shows that the position of PT Lestari Banten Energi in the industry should be secured by implementing the best fit strategy. Surely, the business Strategy of PT Lestari Banten Energi gives more advantage which will be revealed by the strategic analysis.

#### 4. Conclusions

Due to the facts have been described previously, it is necessary for PT Lestari Banten Energi to undergo the strategy development process to formulate its best fit strategy in order to achieve the competitive advantages and ultimately to achieve the company's goals.

The company internal process activities have to be linked with the company's strategy. The strategy should be aligned with the company vision and mission, hence the daily activities involve everybody in the company can be established.

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# PASSENGER FORECAST MODEL TOWARDS TO BANDUNG ELECTRIC VEHICLE

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## EXTENDED ABSTRACT

This article proposes the passenger forecast causal model for the electric vehicle in Bandung. First, the causal model to relate the variable in the Bandung electric vehicle model is developed. Second, secondary data related to passenger is will be elaborated with primary data derived from questionnaire survey. As a preliminary study, this study proposes simple forecast model which will be further developed in a more comprehensive way to contribute on sustainable transportation development in Indonesia.

**Keywords:** electric vehicle, passenger forecast, sustainable transportation

## 1. INTRODUCTION

By the end of 2014, Bandung population reached 2,470,802 which increased up to 45,845 people from 2011. The population number still can be changing as the movement of people that come in and out from Bandung is rapidly changed. In 2014, some total tourists were 4,418,781 almost twice as Bandung population (domestic tourist is dominating with 4,242,294 people and international tourist with 176,487 people). Bandung government through its policy and coordination with Indonesia government accommodates the population with various transportation in land and air. In land transportation, local government provides rail transportation that transports 12,9 million people in 2014 also road transportation that consist of the bus, angkot, taxi. The Recent policy is to expand the Husein Sastranegara International Airport to fulfil the demand of 11,488 flights to Bandung and the groundbreaking of Bandung Metro Capsule (BMC) to accommodate the trip between regions.

Nowadays road transportation is considered as an emerging market for the private sector, 11 private companies competes in taxi market share with a total of 1,856 cars on the road. Moreover, online transportation (Go-Jek, Uber, Grab) stretch out the chance for Indonesian to contribute in public transportation with their services in car and motorcycle including in Bandung. Some people see this opportunity as an additional job to support their main job, and some people see this as a new trend in mobility. This new trend of transportation has an advantage in reaching territory compare to government public transportation. The concept of online transportation is to pick and drop directly to passenger wants, an advantage that government public transportation cannot provide.

The problem occurs when this many various road transportations fill out Bandung road (including non-public transportation). Bandung government sees this as a time-bomb that needs immediate action to avoid the traffic jam. Although most passenger shift to online transportation, local government come up with the idea of the electric vehicle to reduce the number of vehicle on the road while reducing the level of carbon dioxide in the air. The consideration of electric vehicle is to set a new trend of sustainable public transportation that attests Bandung as the pioneer of the smart and green city in Indonesia. The research study and commercialization of Indonesia electric vehicle does not exist yet; early study is required to forecast the passenger of electric vehicle in Bandung, with Ganeca Campus-Jatinangor Campus as the pilot project.

## 2. LITERATURE REVIEW

In 2008, transportation was the second-largest energy consumer that contributes up to 22% of global CO<sub>2</sub> emission. Road transportation is dominated by private, and public vehicles represent 81% of total transportation energy demand (Atabani, Badruddin, Mekhilef, & Silitonga, 2011). Also, with a total of 1,443,212 vehicles in 2014 in Bandung (an increase of 87,407 vehicles from 2013) it caused not only an environmental problem but also traffic (Statistics of Bandung City, 2015). The use of green and sustainable public transportation such as electric vehicle, fuel cell vehicles, and the natural gas vehicle is necessary to reduce impacts, the environment and traffic (Flamm & Agrawal, 2012). (Elkin & McLaren, 1991) State that the requirement of a sustainable city is to build beneficial facilities to non-motorized vehicles, pedestrians, and public transport. Strategize public facilities could reduce the population of private vehicles use (Yang & Miao, 2013). (Nijkamp, Rienstra, & Vleugel, 1998) Underlined that there are five factors determine whether the transportation will be sustainable, the five factors are outlined below:

1. Spatial and land use patterns: the demand for travel and transportation system are influenced by size of urban area, building density, level specialization and the spread of activities within the urban area
2. Economic forces: large-scale of transportation is sensitive to economic changes due to the financial investment
3. Technology: Technology is contributing by reducing the waste or improves the waste treatment
4. Government policy: Government is strongly involved in transportation development; thus the development is sensitive to political priorities
5. Social and behavioral trends: social values and norms may greatly affect the transportation choice of individuals

## **2.2 Bandung's electric vehicle passenger forecast flow diagram**

To reach the goal of this study, this study considers two significant elements that directly affect the passenger forecast which are: population and the transportation mode. In this case, we derive detailed information about the private vehicle user and public transportation user from the population data. Further, transportation mode is divided into two elements, private vehicle that consists of passenger car and motorcycle, including the private and agency sub-elements. Then, from both sub-elements, it will be counted as the total volume of the private vehicle along with the proportion of private vehicle. Second element of transportation considered in this study is the public vehicle. In this case the proportion transit will be defined to accommodate the concept of Transit Oriented Development (TOD) in transportation.

## **3. METHODOLOGY**

### **3.1 System Dynamic**

System Dynamic (SD) is a thinking model and simulation that was developed to support the study of dynamic behavior in complex systems (Forrester, 1961). SD is initially applied in industrial and business systems management and expanded into the diverse problem such as quality improvement, resource planning, etc. (K.L Kelly, 1998). (Yang & Miao, 2013) Stated that SD suitable for urban passenger transportation due to the common of characteristic between SD and transportation system. Causality analysis is needed to running the system dynamic. It captures the relationship between each factor in the model. As a preliminary, this study adopts and modifies model from Yang & Miao (2013) which will be further developed to provide a more comprehensive findings.

### **3.2 Questionnaire Survey**

The questionnaire survey is used to observe the passenger preferences on public transportation, along with the acceptance of passenger shifting toward to using electric vehicle. Another question related to route, frequency of trips, and proportion of each transport mode shifting to electric vehicle. The survey is being conducted in online

and offline in several spot between ITB Bandung campus and Jatinangor campus. Several statistical analysis will be conducted to gain data for several factors in the simulation.

#### 4. FINDINGS AND ARGUMENT

The researchers have been collecting data from 2011-2014 related to transportation in Bandung city. Specifically, the data are gathered from Bandung city in figures, published by Statistics of Bandung City and Bandung Institute of Technology Center for more validate and trusted data. However, as a preliminary study, further data collection will be conducted to gain more data to support the simulation.

##### 1. Population

The author has two populations for this research. Firstly, the total population in Bandung city along with the population's birth and date rate. Secondly, specific population in the area of ITB campus (Ganesha and Jatinangor campus).

##### 2. Passenger car

The passenger car is one of the most dominant vehicles in Bandung, consists of the saloon, jeep, station wagon. Furthermore, every type of passenger car is categorized with private and agency car. Private car is used for private needs different with agency cars that used for particular needs.

##### 3. Transportation Mode

Different types of transportation mode, along with its number of rider or passengers, such as: bus, taxi, motorcycle, train, and airplane.

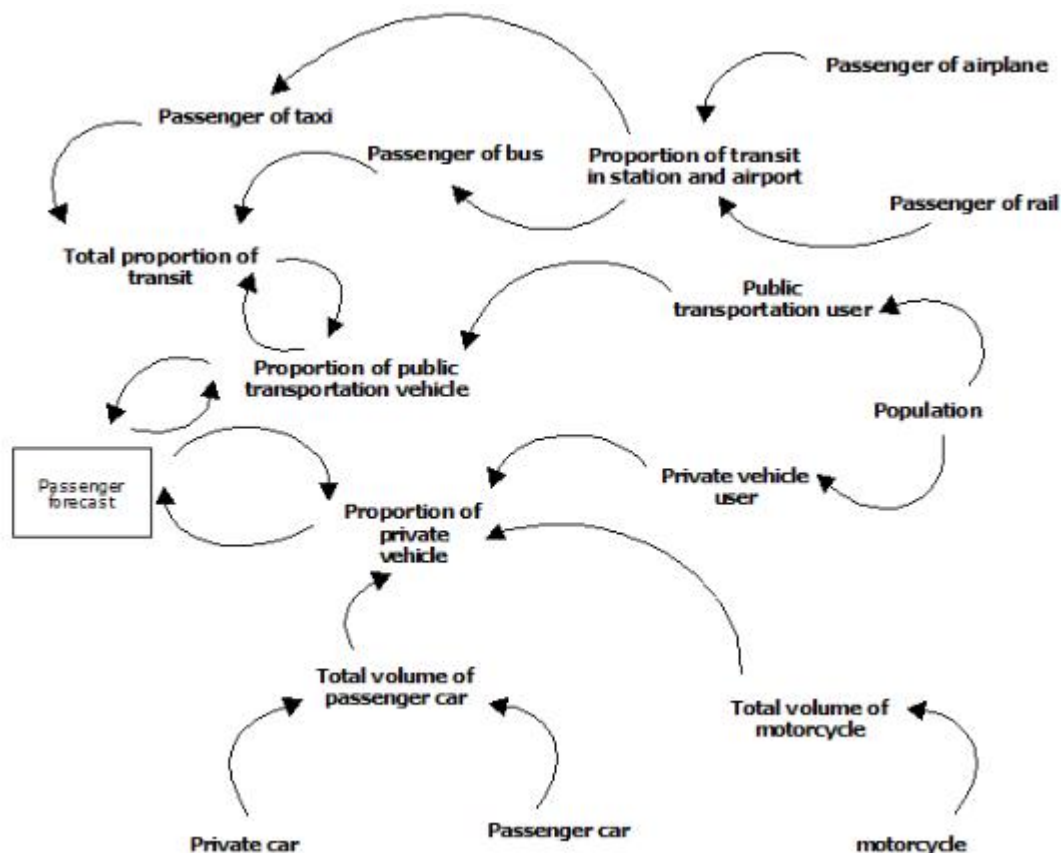


Figure 2. Bandung's electric vehicle passenger forecast flow diagram (Modified from Yang & Miao, 2013)

## CONCLUSIONS

As a preliminary study, this study proposes modified model to forecast the passenger of electric vehicle in Bandung city. Combining primary data from questionnaire survey and secondary data, a system dynamic model a more comprehensive model will be further developed to predict the trend of passenger, including the transit orientation. In general, this study will provide contribution to electric vehicle project in Bandung particularly ITB campus route (Ganesha – Jatinangor) toward to sustainable transportation.

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## ACTOR MAPPING AND FACTOR IDENTIFICATION OF LAND TRANSPORTATION IN INDONESIA

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### EXTENDED ABSTRACT

This study aims to analyse the actor mapping and factor identification of the sustainable land transportation development in Indonesia, particularly on LRT, Metro capsule and electric vehicle projects. Through secondary data collection and in-depth interview it reveals that the elaboration of every stakeholder in the sustainable transportation development is critical to achieve the best result, which includes government, university, and industries. Further, success factor and barrier will be identified to provide understanding on the sustainable transportation development in Indonesia.

**Keywords:** actor mapping, factor identification, sustainable transportation.

### INTRODUCTION

The competitiveness of Indonesia in East Asia and Pacific can be described from several pillars shown in

Figure 4. The overall performance of Indonesia competitive advantage is lower than East Asia and Pacific. The most significant and powerful pillar of Indonesia is market size, while the infrastructure also shows lower performance comparing to East Asia and Pacific. The infrastructure comprises of transportation structural and infrastructural. The measurement is based on the quality and quantity of several indicators, such as design, operation, and maintenance.

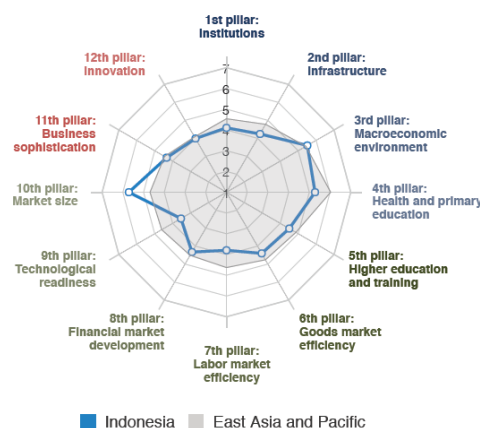


Figure 4. Indonesia Global Competitiveness 2016-2017 (WEF, 2016)

The component in the infrastructure pillar consists of four elements, see Table 3. In the past five years, the growth of each indicator was not significant. Last five years, the quality of railroad infrastructure is in the middle level and can't exceed the overall infrastructure score. The insignificant increment of infrastructure

quality affected to the other pillar. Consequently, overall the Indonesia Global Competitiveness can't compete in the East Asia and Pacific.

**Table 3. Indonesia Global Competitiveness 2012-2016**

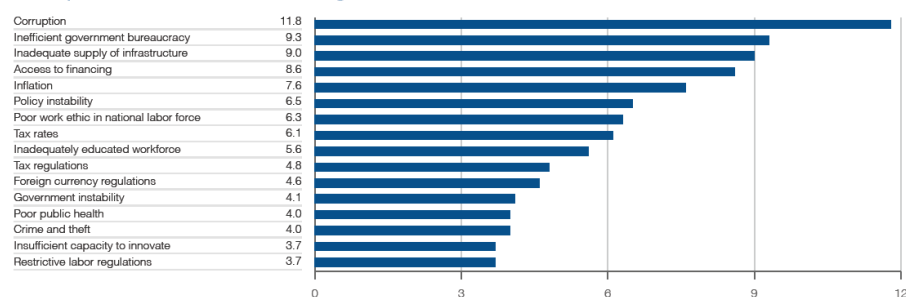
Indicators	2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	Value (1-7)	Rank /144	Value (1-7)	Rank /148	Value (1-7)	Rank /144	Value (1-7)	Rank /140	Value (1-7)	Rank /138
Quality of overall infrastructure	3.7	92	4.0	82	4.2	72	3.8	81	3.8	80
Quality of roads	3.4	90	3.7	78	3.9	72	3.7	80	3.9	75
Quality of railroad infrastructure	3.2	51	3.5	44	3.7	41	3.6	43	3.8	39
Quality of port infrastructure	3.6	104	3.9	89	4.0	77	3.8	82	3.9	75
Quality of air transport infrastructure	4.2	89	4.5	68	4.5	64	4.4	66	4.5	62

Reference: The Global Competitiveness Report, WEF 2012-2016

The average quality of infrastructure also affects to the problematic factors for doing business in Indonesia. Infrastructure quality is placed on the third most problematic factors of 16, Figure 5. Inadequately supply of infrastructure in the business society is indicated by the poor quality of design, inefficient and ineffective operation, and poor maintenance management.

**Most problematic factors for doing business**

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

**Figure 5. Indonesia Problematic Factors 2016-2017 (WEF, 2016)**

This study focus on three transportation projects of NCSTT (National Centre for Sustainable Transportation Technology), the projects are Metro Kapsul Bandung, LRT (Light Rail Transit) Palembang, and electric vehicle. The study has two main objectives:

1. Construct the actor mapping from 3 transportation project of NCSTT
2. Analyse the factors (success factor and obstacles) from 3 transportation project of NCSTT

To achieve the objectives of the research, in-depth interview and archival data will be used in this research. The result expected is the map the actor of the sustainable transportation development and explore the role of every stakeholder. The factor comprises of success factor and barriers (obstacle). By understanding the factors, it provides recommendations on what and how the factors affect the sustainable transportation development.

## LITERATURE REVIEW

### Sustainability Concept

The common concept used in the transportation development is the sustainability. The sustainability consists of 3 major issues (environmental, social, and economic) to gain maximum benefit, see Figure 6. The sustainability will guarantee the long-life cycle of transportation.

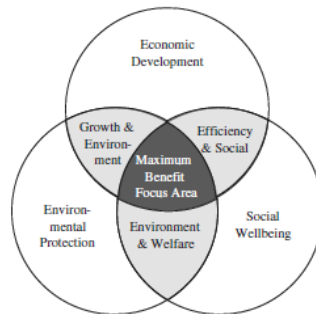


Figure 6. Triple Bottom Line of Sustainability (Kannegiesser & Gunther, 2014)

### TOD (Transit Oriented Development)

TOD (Transit Oriented Development) is the useful concept in the urban area, to optimize the public transportation and the attractiveness residential area.

There are some success key factors (Seymour & Morris, 2013):

1. High-quality transit service: increase the attractiveness and opportunities of the development
2. Regional Vision, adopt long-range plan
3. Supportive Regional Policies, policies support for TOD
4. Strong State Commitment, maintain the stakeholder's dedication to emphasize linking transportation and land use planning, so generate the interest in TOD.
5. Engaged Transit Agencies, direct technical assistance as support component
6. Transit-Supportive Culture, to make better land use planning around transit stations and policies
7. Long-Term Focus, continued development
8. Community Revitalization, more involving of local organizations

The common barriers to TOD implementation can be generalized (Boarnet & Compin, 1999):

1. Existing land use patterns near rail stations can limit the opportunities for TOD
2. Difficulties in assembling large parcels of land can limit TOD
3. The private land market may not sustain new development projects, including transit-oriented ones
4. Local economic and fiscal circumstances may discourage localities from pursuing TOD
5. Local officials may not be fully informed about both the regional and local advantages of TOD

### METHODOLOGY

This study applies in-depth interview and archival data to achieve the objective of the research. The informants in the interview will involve all of the stakeholders to gather reliable information directly and comprehensively. The stakeholders comprise of the academic institution, enterprise, and government. For the archival data consists of statistic data from reliable sources and other related studies support the argument and the findings.

### FINDINGS AND ARGUMENT

#### LRT Palembang

On 2014, overall in Palembang, the ratio of vehicle volume to road capacity is more than 0.5. It means that traffic jam will be an incoming problem of Palembang city. To prevent the problem more complicated in the future, by constructing the LRT in Palembang, it is expected as a sustainable transportation solution. LRT Palembang has several objectives:

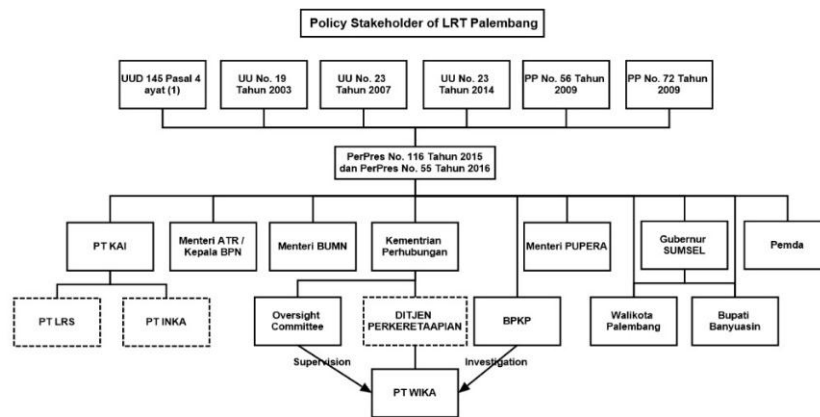
- a. Improve the Palembang transportation quality by increasing the travel time, decreasing the traffic jam, and increasing the safety.
- b. Support the ASIAN GAMES 2018
- c. Landmark of Palembang
- d. Eco-friendly Transportation
- e. New Economy potential from investor perspective

The act of support to accelerate the LRT Palembang development, Government issued Presidential Decree Number 116 on 2015 and Number 55 on 2016. LRT Palembang Development Concept, see Figure 7. The

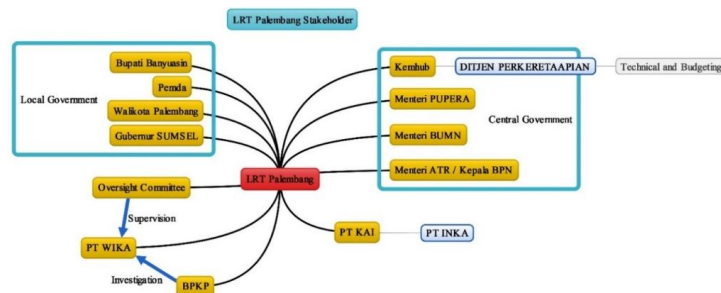
policy stakeholder is described from governmental policy and regulation, see **Figure 8**. The role of LRT Palembang stakeholder is identified based on their function, see **Figure 9**.



**Figure 7. LRT Palembang Route**  
(Source: Sumatra Selatan Province)



**Figure 8. Policy Stakeholder of LRT Palembang**



**Figure 9. Actors of LRT Palembang**

## Factor

In this study, two types of factors are identified: success factor and obstacle. Success factor is categorized into 2 types. Firstly, 'Pull Factor' -- factor that motivate the future transportation development, such as urban population density projection; climate change awareness; Green House Gas (GHG) Emission reduction agreement; event; and sustainability advantages. Secondly, 'Push factor' -- factor that drive or emphasize the necessity of transport development, such as passenger and logistic demand growth; vehicle growth; tourist visit growth; economy growth; and transportation technology development.

From the empirical study through LRT, Metro Capsule, Electric vehicle, the related department must support and accelerate the process of transportation development. In the procedure, the stakeholder will make accessible and actively assist the process. However, some obstacle potentially occur due to unstable of the market; accessibility of public transport; environmental issues. **Figure 10** shows the factor exploration in the transportation development. The transportation development is influenced by push factors, pull factors, and



obstacles. Then, the outcome affects the sustainable transportation operations and business development in the future.

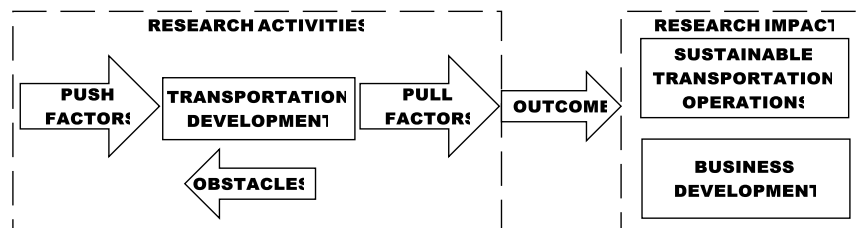


Figure 10. Illustration of Factor Exploration on Transportation Development

## CONCLUSIONS

From this study emerges several findings relate to the objectives. The elaboration and integration of every stakeholder in the sustainable transportation development, both in the policy and role. The acceleration of sustainable transportation development is achieved by policy generation from the government, so it will be mandatory for the stakeholder to support.

There are two positive factors (success factor) and a negative factor (obstacle). The pull factor is characterised by the future aspects, attracts the sustainable transportation development, such as urban population density projection; climate change; Green House Gas Emission reduction agreement; event; and sustainability advantages. The push factor is characterized by past-present condition aspects, drives the sustainable transportation development, such as passenger and logistic demand growth; vehicle growth; tourist visit growth; economy growth; and transportation technology development. Pull and push factor complement each other, in the sustainable is not only need pull but also push to achieve the gas soon as possible. The obstacle limits even try to block the positive factors, make boundary surround the sustainable transportation development. The obstacle comprises of internal and external from stakeholders.

By analysing the factor and actor in the land transportation can provide the reliable data and support the sustainable transportation development in the future, both in Indonesia and globally. This study also provides the first empirical evidence from sustainable transportation development in Indonesia. The further study to analyse the relationship and correlation of the factor by the quantitative study.

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# ONE STOP CAMPUS SUPPORT WITH VALUE ORCHESTRATION PLATFORM

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## EXTENDED ABSTRACT

University, especially private university in Indonesia, face the tight competition. University does not only responsible for graduating student and nurturing knowledge but also to impart values that useful for the graduate and the community. The community expects that university and its graduates have the ability to contribute especially in awareness about sustainability. These conditions could not only be fulfilled by formal education or curriculum but also need to be supported by value impartment in student's social and daily life. In order to carry out these tasks, the university needs to build a campus support platform that is planned and controlled by the university. Because the university has limitation and their main duty is to be focused on the formal education as the primary responsibility, the platform can be operated by other parties with engaging students and their parents as the customer to co-create value. This paper will suggest and discuss the building process of the platform, value co-creation process managing, and control mechanism for the platform. The campus support platform will give benefit to the customer (students and parents) from the ease to get good and safe facilities for their daily life, increasing the opportunity to give feedback and information to increase providers' performance, and give parents access to participate in this platform. Providers will benefit to market their product and gain information to raise performance and to innovate. University will get the benefit that they get support to values impartment and opportunity to control the platform.

**Keywords:** *value orchestration platform, university, value co-creation*

## INTRODUCTION

Mostly private university in Indonesia faces issue of decrease number of student enrolled. This condition decreased their income that forces them to lower their support services or quality, that in turn cause they're low graded by accreditation board that makes them less competitive and become the vicious cycle. To get out from the cycle, the university must have a competitive advantage.

Basically, higher education has the responsibility to deliver knowledge, skill, and attitude for students (Dinther et al., 2011). Higher Education Council in Clancy (1995) emphasis on good values that form the attitude of graduates. Recently, higher education facing expectation from the community to resulted in graduates with the knowledge, soft skills and disposition values such as attitude, beliefs, curiosity (Chan et al., 2014) and also have awareness about sustainability (Cortese, 2003) that would contribute to community development. In this modern era, effects of formal education on value building, usually beaten by others exposure like television, mall, internet, that might give negative effects to students (Cortese, 2003). Because of such condition, the university needs to build a supporting facility that can influence students through student's social and daily life and help formal education to impart values to students.

Building the supporting facility hopefully can raise student retention that primary be affected by university support service, social match (Thomas, 2002) and social support in living arrangement (Wilcox et al., 2005), and also raise competitive advantage in providing support facility that ease and comfort students while can effectively impart values that expected. The supporting system designed would be under university control to ensure accuracy and effectiveness of the value impartment while having flexible to accommodate variation of conditions and needs among students. In building and running this supporting system, the university will need great investment and effort. The support system also will need the participation of stakeholders, such as students, providers, university, parents, scholarship provider to co-create in the system.

The problem that will be solved is how to build the supporting facility in the form of value co-creation platform, that can help formal education in university to impart values to the student without burdening too much to the university in term of investment and management factors.

A service-dominant logic views tangible product shift to functional or service (Vargo and Lusch, 2004) where people no longer buy a tangible product, but they buy function or performance of service. The service-dominant logic is the philosophical basis for service science (Maglio and Spohrer, 2008). The core of service science is co-creation. To support value creation, a platform is needed to bring together customers and providers (Kijima and Arai, 2008), so they can do

activities to create value together. The concept of the platform can be implemented to the campus support facilities, where the internal organization and shareholders can collaborate to create co-creative ideas about organization and shared value (Lee et al., 2012). With this platform, university and all stakeholders will get the benefit. The result of this study is a campus support value orchestration platform conceptual framework with the suggestion of co-creation framework and strategic management of the platform.

## LITERATURE REVIEW

To get a competitive advantage, an organization must consider the internal and external driver. The organization needs to recognize their capabilities and also identify competitors, complementors, and customers to determine the position (Beckman and Rosenfield, 2008). Strategy to build competitive advantage will depend on these factors. Slack and Lewis (2015) argue that competitive advantage will be gained from considering operation strategy and market requirement.

University as higher education institution has a long history and paradigm shift. The basic role of the university is graduate students that have adequate knowledge, skill, and attitude (Dinther et al., 2011). University's responsibility not only to result in professionals whose equipped with science and technology and understand individual learning and competition, but also need to give student's with awareness, knowledge, soft skills, disposition, and values to create sustainability (Cortese, 2003) and contribute to the community. In this modern era, formal education finds difficulties to success in values impartment, because of other factors in their social, daily life and community that can negatively impact them (Cortese, 2003). Based on this fact, to help formal education, university need a support system to help impart values to the students through their social and daily life. On the other side, this support system will cost high investment and effort if university must build and run it alone. Hence, the service-dominant logic (SDL) concept can be implemented.

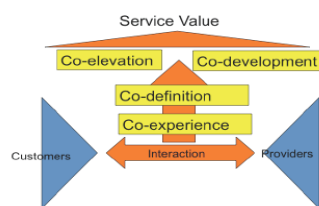
SDL concept viewed all transaction based on service, while goods included in the transaction as equipment for service delivery (Vargo & Lusch, 2008). SDL stated that with customers, value co-created all the time (Vargo & Lusch, 2008). Product and service integrated that make a closer relationship between providers and customers (Korhonen, 2014). SDL is the basic concept of service science. Service science according to IBM is "Service Science, Management, and Engineering, a new multi-disciplinary research and academic effort that integrates aspects of established fields." Service science attempted to explain and improve interactions of entities to work together and get mutual benefits (Spohrer and Maglio, 2008). To enable and support value co-creation, customers and providers need media to interact each other and co-create new value (Kijima and Arai, 2016). Value orchestration platform can invite customers and providers to co-create value (Kijima and Arai, 2016). According to Kijima et al. (2013), there are four phases of co-creation process, co-definition, co-experience, co-elevation and co-development that involving customers and providers as at figure 1 and also three strategies for value co-creation management: involvement, curation, and empowerment (Kijima and Arai, 2016).

Many researchers already build and use value co-creation platform concept (Smedlund et al., 2012) and also use value co-creation orchestration concept (Kijima et al., 2013, Novani et al., 2014) mostly to create co-creation with primary goal is economic goal in businesses and none study founded discuss university as case study. This paper will use and discuss value co-creation orchestration concept in educational institution rather than commercial business, that include three main parties (customers, providers, and university) where university will take role as planner and controller with the main purpose is to impart value to students through their social and daily life as one of the university's responsibility.

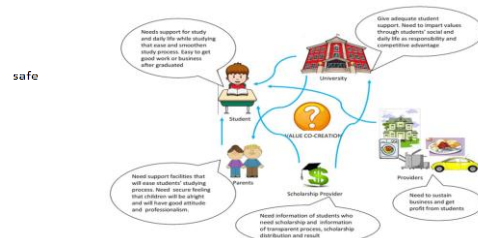
## METHODOLOGY

This paper is a conceptual paper, using literature review and qualitative method as pre-study to build the conceptual framework. The conceptual framework built following Weick (1989) in Swanson and Chermack (2013) that suggest three steps: (1) problem statements, (2) thought trials, and (3) selection criteria.

The problem in this paper identified from literature review about university's role and also from pre-study, interview with stakeholders consist of students, university, parents, and providers. The problem is how to combine stakeholder's needs and interests. The picture of stakeholder's needs and interest is as shown in figure 2. The problem is how to build campus support platform that can meet the needs and interests of stakeholders.



**Figure 1. Four Co-Phase Model of Value Co-Creation (Kijima et al., 2013)**



**Figure 2. Description of needs and interests**

The second step is thought trial. From all of needs and interests of stakeholders, a system must be developed based on value co-creation model, that enable stakeholders to interact and create value together, and each party gets a benefit. The concept will be based on value orchestration platform by Kijima, 2013 as in figure 3. The interview has been conducted with students, parents, providers and students' affair director to form and enrich the concept. The steps to built the concept are: (1) identify the detailed of the stakeholders that will include in the platform, (2) identify the needs of all parties, (3) identify what kind of value that will be imparted, (4) build the model of value co-creation, (5) build management strategies of value co-creation, and (7) identify the mechanism to control the platform.

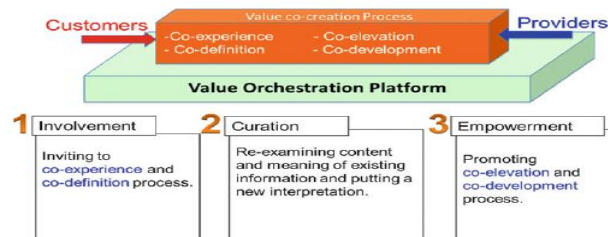


Figure 3. Management Strategies of Value Co-Creation (Novani et al., 2014)

Selection criteria for choosing the concept by accommodating stakeholders' needs and value co-creation opportunity. The assumption that will use for this platform building is University have already determined values to be imparted, and have the ability to operationalize the values to standards and qualifications of each type of providers, and have the ability to conduct the control mechanism. Another assumption is that the providers, not monopoly business that they will attempt to do better to get customers.

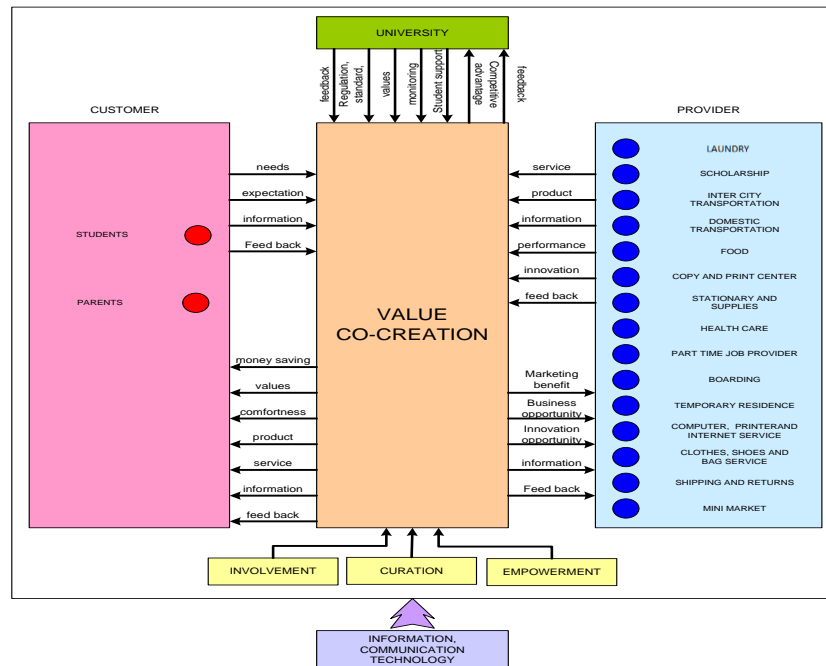
## DISCUSSION AND FINDING

University needs to build a support system to help students in their study especially in fulfilling their social and daily life needs as well as imparting values. Adopting service-dominant logic, the support system will be build based on value co-creation platform concept, that called campus support platform, which includes three main parties, customer, provider, and the university will together create value that will benefit all parties.

To form campus support platform, the first step is to identify the parties of stakeholders that will participate the platform. Based on literature review and interview, the parties included in the platform clustered into three main parties that consist of several actors, (1) customer (user) consist of students and parents, (2) providers consist of boarding, food provider, copy and print center, stationary and supplies, transportation, part time job, health care, boarding house, temporary resident, apparel service, laundry, shipping and returns, mini market, and scholarship providers, (3) University, with Students' Affairs Directorate as person in charge. Next step is to identify every party's needs. Based on the interview with students, parents, providers and Students' Affairs Director in university, their needs is as can be described in figure 2.

The following step is to identify what kind of value that needs to be imparted to students. According to the literature review and interview with parents and students' affair director. The value to be imparted is awareness about sustainability, interdisciplinary systems thinking, dynamics, and analysis for all majors, disciplines, and professional degrees (Cortese, 2003), long life learning, nationality values and specific university's values.

Model of value co-creation based on the value orchestration is shown in figure 4. The platform would be implemented using information and communication technology (ICT), in the form of the web that can be accessed by members that have authority from their gadget or computer. This web form platform was chosen because of the wide application of information technology and the popularity of social media usage that will ease each party to access the platform and communicate. The use of ICT also will ease monitoring and control process by the university.



**Figure 4. Campus Support Platform Value Orchestration Schema**

Value Co-Creation Phase that will occur in the platform are:

*Co-experience:* in campus support platform, students and parents can see can review providers and choose according to their needs. Providers can see the profile of their customers and get information from customers to make creative positioning. University will participate in set regulation and qualification of providers that will include in the platform, give training and information to them, screen, select, monitor and control them to ensure the effectiveness of value impartment. Co-experience also built by forming discussion forum in the platform, that both customers and providers can give a comment, feedback each other that also serve as a monitoring mechanism.

*Co-definition:* from co-experience, after customers, providers and university can make co-definition that will be a consensus between them in providing product and services.

*Co-elevation* is a zigzag-shaped spiral up process of expectation of the customers and abilities of the providers (Novani et al., 2014). In this platform, co-definition can shift, to be better and better. Because of co-experience, maybe customers raise their expectation and push providers to raise their performance or conversely, providers can raise their performance that push customers expectation. For example, to customers post the need of healthy food then provides need to perform this creatively.

*Co-development:* can be in the form of co-innovation between actors on the platform. Because of their shared information and communication, they can co-create new service. The university also can add students' support and services in the platform.

Next step is to build management strategies for value orchestration platform.

*Involvement:* the platform is built to bring together customers, providers, and university. Because of the goals of the platform, the university will invite students and parents to participate in the platform. To invite providers, the university will search reliable provider, give regulation and qualification, trained, screened and choose providers. The university must ensure that providers can help in value impartment. In the operation of the platform, the university will always monitor providers and customers due to the effectiveness of value impartment.

*Curation:* process to search new meaning or function of existing service to get co-elevation and co-development. One example is to extend platform function for hitchhikers that students can hitchhike each other.

*Empowerment:* this strategy can use by the university to trained and empowered providers and customers to createmore value co-creation and more effective values impartment.

The last step is to build control mechanism to monitor and ensure values impartment. The control mechanism can be built in two form. First by proactive university effort to control the platform member. Second, by build control mechanism, where each customer can comment or give feedback to the supplier. This mechanism will become the co-evaluation process in the platform.

## CONCLUSIONS

From the discussion, it can be concluded that value co-creation platform can be applied to the university to give support facilities to students while imparting values. The success value co-creation process hopefully can raise graduate's quality and meet community's requirement that will raise university's competitive advantage. The good graduate's quality and satisfaction will lead the university to reach good grade from accreditation board, that also will raise university's competitiveness.

To success the implementation of the platform, there are several conditions that needed: (1) collaboration atmosphere, as trust each other, integrity, and maturity of all parties of stakeholders, (2) University must clearly and accurately deploy stakeholders' and community's needs, (3) the University need to give training to the providers how to think creatively to co-create value in their business based on information gained from the platform, (4) University must create and conduct appropriate monitoring and control mechanism.

For further research, this campus support platform concept needs to be more operationalized and customized according to the University condition and needs. Values to be imparted, regulation and qualification of providers, regulation for students and parents also must be constructed. For additional to the service science, this platform can be implemented to other organization with other needs and goals.

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# PASSENGER FORECAST MODEL TOWARDS TO BANDUNG METRO CAPSULE

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## EXTENDED ABSTRACT

This article proposes the causality model of passenger preferences and forecast model to rail-based public transportation on Bandung Metro Capsule. Primary data is derived from questionnaire survey to observe passenger preferences on transportation mode, frequency of trips, and geographical map of trips. While secondary data will be collected covering population, number of vehicle, etc. Although this study provides a preliminary model which will be further developed, the findings from this study will provide contribution on sustainable transportation development in Indonesia.

**Keywords:** *Causal Model, Metro Capsule, Passenger Forecast, Rail Transportation, Simulation*

## INTRODUCTION

At this time, the current government in Indonesia being intensively infrastructure development for each transportation sector including land, air and water transportation. One of that project focuses on a province in Indonesia that has the largest population, West Java with Bandung City as province capital. Data showed by the end of 2014, Bandung population reached 2,470,802 which increased up to 45,845 people from 2011. Bandung has vision and mission to create a city that clean, prosper, discipline and have dignity. The position as province capital and the roles as a center of education, economic, tourism, and government, Bandung has been stimulated urbanization from rural to the city with population growth that always increased. In the same year which is 2014, a total number of tourists that visited Bandung are 4,418,781 which almost twice compared to Bandung population (domestic tourist is dominating that number with 4,242,294 people and international tourist with 176,487 people). This phenomenon creates problems such as traffic jam, slum area, poverty, etc. but the point of research would discuss the traffic jam problems that related with public transportation condition in Bandung. The problem statement of this research is the high level of congestion traffic that caused by the increasing number of non-public and public transportation including the number of the vehicle from online business which currently developed in Indonesia. The government saw this phenomenon urgently needed a new public transportation mode that more efficient, sustainable and environmentally.

As mentioned in the first mission of Bandung government, one of the points is to create safe and comfort of Bandung by infrastructure development and utilization of quality city space. The other expected results also to increase social awareness about using public transportation and make the transportation modes transfer from private transportation into public transit. The objective of this research is to forecast the passenger trend towards to Metro Capsule in Bandung and ensure this transportation project fulfil the customer needs and adequately met the investment target.

## LITERATURE REVIEW

Elkind (1991) mentioned that the criteria for one sustainable city are having convenience facility for pedestrians, non-motorized vehicles and also public transportation. Public transportation could decrease the proportion of using private cars and motors in term of making trips. Cameron (2003) stated that the most affecting factors to use private transport were population, urbanization level, road network but the most important factor is how structured their city. The most model proposition pointed out by Liu (2009) said that model of system dynamics more suitable to analyse the evolution of urban passenger in term of transportation structure.

## METHODOLOGY

- **System Dynamics Model**

System Dynamics is one of research discipline on analysing feedback of information and solving the problem that occurred in one integrated system (Yang & Miao, 2013). System Dynamics is a thinking model and simulation technique that was developed to support the study of dynamic behaviour in the compound systems (Forrester, 1961). It indicates that research in system dynamics should be comprehensive, integrate each other, and develop a point of view, system reasoning and usually the combination of qualitative and quantitative method. In the end, all the elements in system dynamics model will be input data to simulate and forecast the possible trends or results for long term dynamic quantitative analysis. System Dynamics model also suitable to be applied in transportation case because it related with behaviour, demographic, economic and all of those aspects have causality relations. As a preliminary study, this study adopts and modifies a causal model Chao & Zishan, 2013 which will be further developed to provide a more comprehensive finding.

- **Causality Analysis and Simulation**

Firstly, As mentioned in Chao and Zishan (2013) the author determine five boundaries elements for the system which are transportation structure, traffic demand, operation, supply and the last traffic planning and policy. The limits will be useful to determine factors that possible to affect the customer desire to using service of Metro Capsule. Support these five elements; the author also did a survey through a questionnaire to people who lived in Bandung as random sampling technique. After all that factors was listed, then the author made a causality analysis. Causality analysis will be a basis for system dynamics model because when all factor linked each other, it indicates the linkage of the relationship among elements in one integrated model system.

## FINDINGS AND ARGUMENTS

The expected result from this research is this study proposes and delivers a passenger forecast model based on questionnaire result and secondary data. Based on the survey result, the author will simulate the relationship between passenger preferences factor with the forecasting number of passenger who will use service of Bandung Metro Capsule for given period. Secondary data will be collected covering population, number of vehicle, etc, while the primary data is derived from questionnaire survey to observe passenger preferences on transportation mode, frequency of trips, and geographical map of trips. The survey especially the age of respondent didn't involve people between 5-10 years old because the author justified that they are not yet able to determine their own choice, priority and knowledge regarding to use Bandung Metro Capsule. However, for the further research, it can be such a consideration point. The, the questionnaire survey is conducted in online and offline. Furthermore, as a preliminary study, this study adopts and modifies a causal model Chao & Zishan, 2013 which will be further developed to provide a more comprehensive finding shown in figure 1.

## CONCLUSIONS

This study aims to propose a causal model of passenger forecast for metro capsule Bandung project. As a preliminary study, this study adopts and modifies a causal model Chao & Zishan, 2013 which will be further developed to provide a more comprehensive finding. The expected results are showing that there is the causal relationship between the total trips in Bandung and the trip volume from other transportation modes with the proportion of use Bandung Metro Capsule. Based on the survey result, the author will simulate the relationship between passenger preferences factor with the forecasting number of passenger who uses Bandung Metro Capsule for given period. The research has theoretical implications associated with contribution to forecasting case study about transportation literature. The research would be useful for government and stakeholder of Bandung Metro Capsule project to be considered passenger as the target market according to increase the passenger satisfaction. As part of continuous improvement, government and operator firm have to simulate their passenger demand for next specified period, then to ensure that Metro Capsule service met the passenger requirements.



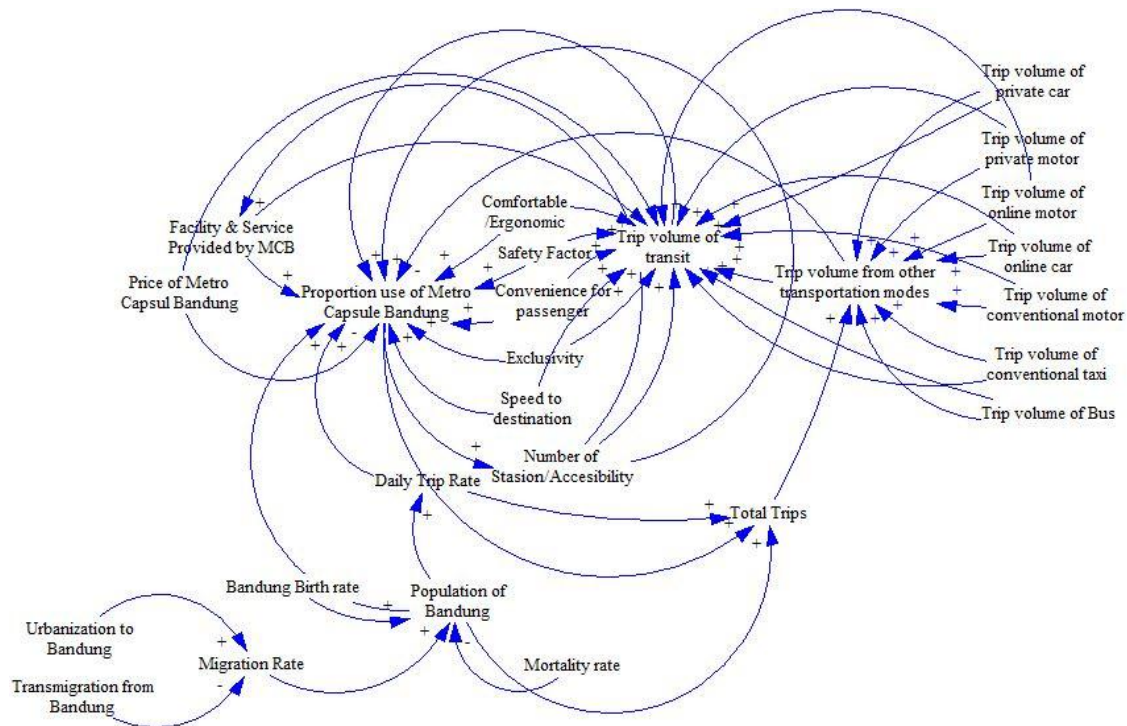


Figure 1. Causal loop diagram of Bandung passenger structure  
(Adopted & modified from Chao & Zishan, 2013)

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# DEVELOPING OPTIMAL STRATEGIES FOR SOCIAL SUSTAINABILITY OF THE PHARMACEUTICAL INDUSTRY OF BANGLADESH: AN AHP INTEGRATED QFD APPROACH

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## EXTENDED ABSTRACT

This research approach investigates the discrepancies between the perception of customers regarding social sustainability and the current practices by the pharmaceutical industry of Bangladesh. The research output identifies various determinants of social sustainability contributing to the sustainable development in a developing country like Bangladesh. This approach also determine the optimal strategies for mitigating these discrepancies of social sustainability. Simultaneously, the findings would enable companies to achieve competitive edge by minimising the discrepancies between the perceptions of companies about social sustainability and the expectations of the customers. A mixed method approach, a combination of qualitative and quantitative methods, has been used to carry out the research.

**Keywords:** : *Social sustainability, Mitigation strategy, Pharmaceutical industry, AHP, QFD*

## INTRODUCTION

Social sustainability has been recognized as one of the main ‘pillars’ of sustainable development but there has been a few studies that conducted to identify the discrepancies of social sustainability and their mitigation approaches to meet social sustainability. There exist discrepancies between what customers want and what businesses are practicing regarding social sustainability, too. It has been observed that the companies in developing countries are not practicing social responsibilities in a sustainable approach and not following any particular guideline. Therefore, the valuable resources of the companies are not being used efficiently. For social sustainability, therefore, it is necessary to investigate these discrepancies between the perceptions of the customer and businesses and their mitigation approaches so that resources are utilised sustainably to meet business’s and customer’s expectations. It is also important to develop the optimal mitigation strategies corresponding to the social value requirements. Very little or no study on developing optimal strategies for the social sustainability of pharmaceutical industry has been conducted yet. So, there is a significant research gap in this area to fulfill and to answer the following research questions:

- (i) What are the discrepancies between the customer’s perception towards social sustainability and the currently practiced social sustainability in pharmaceutical industry?
- (ii) How to develop the optimal strategies to mitigate these discrepancies?

In such a theoretical lacuna regarding social sustainability of the pharmaceutical industry the objectives of this paper is: (a) to investigate the discrepancies between the customer’s perception towards social sustainability and the currently practiced social sustainability in pharmaceutical industry; and (b) to determine the optimal mitigation strategies in order to minimise these discrepancies. This research approach uses the ‘Stakeholder Theory’ (Freeman 1984) and ‘Resource Based View’ (Barney 1991; Wernerfelt 1984) as the theoretical foundations. This approach uses mixed method approach, a combination of qualitative and quantitative methods, to carry out the research. The research findings figure out various determinants of social sustainability contributing to the sustainability of pharmaceutical industry in a developing country like Bangladesh. This approach also determines the optimal strategies to mitigate social sustainability value requirements. The findings would enable companies to achieve competitive edge by minimising the discrepancies between the expectations of the customers and the perceptions of companies about social sustainability.

## LITERATURE REVIEW

One of the main principles of corporate social responsibility is conducting business in a way that is consistent with the morals and values of society (Hutchins and Sutherland 2008). Carroll (1979) argued that corporate social responsibilities are

not only performed for the firm's sake (business value) but also for the sake of society (customer value) at large. Since there are numerous stakeholders of the businesses, most of the researchers focused on social sustainability from business point of view (e.g., Esteban 2008; Hossain, Islam, and Andrew 2006; Hutchins and Sutherland 2008; Nussbaum 2009; Smith 2008), whereas a number of other scholars considered social sustainability from customer point of view (e.g., Charter et al. 2002; Gupta 2011; Luo and Bhattacharya 2006). Therefore, it can be summed up from the literature that the customer's perception of social value requirements and the business's perception of social value requirements may or may not be the same. Although these two requirements are the core elements of social sustainability, research study on this issue is very rare.

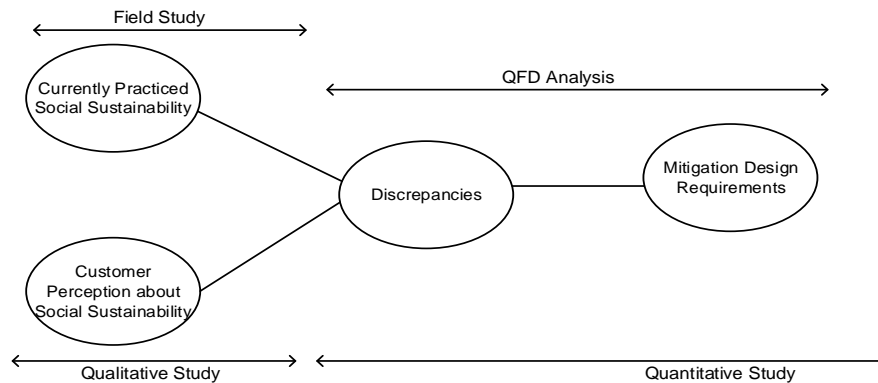
Adding social value by the businesses can be a part of different types of business goals depending on the business natures. Part of the goals can be simply for the wellbeing of the society, or can be for the competition in the market. These value requirements reflect what social value the business is planning and willing to deliver to the customers' society. For instance, to add some social value global firm Fortis commit to work to fight illness and disease, promote education, aid and protect children, and prevent homelessness and hunger through participation in community-based programs (Snider, Hill, and Martin 2003). Customer's perception about social value requirements differs from business's perception of social value requirements for sustainability (Dewan, Chowdhury, and Quaddus 2012). Today's customers are interested to see the contribution or impact of the product or service or operations of the business organisations to the society they are living. There can be different dimensions of social value requirements, such as, it can be directly related to the product or service of the business (e.g., knowledge of the customers' society, customers' safety of the product, customers' health, etc.) or it can be indirectly related to the business (e.g., generating local employment, supporting education, health and welfare, etc.).

Pharmaceutical industry is one of the largest industries of Bangladesh. Among the 49 countries classified as least developed countries, Bangladesh is the only country with adequate pharmaceutical manufacturing capability and is nearly self-sufficient in pharmaceuticals (Azam and Richardson 2011). There are more than 170 pharmaceutical industries are currently operating in the country and drugs are exported to 87 countries including Europe, America and other countries (DGDA 2013). Certainly, this industry is having a robust growth here; but the knowledge and implementation of sustainable development or social sustainability is still just a growing concern. Therefore, examining this developing stance of the terminology, social sustainability, may demonstrate the leading edge of actual sustainable development by the pharmaceutical industry of the country. Moreover, as mentioned above no study on the social sustainability of pharmaceutical industry of Bangladesh has yet been conducted.

It has been revealed from the literature review that a number of scholars tried to intersect these two imperative issues- social sustainability and pharmaceutical industry- in their study, but either only from the business value requirements point of view or only from the customer value requirements point of view. Till now, none of the research studies included these two value requirements to identify the discrepancies between the perceptions of the customers and the companies about social sustainability and to intersect these two value requirements with the social sustainability of pharmaceutical industry in the context of a developing country. In addition, it is also found that research approach on mitigating the discrepancies of social sustainability of the pharmaceutical industry of Bangladesh is absent. Therefore, for the social sustainability of the pharmaceutical industry of Bangladesh it is essential to know the discrepancies between the practiced social sustainability, and customer's perception towards social sustainability to fulfill business's and customer's expectations. It is also necessary to identify the strategies to mitigate those discrepancies.

## METHODOLOGY

In this approach, currently practiced social sustainability with respect to the pharmaceutical industry of Bangladesh is recognised. Then, in the same context customer requirements in line with the social sustainability were identified by employing field study and compared with the currently practiced social sustainability to identify discrepancies. Based on the comparison results social value requirements were prioritised and mitigation strategies are developed to minimise the discrepancies and to address the customer's requirements (see Figure 1). This phase of the research was completed based on the interviews with the customers and the interviews with the company executives. Twelve customers were interviewed to supplement the literature review on social sustainability requirements of the customers. Executives from two companies who are dominant in export and in the local the market were interviewed for the development of the mitigation strategies.



**Figure 1.** Research model

AHP (Analytical Hierarchy Process) integrated QFD (Quality Function Deployment) analysis is used to determine the strategies for social sustainability. AHP (Saaty 1980) was employed to prioritise the social value requirements and QFD (Akao 1990) was used to rank the identified strategies. Finally, a non-linear quadratic integer programming model was used to optimise the strategies with considerations to budget constraint, cost trade-offs, and importance ratings. Therefore, both qualitative and quantitative methods are used in this research approach for data collection and analysis.

## RESEARCH FINDINGS

### Findings from the comparison of customer's social value requirements and currently practiced social sustainability

After collecting the data about currently practiced social sustainability, it was revealed that only a small number of pharmaceutical companies in Bangladesh practice social sustainability and that's also to a certain extent. To be more specific, only one pharmaceutical company is trying to practice social sustainability in a structured way. But rest of the pharmaceutical companies are doing it in unstructured ways, without following any guidelines. For this reason, though the companies are investing on social sustainability activities, the outcome of these activities are not anticipated. It was also apprehended from the findings that most of the companies are trying to contribute to the society directly, such as, providing grants, donating drugs, finding for community education and community development, etc. Few of the companies are even trying to look after their employees by taking care of the employee's health and safety, and non-discrimination in the recruitment process. But none of the eight companies used in this research are transparent to the stakeholders or to the regulatory bodies about their policies, income, or CSR. Also, these companies are not following the social sustainability standards when it comes to marketing, pricing, drug safety, or equal access of the products.

### Findings from AHP Analysis:

It is found from the synthesised AHP analysis results that factors related to 'product and service' ranked as the most important social value requirements. 'Drug safety' received the maximum importance by the participants based on the weights. The synthesised weights of this value requirement is 0.078. The second-most importance is given to 'Product/service quality' with a weight value of 0.055, which is a part of 'product and service' category value requirements, too. The third-most importance is achieved by 'Product access' with a weight of 0.054 and the fourth -most importance is achieved by 'Product safety' with a weight of 0.045 which are again part of 'product and service' category. The fifth position weight is given to two value requirements: 'Ethical practice' (0.043) which is a part of 'operating practice' category value requirements and 'Affordable pricing' (0.043) which is a part of 'product and service' category value requirements. What is revealed from this results is that importance weight ranks 1 to 5 are received by 'product and service' category value requirements except the fact that only fifth position is achieved jointly with another value requirements. The weights of the other social value requirements were determined accordingly.

### Findings from QFD based optimization process:

The participants (strategic managers) identified a total of 18 (eighteen) mitigation strategies corresponding to the finalised social value requirements. The ranking and weights of the strategies are computed by QFD analysis and the costs of every mitigation strategy are identified. Cost-savings from simultaneous implementations of these strategies are also determined. The strategic managers of the case companies have acknowledged based on the previous records that 70 to 80 percent of the budget proposed by the pharmaceutical companies is generally gets approval from the top management. The managers estimated the total cost (relative) of implementing all 18 strategies is 695 and if 80 percent of the total cost is approved the available budget to implement the strategies will be 556.

**Table 1:** Optimisation based on 80 percent of the total cost

<b>Mitigation Strategies (<math>DR_i</math>):</b>	MS1	MS2	MS3	MS4	MS5	MS6
<b>Importance weights (<math>AI_i</math>):</b>	0.702	1.047	0.93	0.468	1.56	0.516
<b>Costs (<math>c_i</math>):</b>	40	100	35	30	25	20
<b>Decision Variable (<math>x_i</math>):</b>	1	1	1	1	1	1
<b>Mitigation Strategies (<math>DR_i</math>):</b>	MS7	MS8	MS9	MS10	MS11	MS12
<b>Importance weights (<math>AI_i</math>):</b>	1.203	0.567	0.288	0.591	0.783	0.552
<b>Costs (<math>c_i</math>):</b>	60	20	15	45	20	80
<b>Decision Variable (<math>x_i</math>):</b>	1	1	1	1	1	1
<b>Mitigation Strategies (<math>DR_i</math>):</b>	MS13	MS14	MS15	MS16	MS17	MS18
<b>Importance weights (<math>AI_i</math>):</b>	0.747	0.615	0.135	0.84	0.099	0.20
<b>Costs (<math>c_i</math>):</b>	40	35	20	40	40	30
<b>Decision Variable (<math>x_i</math>):</b>	1	1	1	1	1	1

The absolute importance ( $AI_i$ ) of mitigation strategies (MS) are determined by QFD analysis; the relative costs of the strategies ( $c_i$ ) and the savings from the simultaneous implementations ( $s_{ji}$ ) were determined by the managers of the pharmaceutical companies. For the purpose of the optimisation process, the above quadratic integer programming was solved by using the Solver module in Microsoft Excel and the following result has been received:

- (i) Objective function value of the total absolute importance is: 11.843;
- (ii) Decision variables:  $MS_1 = \dots MS_{18} = 1$ ;
- (iii) Actual total cost: 695;
- (iv) Optimised total cost: 525;

It was observed from the results (see Table 6.1) that the estimated available budget is 556 (80% of 695), the normal cost is 695, and the optimised total cost to implement all 18 strategies is 525 with the maximum objective function value of 11.843. It is observed that there is no increase in objective function value after total budget of 525. Therefore, cost-savings of 170 which is about 24.46% of the total cost is achieved through the optimisation process. Considering this cut-off point, the company will not need to increase the budget. Now, if the company approves only 70 percent of the total cost to implement these strategies then the available budget to implement the strategies will be 486.50. Based on this budget limit the following solution has been found:

- (i) Objective function value of the total absolute importance is: 11.744;
- (ii) Decision variables:  $MS_1 = \dots MS_{16} = 1$ ;  $MS_{17} = 0$ ;  $MS_{18} = 1$ ;
- (iii) Actual total cost: 655;
- (iv) Optimised total cost: 485;

It was also revealed from the optimisation results that by using 70 percent of the total cost the maximum objective function value that can be achieved is 11.744. With this specified budget, all the mitigation strategies except MS17 can be implemented. To implement 17 out of 18 strategies the actual total cost is 655 and the optimised total cost is 485 while the estimated available budget is 486.50. Therefore, through the optimisation process a cost-saving of 25.95% (approx.) of the total cost is achieved.

## CONCLUSIONS

The significance of this study is manifold. Firstly, the approach efficiently identifies the important social value requirements using AHP. Secondly, it suggests the corresponding design requirements to fulfil those social value requirements. Thirdly, it uses correlation matrix and roof-matrix to identify the most important design requirements for the strategic implementations by the management. Finally, this approach is unique in the sense that in developing House of Social Sustainability social value requirements are considered from two dimensions instead of one dimension. Which was also not shown before is that how social value concept can be integrated with customer's value requirements and business's value requirements. One insignificant limitation of this approach is that organisational resource constraint, other than monetary cost, is not considered for design requirements implementation which keeps the door open for further research.

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# SIX SIGMA FRAMEWORK IMPLEMENTATION IN A TEXTILE COMPANY

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## EXTENDED ABSTRACT

Batik industries in Indonesia possess a great contribution in providing employment for Indonesian because of the batik economic value. Hence, all parties should support the preservation and development of the industries especially when it comes to the quality of the batik itself. Nevertheless, batik industry management in the country is experiencing a crucial matter due to the weakness in competing with imported products. In order to thrive in facing the global competition, the local industries should elevate their competitiveness level by improving their quality. This paper discusses the implementation of quality improvement in one of the batik industries in Central Java, which currently encounters an operational management problem related to its quality. According to the research, the defective goods are still produced and exceeding the organization predetermined limit. A Six Sigma quality improvement methodology is exerted to surmount the problem encountered by PT X regarding its defective goods since the methodology focuses on diminishing the defects generated in an organization to 3.4 defects per million opportunities (DPMO). By embracing the define, measure, analyze, improve, and control (DMAIC) cycle in Six Sigma, the critical factors of the defect and improvement solutions can be identified and obtained.

**Keywords:** : *Quality, Defect, Six Sigma, DPMO, DMAIC*

## INTRODUCTION

Textile industry in Indonesia is said to be as one of the strategic business sectors that continues giving a significant contribution to the national economy (Iwan, 2016). Batik is one of Indonesia's textile products, which in 2009 the United Nations Educational, Scientific, and Cultural Organization acknowledged it as Intangible Cultural Heritage (Suryanto, 2009). In addition, the batik industry also possesses a great contribution in providing employment for Indonesian for its economic value. Hence, all parties should support the preservation and development of Batik Industry in Indonesia especially when it comes to the quality of the batik itself. Nevertheless, milestones in developing the industry—particularly to reach the foreign market—are still on the surface, for instance, the matter of a high production cost and the management of the industry itself. The batik industry management in the country is experiencing a crucial matter due to the weakness in competing with imported products (Nugrayasa, 2014). To take into account, first, some companies are lacking in the ability to innovate their product. Second, with the technological advancement, some industries with traditional methods are unable to work properly since the adjustment between the development and the workforce are not in line. Hence, the batik industries as well as the other sectorial business industries in Indonesia need to improve both the competence of the company and its human resources because the only one that can survive and thrive in facing the global competition in the future is an industry with a high level of competitiveness (Alhusain, 2015). Furthermore, in this current development and improvement, price and quality of a product considered as big factors people need to consider when they are making a buying decision. Therefore, customer satisfaction recognition is another organization's key to survive within the trade market. To be able to compete within the market an organization is forced to enhance the quality of its both products and processes by doing a continuous improvement.

PT X is one of batik industries in Pekalongan, Central Java that focuses on printed batik, which produces five types of products: sarong, skirt cloth, bedcover, shawl, and tablecloth. The goods produced are all using machine—since they are printed batik—and not only does PT X produce the products for its own, it also receives orders from other batik's vendors in Pekalongan. Out of the five products, sarong is consistently produced in the organization because it has the highest demand of all. The organization is recently facing an

operational management problem related to their product quality. According to the research, defect goods are still produced throughout 2016 and sometimes the company also received complaints from several customers regarding their product. In addition, the company has set up a maximum acceptable limit for defective items to be 2% of the total production yet sometimes the defect generated still exceeds the acceptable limit. Hence, the management wants to do some quality improvement to reduce the defective goods up to the specification limit. Therefore, this study aims to disclose the main causes of the problem, critical factors, current sigma level of PT X, and provide appropriate solutions to diminish the defect production in PT X.

## LITERATURE REVIEW

### Quality

Quality is a matter that should be owned by every organization either manufacturing or services. The better the quality of a company, the greater the company will have many consumers. American Society of Quality (ASQ) defines quality as the whole features and characteristics of a product or service that endures in its ability to satisfy the needs of customer. Nevertheless, a quality would be differently defined if it viewed from different sides. A user will assess the quality of a product based on the product features. The more features the product has, the better the quality of the product. For the manufacturing industries, as long as they could meet the standard, thus their process is in a good quality. Other than that, a product is considered to have a good quality if it is made within its specification limit. A product therefore should have specific and measureable attributes (Heizer & Render, 2011). Garvin (1987) describes eight dimensions of quality: performance, reliability, durability, serviceability, aesthetics, features, perceived quality, and conformance to standard (Montgomery, 2009).

### Six Sigma

Six Sigma is a quality improvement method that aimed to meet customer requirements (Pande & Cavanagh, 2002). According to Gaspersz (2005), Six Sigma is a quality improvement with vision towards the target of 3.4 defects out of 1 million opportunities (DPMO) in producing a defect. Six Sigma guides a user or an organization through several steps or phases to identify and solve a problem. This approach requires the organization to make data based decisions, identify the root of problems, define defects based on customer requirements, and track leading indicators of problems to prevent them from happening (Pyzdek, 2003).

### DMAIC Framework

DMAIC (define, measure, analyse, improve, and control) are the steps an organization will go through when Six Sigma methodology is used. These measures will help to identify the problem until the solution as well as the impact of the solution implemented (Oakland, 2003). These steps are outlined as follows (Oakland, 2003):

#### *a. Define*

This stage is the initial stage of quality improvement with Six Sigma concepts, which aims to identify the production process and the type of defect. The Critical to Quality (CTQ) factors are determined based on a process that can lead to disability or have the potential to cause a variety of defects in products.

#### *b. Measure*

This stage is the second operational step of quality improvement with six sigma concepts. The DPMO is calculated to determine the sigma level. The calculation is done to measure the company performance at the workstation, which caused a misalignment of the product.

#### *c. Analyse*

The third operational step is to analyse and determine the root cause of a defect.

#### *d. Improve*

In the fourth stage, the improvement solution designs are then implemented. There are many improvements are used to eliminated the defect factors. Then the implementation performance is analysed through sigma level calculation.

#### *e. Control*

This stage is the last step in improving the quality with Six Sigma method. Here the performance-monitoring process is done to maintain the quality.

## METHODOLOGY



In regards to meet the research objectives, this study followed the Six Sigma framework. This methodology will direct the organization to anticipate the occurrence of the defective product and enforce the organization to do a continuous improvement by using DMAIC cycle.

#### **A. Preliminary Study**

To begin with, a preliminary study was executed in order to delve into PT X current problem and set a limitation of this study. This study started by doing a field observation and an interview with General Manager of the company regarding the problem within the industry. Not only does this step identify the problem, it also identifies a suitable method for overcoming the problem by reviewing literatures. By considering the company current problem about defective products, Six Sigma methodology is the most suitable one. DMAIC framework in Six Sigma method would be convenient to discover the root cause and the organization process capability. Before going to the next step, the historical data of sample defective, which generated during the production in PT X throughout 2016 are gathered.

#### **B. Define**

Define is the first step of DMAIC framework in which goal of the improvement activity is defined more specifically by using a project charter. In addition, critical factors that affect sarong's quality will be elucidated. The improvement opportunity for the business is identified based on direct communication with company's General Manager.

#### **C. Measure**

The step performs a measurement for the production and defect data that have been collected at the beginning. The purpose of this step is to evaluate and understand the current state of the process. The company performance is measured by conducting a statistical process control (SPC) to check the process stability followed by the calculation of defect per million opportunities (DPMO) that resulted from capability analysis to find out the current sigma performance level of PT X. Since the collected data is a percentage or proportion of defective products, thus SPC that is used in this study is p-chart.

#### **D. Analyze**

In analyze phase, a pareto analysis is conducted to identify the most frequent defect that must take into consideration for the improvement later. The defect is then identified for its potential root causes using a fishbone diagram.

#### **E. Improve**

Improve step is the step in which the potential solutions are generated based on the result of the previous stages in order to improve the organization's product quality. The solutions were then being evaluated for their effectiveness and feasibility. After that, the most effective and feasible one—which had been approved by the company—will be chosen and designed for an implementation.

#### **F. Control**

Control phase is the last phase in DMAIC cycle. This phase develops the on-going process management plans to ensure sustainability of the process improvements and evaluate the accomplished results. Other than that, the management should monitor and control critical process characteristic and then generate control action plans.

### **FINDINGS AND ARGUMENT**

#### **Define**

Ripped fabric, defect on fabric extension, faint and fade color are the characteristics that affect the quality of sarong product. However, the defect on fabric extension is actually the defect that inevitable so it does not necessarily need to be eliminated. According to the sample data, the percentage defective of sarong reaches out the number of 3.2% thus the improvement opportunity is to diminish the defective sarong until it meets the company's specification limit.

#### **Measure**

Referring to the defective percentage of 3.2%, the defect for million opportunities (DPMO) for sarong production becomes 7,986 which equivalents with 3.91. Therefore, improvement strategies are needed to reduce the amount of DPMO that will certainly lead to an elevated company's performance level.

### Analyse

According to pareto analysis result, it is found that ripped fabric has the highest contribution to the defect produced, which is 33.31% of the total production. It is slightly different with the percentage of defect on fabric extension that stands for 32.92% followed by faint color 17.50%, and fade color 16.27%, which could be seen on Figure 1. As the ripped fabric is shown to be the highest type of defect, it is thus being the main focus for the upcoming phases. Since the fabric extension is the natural variation cause, it is not considered to be resolved even though the total amount of defect on fabric extension is nearly the total amount of ripped fabric.

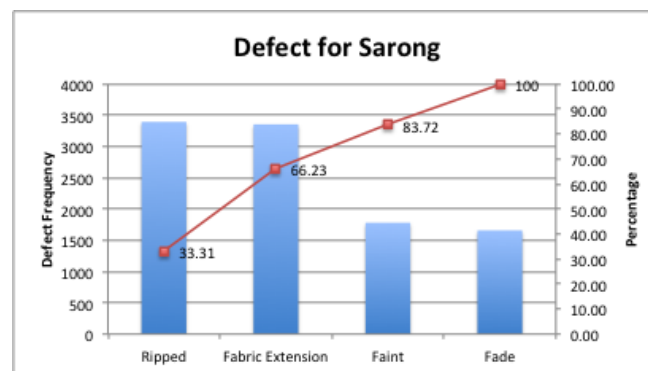


Figure 11 Pareto Chart for Defect of Sarong

As the ripped fabric indicated the highest type of defect that happened in PT X, the causes for ripped fabric were then analysed using *fishbone* diagram as shown in Figure 2.

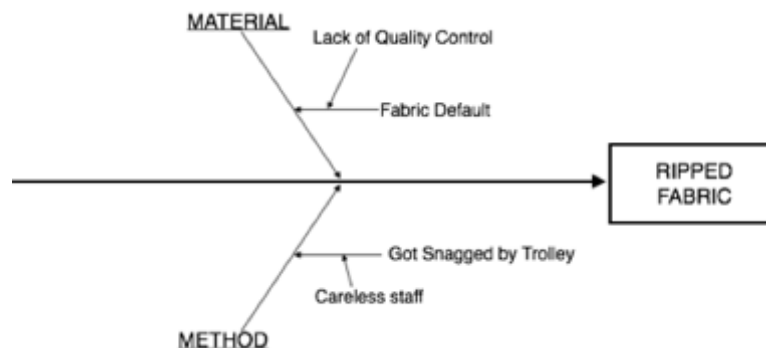


Figure 12 Fishbone Diagram for Ripped Fabric

Based on the root cause analysis result, material and method were found to be the main cause factors of the ripped fabric. According to the interview with production manager in PT X, when fabric rolls were just received from the supplier, the management did not hold any quality control (QC) prior to the production process, thus the fabric condition is not assured. While, oftentimes, the quality of fabric sent by the supplier was not that good in which ripped existed. QC only happens once during cutting process, which is the last production process. The fabrics should undergo at least seven processes that are performed using different machine. From one machine to another, the fabric needs to be transferred from one machine to another. In early 2016s, metal trolley was previously used as a medium to carry the fabric from machine to machine. However, as the time went by, the cart was then broken in which the fabrics likely to get snagged by the metal wire and cart's bolt. The in-charge staffs would not recognize it until they took up the fabric from the cart and found the fabric got snagged.

### Improve

Here are some improvement alternatives proposed in regards to minimize the defective sarong produced during the production in PT X by considering the two main cause factors identified previously: material and method.

**Table 4 Alternative Improvement Solutions**

Factor	Current Condition	Improvement Alternatives
Material <ul style="list-style-type: none"> <li>Default of Fabric</li> </ul>	No quality control held after receive the fabric from supplier	Conduct a quality control before letting the fabric goes into the production process.
Technique <ul style="list-style-type: none"> <li>Careless Staff</li> </ul>	Sometimes, the in-charge staffs do not recognize any arising bolt in the trolley making the fabric got snagged and ripped by the bolt	<ul style="list-style-type: none"> <li>Standard Operating Procedure (SOP)</li> <li>Cover the bolt using rubber-made material</li> <li>Create a check-sheet</li> </ul>

**Control**

To ensure the implemented solutions run effectively, the management should develop a control chart to assess the improvement. Check sheet should also be used to ensure the technique runs well.

**CONCLUSIONS**

PT X currently encounters a problem regarding their products. Defective products are frequently generated during the production process and among of the products, sarong is consistently being produced in the company. Ripped sarong is found to be the most common assignable factor of defect. According to the root cause analysis, the main causes for ripped on sarong are resulted from the material and method factors. The ripped on sarong usually appears because of the fabric default given by the suppliers and not being checked by the company staff because they do not conduct a quality control before the production process begin. Therefore, in order to minimize that variation cause, a quality control should be conducted right after the company received the raw fabric from their supplier, so that they can ask for the supplier's responsibility. The method is another main factor of the ripped on sarong in which the fabric are likely to get snagged by the trolley's bolt when it transferred from one machine to another. To avoid that cause, an alternative to cover the bolt by using rubber-made material is proposed so that it will not tear the fabrics out. Besides, a stricter SOP should be implemented which obligates the staff to do a re-check before utilizing the trolley.

Further research regarding the improvement alternatives can be conducted by using more quantitative approaches.

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## PROBLEM SOLVING TO OVERCOME BUSINESS CHALLENGE CASE STUDY AT SHIPPING COMPANY ABC

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### EXTENDED ABSTRACT

The aim of this research was to analyze business challenge faced by company due to significant decline of coal price and formulate strategies to improve company ability to compete and growth. Research was conducted in shipping company ABC, which was established to deliver end to end coal logistic services consist of barging and transshipment services. In this research, situation of business environment, consumer, competitor, and internal company condition were explained to describe challenge faced by company. Several analysis tools were used, such as Kepner-Tregoe Matrix and Aggregate Project Plan to define problems; Situation Analysis to determine problems priority; Problem Analysis to identify root causes; Decision Analysis to decide company course of action responding to root cause; and Potential Problem Analysis to prevent future problem occur. The results revealed several company strategies which were divided into three categories, namely derivative (short term), platform (medium term), and breakthrough (long term). Implementation of these strategies revealed improvement on company's performance (cargo, revenue, profit). Nevertheless, it is suggested that company continue develop projects that focus on expanding business to non-group customer and non-coal cargo in the future. Note: Due to confidentiality issues, some data and numbers are slightly modified but still represent actual condition.

**Keywords:** Decision Making, Problem Solving, Improvement

### INTRODUCTION

PT ABC commenced Tug and Barge operation in 2009 with one chartered vessel. The company operate the first owned Tug & Barge in 2010 and the fleet has continued to grow into 35 Tug and Barges with various barge size, ranging from 230 feet, 240 feet, 270 feet, 300 feet, to 320 feet currently. Since the coal mining area of PT ABC group customers were located at Central and South Kalimantan, company focused on the operation of domestic voyage within these area. Similar to other barging company, majority of PT ABC's cargo were coal. PT ABC has been carrying other bulk cargo as well, such as nickel, iron sand, gypsum, and construction material during 2012 to 2015, but the profitability for non-coal cargo were not as good as coal.

Change in Environment: By the end of 2015 to the beginning of 2016, coal price has declined 55% from around USD 110 / MT in 2011 to USD 48.8 / MT in January 2016 according to Global Coal Newcastle Index (GCNI). In the first semester of 2016, the future outlook for coal index was not positive, coal price was predicted to decline even further to around USD 40.8 / MT in December 2016. Beside the down sloping outlook of coal price, several analysts also predicted that coal price might increase again in second semester of 2016.

Competition: PT ABC had been facing very hard situation in terms of competition. In 2015 and 2016 several small sized mining company reduced production due to declining coal index, which led to declining demand for Tug & Barge within market while the supply remain relatively the same. Such oversupply of Tug & Barge within market and decline in freight cost for transporting coal overtime have created fierce competition, where barging companies competing each other in all aspect, price, service, vessel availability, also vessel quality.

Customer: Starting on 2010, PT ABC not only focused on serving group customer, but also increasing non-group customer overtime to backup fleet utilization. In early 2016 two group customers of PT ABC terminated operation due to unfavorable coal index, while two remaining Group Customers and other customers reduced barging freight and transshipment freight.

Company: In June 2016, PT ABC management held a review based on Year to date May 2016 performance. The data demonstrated that almost in every vessel size, ABC target on tonnage carried, revenue and gross profit created was not achieved, tonnage carried target missed 36.7% from plan, revenue target missed 38% from plan, and Gross Profit target missed 80% from target.

Findings of concern were 240 feet fleet, 270 feet fleet, and transloader which operate with loss of profit. Transloader became a top concern as it was capable to serve various range of coal and to be operated all over Indonesia, yet in actual transloader was the one that running on biggest loss.

In summary, the unstable market condition, declining coal price, increase in competition, and declining coal logistic demand have affected PT ABC revenue and tonnage achievement to be below target until May 2016. Such situation required the company to formulate improvement strategies in marketing and operation in order to increase fleet utilization, revenue, cargo carried and also to overcome business challenges in 2016.

The objective of this project was to formulate strategy initiatives for PT ABC as countermeasures of challenging business situation that occurred during 2016. It was expected that through this study, the company could identify the root cause of problems and formulate several improvement strategies that lead to positive effect to company, in terms of increase in tonnage carried, revenue, and profit.

## **LITERATURE REVIEW**

Kepner – Tregoe Matrix: From their research and studies Kepner & Tregoe (1981) concluded that the process of gathering and organizing information for decision making requires improvement. They aimed to make a more rational approach to gather and make the best use of all important pieces of information that might become an improvement over the countless disorderly approach they had observed. The Kepner – Tregoe Matrix consists of four basic steps. The first step is Situation Appraisal, in which several key events were highlighted and mapped to clarify the situation and give managers understanding regarding what is happening. The second step is Problem Analysis, in which managers applies cause and effect thinking, and company moves from just observing an events to try finding the root cause. Third step is Decision Analysis, in which managers use systematic approach to choose the best option from several alternative course of action. Fourth step is Potential Problem Analysis, in which managers attempt to predict what problem that might occur in the future as an after effect of the decision and formulate preventive action to mitigate it.

Types of Development Projects: Wheelwright and Clark (1992) in their HBR journal with title Creating Project Plans to Focus Product Development explained that lots of company spend most of their working time to executing projects and attempt to be one step ahead of their competitor. Because of this, most of companies project are dealing with current trend or short term issues instead of having strategic mission that deal with future market that can define companies sustainability in long term. To solve this problem, Wheelwright and Clark suggested the idea of Aggregate Project Plan. This aggregate project plan attempt to address all of these issues by helping companies to make projects plan, then divided projects into several categories according to how much resources needed to complete it and how project gives effect on company performance. First category is Derivative Project, in which project vary from cost reduction program for existing product to improvement in current process. Second category is Platform project, in which project lay between derivative and breakthrough category. Third category is Breakthrough project, in which project requires huge change in existing product or services and also the process.

## **METHODOLOGY**

In June 2016, aligned with Board of Directors (BOD) task to improve company performance, PT ABC marketing department was assigned by BOD to lead the process. PIC across department conducted a meeting to have a group discussion and brainstorming regarding how team would analyze the problem, steps of the project, and also the improvements that team wanted to take to overcome the situation. There were several key points from the discussion that had been agreed by group discussion participants. First, PT ABC faced several problem that effecting revenue, tonnage carried, and profit achievement for past month of 2016. These problems required to be addressed carefully in order to ensure PT ABC to solve the main cause and maintain company sustainability. Second, PT ABC would formulate required strategies in marketing, operation and other department to improve company performance to solve 2016 business challenge. Third, the teams agreed that the project would use combination of Kepner-Tregoe matrix and Aggregate project plan. Situation Appraisal and

Problem Analysis would be used to analyze business situation and find root cause of problem. Furthermore, Decision Analysis and Potential Problem Analysis would be used to find business solution.

In addition, projects resulting from the Decision Analysis step were be divided into Derivative, Platform, and Breakthrough projects to ensure that PT ABC was not only solving the problem but also created a platform that would enable PT ABC to have a stronger position in facing challenges in the future. Data collections were obtained from internal record, literature study, also data from internet & agent.

## FINDINGS AND ARGUMENT

**Situation Appraisal:** PT ABC conducted Situation Appraisal regarding business challenge in 2016. The company discussed major problems faced in 2016 and measured each problem in three criteria. The first criteria was timing, which involved a deadline and what will happen if nothing is done. The criteria scoring was based on how urgent is the problem. The second criteria was trend, which considered the likelihood of the problem to get worse and problem's potential for growth. Third criteria was impact, which considered how serious is the problem, and the effect on organizations. Each of these criteria were evaluated for three degree of concern high, medium and low.

Table 1. ABC Situation Appraisal

Situation Appraisal						
No	Concerns	Timing	Trend	Impact	Process	Priority
1	ABC cost still high compared to competitor	M	M	M	PA	4
2	Tonnage, Revenue and GP target below monthly target	H	H	H	DA	1
3	Group decline production, captive market reduced	H	M	H	DA	2
4	ABC vessel availability decline	M	L	M	PPA	5
5	Barging & transshipment price decline in main customer	M	H	M	DA	3

**Problem Analysis:** After Situation Analysis were conducted, the team was able to describe that PT ABC have several concern. First, was the revenue for transshipment & barging which were low and minus profit on several routes. Second, was the declining production of company's group customer which led to reduced captive market. Third, was barging and transshipment freight decline in main customers. Fourth, was the company's fleet cost structure which were higher than competitors. Fifth, was the company's vessel availability decline in 2017. To identify the root cause of problem to be concerned, the team used Ishikawa fishbone diagram. It was revealed that there were twelve root causes that can be categorized into three key factors that need to be addressed immediately, namely low fleet utilization, particularly transloader as the company focused on group; the high total cost for Time Chartered (TC) and stevedoring; and the limited manpower to get new customer; and one key factor that that need to be addressed in the medium / long term, namely coal cargo dependency.

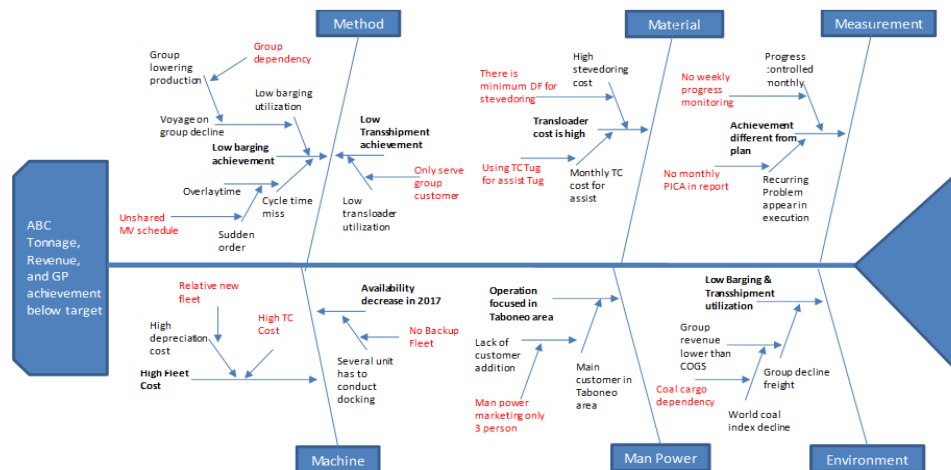


Figure 1. ABC Fishbone Diagram

Decision Analysis: In this step, the company decided priority of project implementation to mitigate the root cause of concern. First, the team set up the MUST and WANTS criteria. MUST was the mandatory criterion to be fulfilled by proposed project, in which failure to fulfil this criterion would lead to the project being rejected. WANTS criterion was the desirable criterion to be fulfilled by proposed project but not a mandatory. Next, the team formulated a scoring system by assigning weights of each WANTS criteria according to how important is the criteria for PT ABC and assigning rating of each project according to how well the project satisfies the WANTS criteria defined. Projects that fulfilled all of MUST criteria with the highest accumulated score of WANTS criteria (weight multiply by rating) were chosen. After the focus of improvement areas were firm as depicted in Table 2, the next step was translating the focus into sets of projects. Further discussion was conducted by the team to determine projects which were aligned with the focus, and to classify projects into three categories.

Table 2. ABC Decision Analysis

Decision Analysis for ABC's Concern									
Must		Increase service excellence to group with addition on MP, efficiency, and control progress		Decrease TC numbers align with tonnage decrease from Group		Negotiate with group customer to decrease non ABC set with addition on MP		Add customer non group & non-coal with additional MP, efficiency program, and control progress	
Increase fleet utilization		Go		Go		Go		Go	
Reduction on total cost		Go		Go		No Go		Go	
Man power align with job		Go		Go		Go		Go	
Wants	Weight	Rating	Score	Rating	Score	Rating	Score	Rating	Score
Decrease group dependency	10	3	30	4	40	-	-	8	80
Decrease dependency on coal	10	3	30	3	30	-	-	7	70
Increase current operation effectiveness	7	7	49	6	42	-	-	6	42
Increase control effectiveness	3	7	21	5	15	-	-	7	21
Total			130		127		-		213

Derivative Project: Following the Decision Analysis result, in which transshipment had the lowest achievement and highest minus on profit up until May 2016, the company highlighted transshipment as the highest priority for improvement. The focus of improvement were to reduce dependency on group for transshipment cargo by expanding area of operation and getting new non-group customer to increase utilization, increase revenue and reduce minus on profit. Prior to expanding area of operation, PT ABC hired additional man power within marketing department, implemented cost reduction program for transshipment, and generated monthly report to control achievement. Second priority of project was the barging project, in which the basic idea was to make a cost reduction program. Afterward, the company re-mapped area of operation and coal producer in Indonesia, obtained new customers, improved revenue, and reduced dependency on group. The 240 feet barge was highlighted since this category had the lowest achievement and negative profit.

Platform project: PT ABC implemented new service line using the existing fleet to carry non coal cargo, which aimed to reduce coal dependency in the long term (aligned with problem analysis). non-coal cargo like nickel, gypsum, and iron sand were excluded since the logistic freight were low. Instead, the company focused on waste for cargo because the logistic price for waste was high and also serve as a blue ocean market where the players were still limited & not easy for competitor to entry the market. Platform project execution was not easy as the company need to make several changes. In order to gain revenue, PT ABC conducted study of the potential customer, routes first and renewed insurance to P&I that cover third party liabilities to comply with regulation. PT ABC also proposed permit to carry waste (paper sledge, fly ash, contaminated soil) to the Ministry of Environment & Forestry (KLHK) and modified the lashing tent cover on barge.

**Breakthrough Project:** The team suggested an idea to study about business potential for Mother Vessel. This would be a giant leap for PT ABC, considering that the company has been accustomed to only operate small sized vessel, operating vessel with scale as big as Mother Vessel would be a whole new field. The technology involved would be more advance, operation would be more complex, and the investment value would be higher as compared to small sized vessel. Furthermore, Mother Vessel business would be interesting since the customer would be non-group, which means the company would be able to reduce group dependency significantly with the size of tonnage carried. The company need to reduce dependency on coal as the instability of coal index can effect cargo availability and freight price. Nevertheless, in MV project the contract will be long term (15-20 years) & the price will be fixed. With such types of contract, it enables PT ABC to eliminate “uncertainty” risk of coal price.

**Potential Problem Analysis:** It was possible that some problem might occur due to project implementation, by using Potential Problem Analysis, the company was able to forecast that risk and took preventive action to minimize risk probability to occur and to implement contingent action to mitigate the risk. One risk to be highlighted was strategic risk, as market situation changed and coal price increased again. In August 2016 according to Newcastle index, coal price reached USD 70 / MT with tendency to increase until December 2016. This change did not affect transloader expansion strategy and 240 feet barge strategy effectiveness, since cargo carried for both strategies were coal. Nevertheless PT ABC is still required to negotiate with customer to adjust freight following coal index. If the freight adjustment make coal barging profit increase surpasses waste logistic profit, then waste logistic service might be postponed in order to focus 300 feet barges to carry coal. When the coal barge inquiry has been fulfilled, the remaining barge would be able to support waste logistic project. Since coal index might decrease again and waste logistic can reduce dependency on coal in long run, such scenario would enable the company to maintain profit should the coal price index decline again in the future.

## CONCLUSIONS

Projects implementation in PT ABC yielded several positive results. As for Year to date December 2016 in total, the company obtained 4 additional non-group customer, 1.3 Mio MT cargo addition, IDR 27.8 Bio revenue addition, and IDR 14.5 Bio profit addition. This continued to the Year to date March 2017 in total, the company obtained 6 non-group customer with potential 4 new customer addition in Mid-2017, 1.8 Mio MT cargo addition, IDR 47.2 Mio revenue addition, and IDR 21.8 profit addition compared to condition without project. The team also suggested the company to consider entering MV business as long term project.

Problem solving method using Kepner-Tregoe & Aggregate Project Plan in PT ABC are still on progress and the company should monitor project achievement periodically and continuously strive improve it in the future either with cost reduction program, or to increase operation effectiveness. There are several operational problem such as vessel breakdown that raise PT ABC’s concern. Such problem might jeopardize project implementation and effectiveness in the future. PT ABC should respond by implementing Maintenance System to increase availability. The company should continue to run a deeper study for Mother Vessel business, also collect data regarding potential coal supplier to power plant and learn about risk for entering MV business. Furthermore, PT ABC should further study the potential of non-coal cargo logistic to reduce coal dependency even further in the future.

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# LEAN BUSINESS PROCESS FOR WASTE IDENTIFICATION CASE STUDY: LEANING THE BUSINESS PROCESS OF ORDER FULFILLMENT AT PT. MDP

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## EXTENDED ABSTRACT

PT. MDP is one of the authorized distributor houseware products in Indonesia. In the business process, it has only one supplier that has centralized control over all the distributor. The company has high dependency toward the supplier, therefore improvement in order fulfillment process can be the competitive advantage toward the other distributors. The Value Stream Mapping is the concept in the lean manufacturing to examine the waste. However, since the business process in the company itself is not about the manufacturing, swimlane is used to analyze the wastes in the administrative process. There are three wastes are identified inside the order fulfillment process. They are overprocessing, unused talent, and partially completed work. From the waste analysis, the waiting time from order fulfillment could be reduced from 3 days to 2 days by delivering job enrichment. While the processing time is reduced from 8 hours 5 minutes to 5 hours 3 minutes.

**Keywords:** *Lean thinking, Waste, Business process mapping*

## INTRODUCTION

PT. MDP is one of the authorized distributor of houseware products in Indonesia. The products are supplied by one supplier that has centralized control for all the distributors. The company has a strategy to make new promotion products for every month to gain more sales. As a result, the accuracy and the lead time to order the goods are crucial for the best practice.

In order to deliver well order fulfillment process, PT. MDP is using sales composite to reduce the risk for ordering too much. Firstly, the warehouse department lists the products that can be ordered by the customer and send the list through social media (Whatsapp). The sales forces have one day for making their decision. In the next day, the warehouse department writes down the order in a book and then ask the distributor for approval, in case that the distributor wants to order the other products. As soon as the final decision received, the warehouse department orders through the system to the supplier. It takes one day to get feedback, the list of the product is going to be sent, from the supplier. The delivery itself takes two days to arrive in the office. If the delivered products do not reach the expectation, the meeting can be held to discuss the distribution strategy. After getting the approval from the meeting, the list of product available is made by the warehouse department and can be ordered by the sales force.

One of the tools/methods that can perceive the activity flow in order to map the information flow is by using Value Stream Mapping (VSM). VSM is one of the concept in lean manufacturing that can be used to identify the activities conducted in the company. VSM also can help the company to identify each activity that brings value added and non-value added activity. The accomplish of VSM is expected can identify the wastes, occur in order fulfillment process. The purpose of this research is to know the wastes in the order fulfillment process and give suggestions for improvement to reduce waste.

## METHODS

The methodology used in this research is using lean principle by using value stream mapping via swimlane.

### **Lean Concept**

The main goal of lean is to maximize customer value while minimizing waste. The value can be described as shortest lead time, best quality and value to the people and society, high customer satisfaction, high morale, and safety. In order to accomplish the goal, lean strives to reduce the cycle times but without reducing quality or at an unsustainable or unsafe pace rather by continuous improvement (Womack & Jones, 1996).

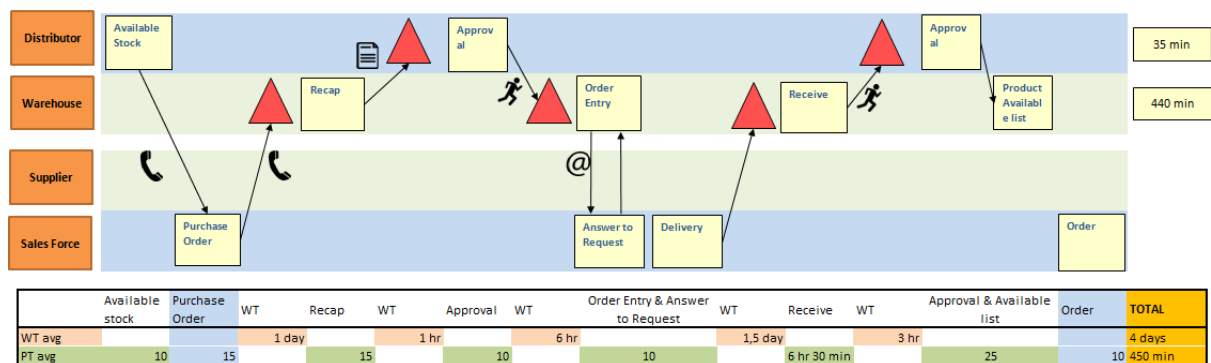
According to Liker & Meier (2006), there are eight types of wastes in lean, namely: 1. Overproduction: Producing goods that have not been ordered. 2. Waiting: Workers are unemployed due to run out of materials, slow process, broken machines, and bottleneck. 3. Transportation: Moving materials, components or finished goods within a distance of too far. 4. Over processing: Performs steps that are not required to process components. 5. Inventory: Excess inventory causes problems such as delays in delivery and defective products caused by inaccurate forecasting. 6. Motion waste: Movement of workers who are in vain while doing their work. 7. Defect: Produce defective items or require repairs. 8. Unused worker creativity: learning opportunities because they do not involve or hear feedback from workers.

#### **Business Process Modeling Notation (BPMN)**

BPMN is certainly the language for representing such processes. It facilitates understanding of the process among all of the people involved in the processes and also helps to measure the organization to measure their activities. Business process modeling is a necessary and initial part of Business Process Management (BPM) and the key element in a process-driven development of organizations. (Gabryelczyk & Jurczuk, 2017).

In this study, we use cross-functional flowchart or swimlane as a tool to implement the lean concept. Cross-Functional flowchart or swimlane describes a process in which a number of different people, departments, or functional areas are involved. The functional areas are visually separated from others in each column. This technique helps to identify the waste related problem in the process. During the analysis, swimlanes help clarify responsibilities and help departments integrated to work together.

### **FINDINGS AND ARGUMENT**

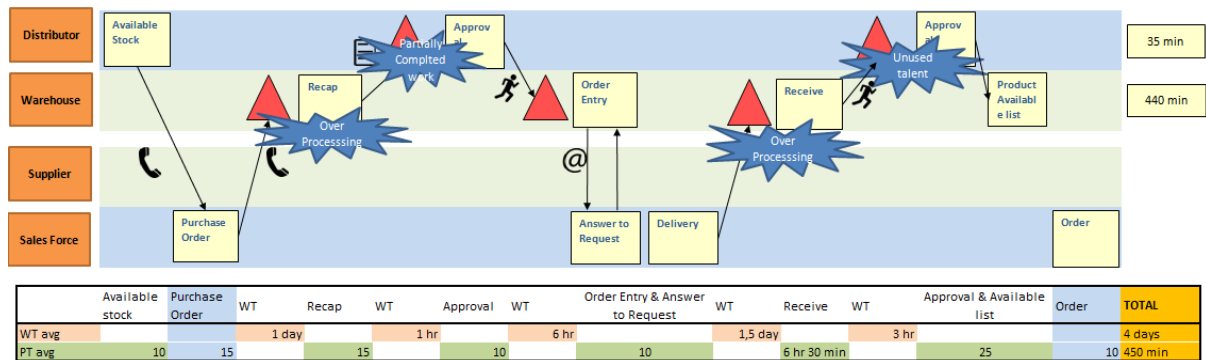


**Figure 13 Current state value stream mapping order fulfillment**

The VSM in Figure 1 depicts the order fulfillment process in MDP by using swimlanes to picture the department or staff who take in charge in the processes. The most striking feature is that the receiving processing time takes a long time, accounting for six and a half hours, compare to other activities. While the longest waiting time is in delivery from the supplier to the office that takes one and a half days.

The other activities are less than 20 minutes to do except for approval and make an available list that takes 25 minutes. Waiting time is calculated to know the process lead time that supposes to be reduced in the next step. Meanwhile, for process time means the time that needed to complete the activity which means the activity that customer wanted. In other words, it brings value added to the customer.

However, it was interesting to calculate the total waiting time and processing time in the processes to find out what is the proportion of value added time and non-value added time for the activities. The total waiting time for the activities amounts to 3 days and the total processing time amounts to 450 minutes.



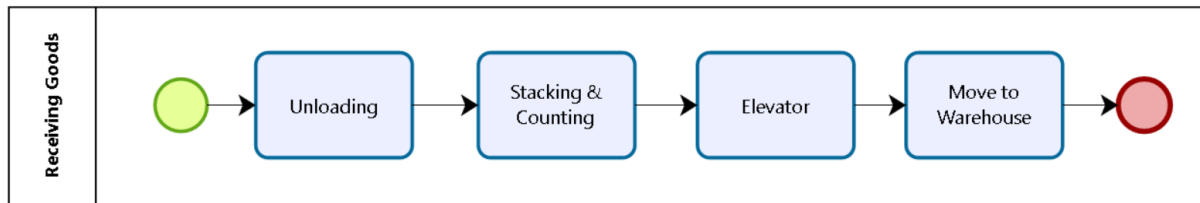
**Figure 14 Waste Identification**

Figure 2 explains the wastes identified in the process.

Partially completed work occurs because the approval process is conducted in the informal process. However, the distributor wants to know the analysis and get the result from the warehouse department.

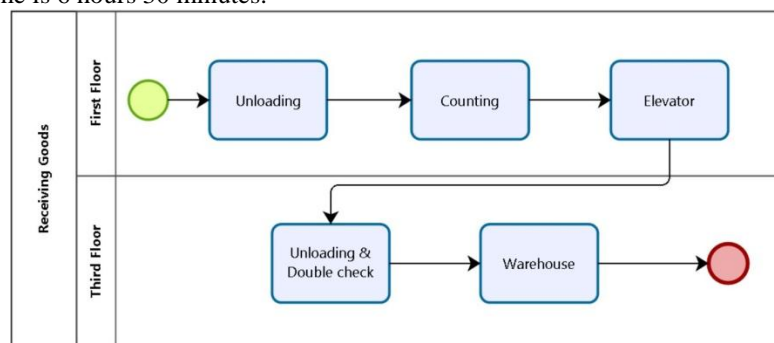
Over processing at Recap: the warehouse department has to copy the result in a book for controlling processes, meanwhile, the warehouse department uses the computer for work.

Unused talent: The head of warehouse division has worked for eight years but does not have such an authority in the company. The top management thinks that their employees are at the practical level.



**Figure 15 Current Receiving Process**

The flowchart depicts the process of receiving goods from the supplier. Currently, the process is executed in linear steps. In other words, one step needs to be finished before moving to the next step. The process for unloading and stacking takes two hours and takes place in transit warehouse. After that, the employee counts and matches the total products with the delivery order list. Next to the transit warehouse, the elevator is used for moving the goods to the warehouse on the third floor. The elevator cannot bring all the goods at the same time and takes two hours to move all the goods. Then the employees arrange the products with the stocks that takes two hours. Total processing time is 6 hours 30 minutes.



**Figure 16 Future Receiving Process**

There are two unnecessary steps that can be enhanced in acquiring the products. First thing first, the employees do not have to stack the boxes to counting the total products. The process can be conducted simultaneously when moving the products to the elevator. The conveyor belt can boost the speed of unloading the products to

move it into the elevator. In the meantime, while the product is moving, the employee can count the total product to match it with the delivery order. In addition, the other employee stands by on the third floor to move the products directly to the warehouse after unloading it from the elevator. The employee which in the third floor can do the double check for the products they received. At the end, they match the result for mistake proofing (jidoka). The process time on the ground floor takes two hours while on the third floor need two and a half hours.

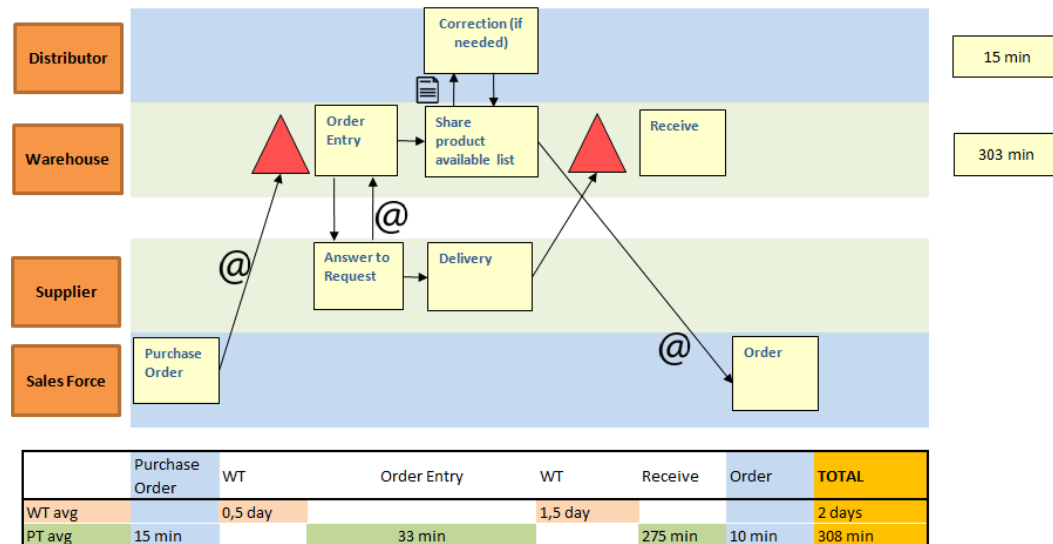


Figure 17 Future state value stream order fulfillment

Figure 5 explains the future order fulfillment process. It is the limit that the company can handle because the other waiting times are caused by the supplier. The company has to wait for one day to get feedback from the ordered products and another waiting time is when the supplier deliver the products to the office. The delivery time becomes the bottleneck of this processes that takes average one and a half day. Therefore, in the meantime, the warehouse department has to do the analysis and share the list of available products before receiving the products. In the new value stream mapping, the total waiting time will decrease from 4 days to 2 days, while the total processing time needed will decrease from 450 minutes to 308 minutes.

## CONCLUSIONS

There are three type of wastes in the processes which are overprocessing, unused talent, and partially completed work. Overall by redesigning the business process, the waiting time is reduced from 4 days to 2 days and the processing time is reduced from 450 minutes to 308 minutes. Overprocessing can be reduced by redesigning the receiving method. Partially completed work is minimized by making work standardisation. To overcome the unused talent waste, job enrichment is needed, in this case, give more authority to the head of warehouse division for the ordering process.

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## IMPROVING AN AGGREGATE PLANNING SYSTEM: A CASE OF GARMENT INDUSTRY

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### EXTENDED ABSTRACT

The study attempts to overcome unsynchronized demand and supply in PT X's production process as a result of the inventory management system and capacity lack. In this study, the quantity of the gains and losses associated with employing different alternatives using several variables. Traditional method used in the company's production planning does not provide a required strategy to coordinate production and demand rate. Aggregate planning and inventory management are the crucial methods in operational management since the competition among the companies become tighter (Hung, 1997), especially for textile manufacturing industries which required an advance planning accuracy due to high inventory variety (Demirel, Ozelkan, & Lim, 2012). The research methodology used in this study is done through analysing the primary and the secondary data. The collected primary data taken from some interviews and field observations while the secondary data obtained from the company's historical documents. The findings offer the best solution for industry's sustainability under different scenarios. The effectiveness and implications of the aggregate planning are presented in production costs context while considering the risks of each alternative. In conclusion, the company will reduce their shortage as well as decrease the production cost and customer penalty by applying this strategy.

**Keywords:** production management system, inventory, shortage.

### INTRODUCTION

In the management of operational system, planning process stands to be the most crucial activity since ten critical decisions in operation can only be achieved by using the good one (Heizer & Render, 2011). Planning will address decision to acquisition, utilization and allocation of limited production resources including the production facilities, labors and materials while aiming at minimizing production time and costs (Hung, 1997). Particularly, in textile manufacturing which directly correlated with high level diversity of managing raw material, working process and producing final goods, planning and inventory management is one of the vital processes (Demirel, Ozelkan, & Lim, 2012).

Failing in synchronized supply and demand is one of the consequences of poor planning process. The gap between supply and demand is a key reason the companies are frequently trapped not only into selling excess products well below market rates but also in losing sales because inventory shortage. During the business, lack of planning stability can turn out to be a major problem because it often produces a considerable amount of short-run and medium-term adjustment efforts (Alfieri, Tullio, & Uργο, 2012). One possible method to overcome the problem is aggregate planning. It allows a company to determine their ideal level of production process including the capacity and inventory management (Chopra & Meindl, 2013).

PT X is a medium-scale textile manufacturing industry which produces Moslem dress for women. Although it has a big potency to grow, the problem still occurred in the company itself. Not only PT X had a shortage on customer demand but also low production capacity. In this study, we aim to develop a model to achieve the planning objectives as well as overcome the shortage matter. Unlike the common aggregate planning system, the proposed system will not purely build its emphasis on minimizing the cost, but also considering the risks and compatibility of each alternatives.

The shortage problem needs to be taken into account since it will directly have impacts on profit and customer penalty. Therefore, the objectives of this proposed study are:

- Observe the existing inventory management system
- Analyses the root cause of production shortages in Production Management System.
- Propose a solution to overcome the shortage in production management system

## LITERATURE REVIEW

Aggregate planning studies have been available in the literature review in numerous ways. Various great methodologies can be found regarding to this process (Andersin & Joglekar, 2005). However, Linear Programing is the most commonly method that used to solve Aggregate Planning problem. This method focused on optimization technique that allows the user to use the available resources and certain limitation data to find a maximum profit or minimum cost for company (Heizer & Render, 2011).

Another subject that has been heavily outlined in the literature is the objective of Aggregate Planning: to meet or keep up with the forecasted demand while still achieving minimum cost over the production plan. In order to meet the objective, executing the right strategy to achieve optimal result is crucial for company's sustainability (Chopra & Meindl, 2013). Changing Production Rate, Varying Total Work Hours, Using Inventory and Backlogs, Changing Workforce, and Subcontracting are some of the applied strategies in aggregate planning process. Each strategy need some key information to support their finding. Key information is required as input for aggregate planning and in order to decide the most suitable alternative(s) that can be applied in a company itself (Heizer & Render, 2011).

As far as the Aggregate Planning-related studies are concerned, forecasting model for future demand is required to support aggregate planning findings. Forecasting will help the company to project their business using calculation from aggregate planning model. Forecasting might need some historical data and to compute them for future events with some mathematical model (Sander, 2013). In spite of this, a manager should consider several matters before applying the appropriate forecasting technique. Error measurement is the most dominant one that would be used by a manager to determine a feasible forecasting model. By using a right technique, a company can increase the customer satisfaction by increasing product availability, reducing inventory stock outs, having more effective production scheduling, managing a better shipping process, and having lower safety stock requirement (Heizer & Render, 2011).

## METHODS

The research methodology used in this study is based on primary and secondary data. The primary data gathered by conducting field observation and interview with some key players, analyzed using qualitative and quantitative technique, while the secondary data obtained by company's historical documents, analyzed using quantitative technique. The beginning step is analyzing the causes of the unmatched supply and demand as well as the impact of this problem. The next step is making the current mapping of the existing business covers the business process flow, production capacity, cost, and cause and effect. Another step is proposing new design to overcome the shortage using aggregate planning and inventory management method by making several scenarios. Then, a new system will be proposed as a recommendation based on the calculation by considering the cost, risk and other factors. Lastly, the company will make adjustment later in its implementation of new aggregate planning and inventory management to their operational system.

## FINDINGS AND ARGUMENT

The main finding is the manufacturer selects a production strategy which best suited to their product and condition. By applying aggregate planning method, this research will use various scenarios to find the most appropriate way to control their inventory and production cost. In spite of this, author could not suggest all scenarios due to company's situation, only four alternatives can be implemented well: using constant workforce and subcontract, using constant workforce, vary inventory, and stock out, and using constant workforce and overtime.

Due to the company's objective to lower the cost, the preferred simulation model is a mathematical approach using linear programing technique. As a result of the products division into four categories, each of them might need different scenario based on their variables. The following tables show the cost comparison among the scenarios for each category:

**Table 5. Cost Comparison for Category A**

Scenario for Category A	Total Cost
Constant Workforce, Vary Inventory, and Stock out	IDR 2,583,067,152
Constant Workforce, Subcontract	IDR 1,530,645,200
Constant Workforce, Overtime	IDR 1,705,945,200

**Table 6. Cost Comparison for Category B**

Scenario for Category B	Total Cost
Constant Workforce, Vary Inventory, and Stock out	IDR 2,053,420,560
Constant Workforce, Subcontract	IDR 1,078,790,000
Constant Workforce, Overtime	IDR 1,220,364,000

**Table 7. Cost Comparison for Category C**

Scenario for Category C	Total Cost
Constant Workforce, Vary Inventory, and Stock out	IDR 487,989,784
Constant Workforce, Subcontract	IDR 421,338,840
Constant Workforce, Overtime	IDR 378,471,680

**Table 8. Cost Comparison for Category D**

Scenario for Category D	Total Cost
Constant Workforce, Vary Inventory, and Stock out	IDR 294,544,492
Constant Workforce, Subcontract	IDR 232,268,440
Constant Workforce, Overtime	IDR 225,476,360

The results indicate that company will reduce their shortage by applying this strategy as well as decrease the production cost and customer penalty.

## CONCLUSIONS

The effectiveness and implications of the chosen scenario(s) are presented in production costs context while still considering the future risks. From the cost comparison table, it can be concluded that each category has different solution to overcome the shortage problem. Applying Vary Workforce scenario happens to be the best alternative for both category A, B, and C. While the most appropriate scenario for category D is Constant Workforce and Overtime scenario.

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# UNPREDICTABLE CHANGES IN HOTEL CONSTRUCTION PROJECT

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## EXTENDED ABSTRACT

*Project Construction is very dynamic, anything can happen including the changes that unplanned. In the hotel construction project by Pondok Indah Group there is an unpredictable change of the construction. The plan is permanent bridge will be cover with ordinary paint but the changes make the permanent bridge cover with fire protection paint. This research focuses on the effect of the fireproofing permanent bridge within project scope, cost and schedule. The fireproofing permanent bridge will directly change the project scope due the activity unplan. in this research schedule will be analyse using work breakdown structure, critical path method and Gantt chart as the base of literature to solve the problem. Ms. Project will help the schedule analysis. The cost will be analysed by determining the required cost for fireproofing permanent bridge. The result in the project hotel construction scope is permanent bridge will be cover with fire protection paint. All of the steels side that support the permanent bridge will be paint by fire protection paint. The fireproofing permanent bridge duration is 132 days. The overall project hotel construction schedule will be delay by three (3) days. The additional cost due to fireproofing activity is Rp668.420.524 million rupiah*

**Keywords:** *project management, hotel construction, unpredictable change, project cost, project schedule, project scope*

## INTRODUCTION

Pondok indah group has an ongoing project construction. The hotel construction called Intercontinental Hotel project. the aim is the hotel will be an asset for the revenue stream of Pondok Indah Group. Intercontinental is a hotel management that have the high standard of quality including the quality of the hotel building. To get Intercontinental management as the operator of the hotel, Pondok Indah Group have to prepare the best quality for building that they intent to be a hotel. The developer has to pass several checklists that already set by both parties (Pondok Indah Group and Intercontinental Management) before the hotel can operate with intercontinental management flag.

In order to provide the best for the intercontinental management and the hotel guest that will stay at the hotel, Pondok Indah Group has to deliver the best construction with the best material. The schedule for the hotel construction project can be said is the responsibility of the project manager. The project manager has to determine when the project will complete and while the project is still ongoing, project manager has to maintain the project on the schedule because (Haughey, 2017) three roles and responsibility of the project manager is to developing schedule, budget and time estimating.

Project management knowledge can be used to maintain the project schedule and cost while provide the best quality of the construction (project management institute, 2013) because the success of the construction project can be seen in four criteria, there are project objective while maintain schedule, cost, and project quality (Kärnä, Junnonen, & Sorvala, 2009) and all of the success criteria can be achieved by implementing project management knowledge. To schedule the project, project management knowledge provides a tool that can be use are Gantt chart, Critical path method, precedence networks, Resource Allocation and Resource Levelling and etc. (Mubarak, 2015).

In the hotel construction project, project manager has successfully developed the project schedule and budget but unfortunately in the real situation construction site is very dynamic, the project manager has to face many problems that makes the initial scheduling and budget cannot be reach. The actual target of completion for the hotel construction is in July 2017 but the project seems face many challenges/problems that occurs. after facing many problems, the project plan target shifting three times from the plan target and the latest projection this hotel construction project will finished in 25<sup>th</sup> November 2017

The recent event/problem that occur on the construction project site is an unpredictable change. The changes come from the project manager. Project manager consider to fireproof the steels of permanent bridge in order to minimize the risk of fire accident. The triad constraint theory (Watt, 2014) believe that the change within project scope will be affecting others two



factors (cost and schedule). The change in permanent bridge will affect the project scope therefore the others factors (cost and schedule) will get the effect of it.

## **LITERATURE REVIEW**

### **Project Management in Construction**

According to (Gido, 2006) project is an endeavour to accomplish a specific objective through unique set of interrelated tasks and the effective utilization of its source. Project management knowledge in construction project uses to take a look and generated schedule, budget, scope and turning point for each project. Project management knowledge in construction can be used to search for an error in construction project whether in project objective, scope, schedule or budget (Ribeiro & Ferreira, 2010).

Every construction project delivers with uncertainty risk. Every risk that occurs has a cause and consequence. The external risk (political, economic, finance) and internal risk based on project management issue for instance tactical decision made and team competency. The risk can be minimized by improving organizational performance through implementing project management (Apanaviciene & Juodis, 2006).

### **METHODOLOGY**

This research uses quantitative combined with qualitative methods. The qualitative method uses to gather the primary data by interview Mr Hendrikus as the project manager of the hotel construction project and Mr Sigit as a person in charge for fireproofing activity. The interview using unstructured interview technique meaning there is no plot of questioner on interviewing and let the flow take the interview. The purpose of the interview is to determine the activity of fireproofing in the permanent bridge and also to know the assumption of the additional cost.

The quantitative method uses to gather secondary data which is company document to be analysed. The document that this research gather is projected schedule include the work breakdown structure, critical path method and Gantt chart. The purpose of gathering the company document is to analyse the effect of fireproofing permanent bridge activity within the company schedule and cost. Using triad constraint technique, the changes have to be analysed within three factors: scope, cost and schedule in order to know the whole effect of the fireproofing permanent bridge activity. The scope can be known by finding the objective of the fireproofing permanent bridge activity. Then after knows the objective of the fireproofing permanent bridge, the activity to do the fireproofing permanent bridge can be determined by creating work breakdown structure for fireproofing permanent bridge. Work breakdown structure useful to create activity by sequence.

Then additional activity in the WBS is put in to Gantt chart to know the start date and the duration for each activity. By know each activity duration the overall know. The Gantt chart is very useful in high rise schedule building because Gantt chart can be rolled up and down, 300+ activity in the one floor can be rolled up into one bar. Using Gantt chart the overall duration, finish and start date can be known. After the additional activity put into the Gantt chart then create critical path to know the logical relationship. Critical path method is used to know the link between the activity and whether there is a critical path inside fireproofing permanent bridge activity. If not then the float time can be known but if there is a critical path then the project manager can give more attention to the critical activity.

Fireproofing permanent bridge activity that already know the start date and the duration then, put in to permanent bridge activity Gantt chart. The permanent bridge activity is a part of finishing works activity so, the finishing works will get an update regarding the duration and finish date of the activity. Finishing works is a part of remaining works schedule and the change of duration and finish date in finishing works activity will affect the remaining works schedule. Remaining work schedule is a series of activity that has not finish yet until 3<sup>rd</sup> April 2017.

## **FINDINGS AND ARGUMENT**

### **Scope**

The plan is permanent bridge steels will be covered with ordinary paint in order to avoid rust. Then project manager asks to board of director to cover the permanent bridge steels with fire protection paint in order to minimize the collapse of steels that support the permanent bridge when fire accident happened. The new project scope is permanent bridge steels will be covered with protection paint. All of the steels side that support the permanent bridge will be painted with fire protection paint. The instruction steps to paint the steels with fire protection paint is not same with ordinary paint. Usually the fire protection paint to be fully dried it required 4 days. In the other hand, the ordinary paint just requires 2-4 hours. Due to the drying duration of fire protection paint is longer than ordinary paint, it makes the duration of permanent bridge activity works increase. The hotel construction project package just requires the permanent bridge construction to finish just one third of the permanent bridge construction.

### **Schedule**

Fireproofing activity include several activities that require to do the fireproofing activity. The activities are determined by conducted an interview with Mr. Sigit as a person in charge for fireproofing activity. First activity to do the fireproofing activity is steel analyse. The aim of steel analyse is to know how much fire protection paint that protection paint that needed, the order activity can be start. Order activity will take 3 months duration. While the order activity on going the MEP un-install activity can be start. The activity will not interfere order activity because there is no connection between order and MEP un-install activity. After the paint has arrive then, the paint will be put into warehouse.

The purpose of warehousing the fire protection paint is to organize the inventory because the warehouse using FIFO (First In First Out) system. Then after warehouse activity, the execution of the fireproofing can be done. It takes 21 work days to do execution activity. quality check activity is needed to assure the quality of the works. The quality check activity takes two days. After the quality check activity then finishing & MEP installation activity can be start. It takes 10 days to do the finishing & MEP installation activity. the gantt chart below show the activity duration along with start, finish date and predecessor:

most of all of the activities that represent by red bar are the critical activity. The link that represents by red arrow between critical activity makes it critical path. There is a non-critical activity that represents by blue bar, it means the activity will not determine the finish date of fireproofing permanent bridge activity. The fireproofing permanent bridge activity will be added into permanent bridge activity.

The fireproofing permanent bridge activity will become the critical activity of permanent bridge. Any shift in fireproofing permanent bridge activity will make the finishing date shift. There is no link between activity because all of the activity inside permanent bridge is parallel. Permanent bridge activity is a part of finishing activity. Because of the changes within permanent bridge activity the finishing works activity will get the effect. Due to the changes in permanent bridge activity, the activity will be the critical activity of finishing works. All of the activities are parallel activity therefore there is no link between activity. The finishing works activity will be finish on 29<sup>th</sup> October 2017. Finishing works activity is a part of a major activity in remaining works schedule. Remaining works schedule is a schedule that just show the ongoing activity or the activity that has not start yet on 3<sup>rd</sup> April 2017. So, the finish date of remaining schedule will be the finish date of the hotel construction project. after the finish works activity change due to the changes in permanent bridge activity, it is required to check the remaining schedule.

the finishing works activity will be finish on 29<sup>th</sup> October 2017 but due to the testing and commissioning activity has a link

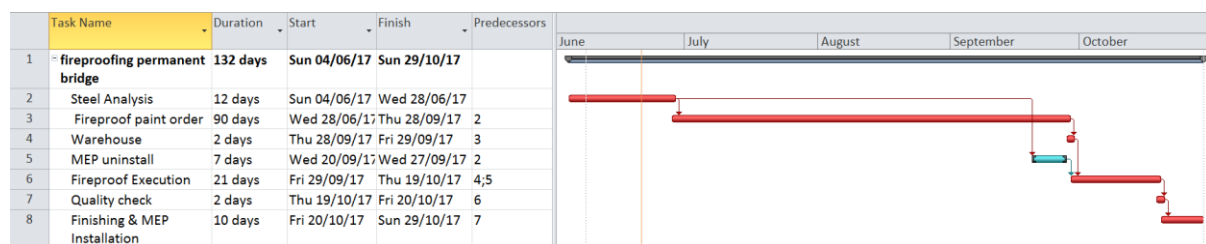


Figure 18 Fireproofing Permanent Bridge Activity Gantt Chart

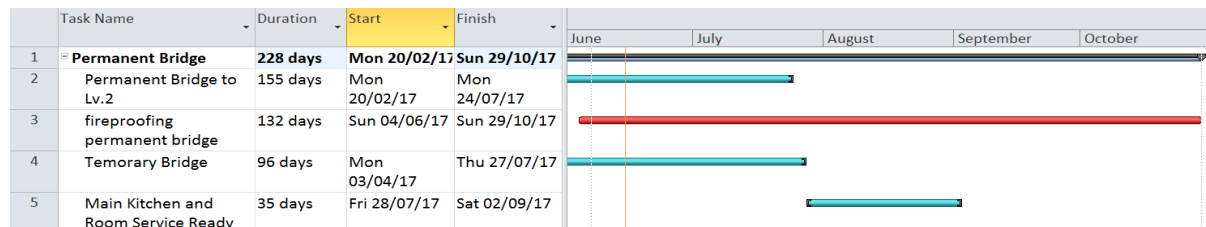


Figure 19 Permanent Bridge Activity Gantt Chart

with finishing works therefore the start date of testing and commissioning activity will be shift along with a shift in the finish date of finishing works. The testing and commissioning activity will be start on 29<sup>th</sup> October 2017 and has a duration 31 days therefore, the finish date will be on 28<sup>th</sup> November 2017. The remaining works schedule is representative of the overall schedule therefore, the overall schedule will be finish on 28<sup>th</sup> November 2017. Others activity in the gantt chart is parallel activity so, there is no link between activity except finishing works and testing and commissioning activity.

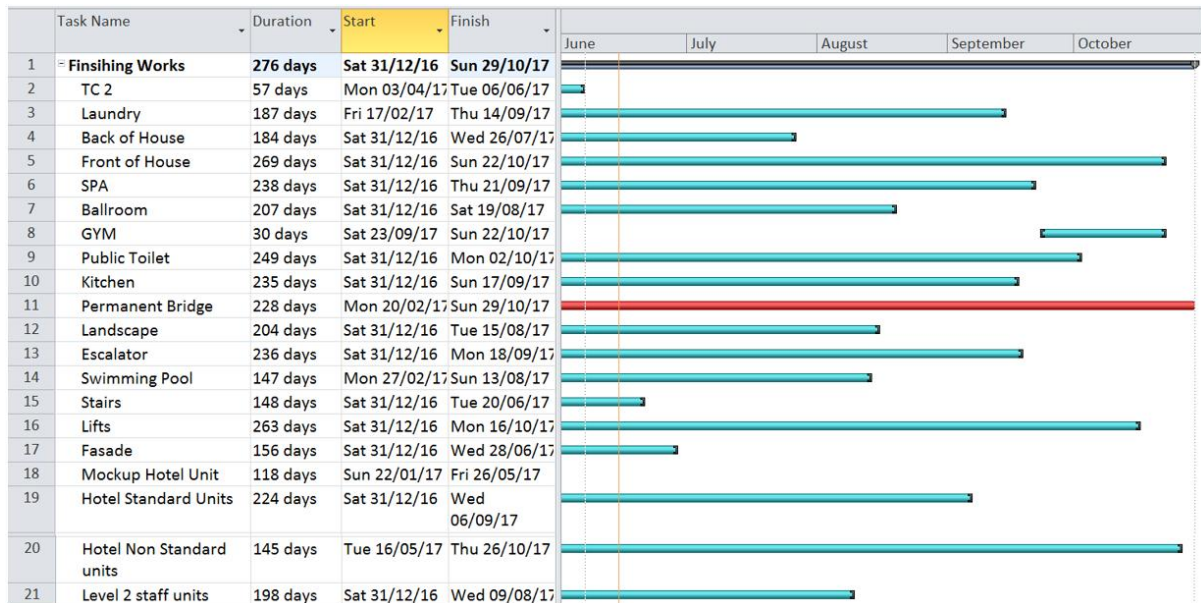


Figure 20 Finishing Works Activity Gantt Chart

### Cost

The additional cost due to the fireproofing permanent bridge divided into three parts: raw material cost, general contractor cost and electricity cost.

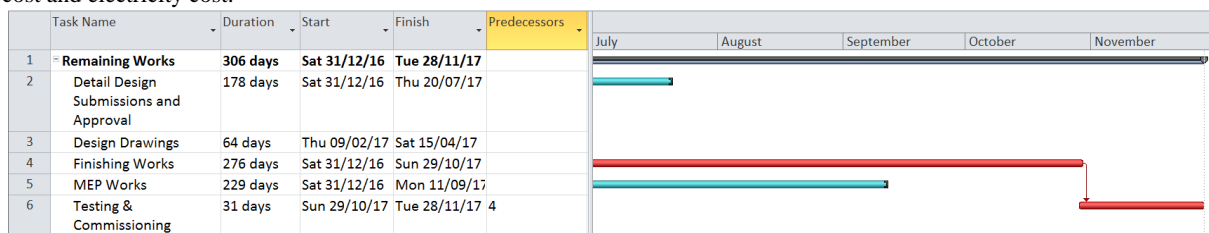


Figure 21 Remaining Works Gantt Chart

### Raw Material

To do fireproofing activity there is an essential material that needed. The material is essential so it need to be analyse because the amount of money that require to buy the material is not cheap. The essential material is fireproof paint protection. The purpose of buying this material is to minimize the risk of structure collapse when in case of fire by covering the fire protection paint to permanent bridge steels.

So, it need Rp20.000.000 to buy one cans of fireproof paint 20L. the price is not cheap because the paint has to be import from abroad and the quality of the paint already recognize.

According to expert (Mr. Sigit) as person in charge for fireproofing activity, the exact amount of paint cans cannot be determined due the steels analysis activity has not done yet. But expert assume the fireproof cans that used to paint one third of the permanent bridge between 150-175 cans but it can be more than that

No.	Item	Unit Price	Require Unit	Total Price
1	Supply Only Fire Protection Paint	Rp3.403.300	175	Rp595.577.500

Table 9 Raw Material Cost

The require unit that be used to the calculation is the highest number of requirement. The highest number of requirement is 175 cans. The unit price for each cans multiple by require unit to get the total price. The total price for supply fire protection is Rp3.500.000.000

### General Contractor Cost

To hire PT. Dwi Prakasatama Jaya, PT. Metropolitan Kentjana need to allocate several amounts of money. The previous contract PT. Metropolitan Kentjana paid Rp712.116.600 to PT. Dwi Prakasatama Jaya to do the fireproofing activity. To do the fireproofing activity in permanent bridge PT. Metropolitan Kentjana need to allocate several amounts of money because fireproofing activity in permanent bridge not included on the previous contract.

Until data collection on 6<sup>th</sup> June 2017 the amount of money that need to hire PT. Dwil Prakasatama Jaya still did not know due steels analysis activity has not done yet. assumption from expert in this research Mr. Sigit as the person in charge for fireproofing activity determine the amount of money that require to do fireproofing activity is 10% from the previous contract. The previous contract was Rp712.116.600

No	Item	Previous Contract (value)	Assumption	New Contract (Value)
1	Apply Only Fire Protection Paint	Rp712.116.600	10%	Rp71.211.660

Table 10 General Contractor Cost

With assumption 10% from previous contract, the amount of money that needed is Rp71.211.660 the assumption come from the scope of the works because the labor paid from what they achieve not duration of the works.

#### Electricity Cost

Electricity cost is a part of hotel construction operating cost. The electricity cost will be determined by convert the watt of paint spray machine in to rupiah by using PLN price as a base for converting.

No	Item	Require Kilowatt	Operating Hours	Kwh Price	Total Price
1	FinishPro II 595 PC Pro Airless/Air-Assisted Sprayer	4	8	1644,52	Rp52.625
Activity duration 31 days			248	1644,52	Rp1.631.364

Table 11 Electricity Cost

Using PLN price as a based to determine (L) category for Kwh price. The Kwh price is Rp1644,52 (listrik.org, 2017). The machine works 8 hours a day and the activity duration is 31 days. 31 days get from fireproofing execution activity plus finishing & MEP installation activity in fireproofing permanent bridge activity in figure 1. The total cost for electricity is Rp1.631.364

#### Total Cost

So, by sum raw material, general contractor and electricity cost the total cost can be known. The additional total cost because of fireproofing permanent bridge is  $Rp595.577.500 + Rp71.211.660 + Rp1.631.464 = Rp668.420.524$

## CONCLUSIONS

#### Scope

The permanent bridge will be cover with fire protection paint. All side of steels that support the permanent bridge will be paint by fire protection paint. The hotel construction project package just requires one third of permanent bridge that should be finish before the hotel open. Therefore, the fireproofing permanent bridge will be added into the whole project scope.

#### Schedule

The fireproofing permanent bridge will take 133 works days and will be finished on 29 October 2017. Fireproofing permanent bridge activity will be added to permanent bridge activity. Because of that, the permanent bridge activity will be finish on 29<sup>th</sup> October 2017. It makes the fireproofing permanent bridge is a critical activity for permanent bridge activity. Permanent bridge activity is one of the activities inside finishing works activity. Due to the fireproofing permanent bridge activity, finishing works will be finish on 29<sup>th</sup> October 2017. Remaining schedule is one of the major activity in remaining schedule. Remaining schedule is a series of works that has not finish or start from 3<sup>rd</sup> April 2017. Therefore, the finish date of reaming works schedule will be the finish date of the whole schedule. The remaining works will be finish 28<sup>th</sup> November 2017. The finish date shift from 25<sup>th</sup> November to 28<sup>th</sup> November 2017 due to the delay in finishing works activity. So, the hotel construction project will be finish on 28<sup>th</sup> November.

#### Cost

The additional cost devided into three parts. Raw material, General Contractor Cost and Electricity cost. Total for additional fireproofing cost is: Rp. 668.420.524

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## QUEUE SYSTEM ANALYSIS IN BPJS KESEHATAN KANTOR CABANG UTAMA BANDUNG

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### EXTENDED ABSTRACT

Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS Kesehatan) is public legal entity that directly responsible to the Indonesia's President and has a duty to organize national social assurance for all citizens of Indonesia. Queues are often encountered in BPJS Kesehatan. Their customer have to be waiting although waiting is something that spend so much time and energy. There are some research that said waiting can cause stress and anxious. It will caused lower customer satisfaction. This study is purposed to analyze the queue system in BPJS Kesehatan Kantor Cabang Utama Bandung especially in "peserta mandiri" counter. The types of data used quantitative data. Analysis process is calculated by using Microsoft Excel Operation Management Software. The data was collected through of interviews to the management of BPJS Kesehatan Kantor Cabang Utama Bandung and Observation of arrival rate and service rate in BPJS kantor Cabang Utama Bandung. In this research is used the analysis of multiple lines queuing system. The result of this research to show how the performance of the existing queuing system was not optimal, because there are some customer that still queueing especially in Information and Customer Service Counter because the customer must waiting for 57.954 minutes from 10 minutes standard waiting time in BPJS Kesehatan Kantor Cabang Utama Bandung. So, the researcher suggest BPJS Kesehatan Kantor Cabang Utama Bandung to add 1 (one) more counter for Information and Customer Service Counter so the average waiting time for customer will become 2.1894 minutes.

**Keywords:** : *BPJS Kesehatan, queueing system, multi-channel queue model (M/M/S)*

### INTRODUCTION

Health is important part of people's welfare. Health service is a fundamental right of the community whose the operations must be administered by the government in accordance with Undang-Undang Dasar 1945. Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS Kesehatan) is public legal entity that directly responsible to the Indonesia's President and has a duty to organize national social assurance for all citizens of Indonesia especially for Civil servants (Pegawai Negri Sipil), the recipient of the pension of Civil Servants, and POLRI/TNI (Polisi Republik Indonesia/ Tentara Nasional Indonesia), Veteran, Pioneer of Independence and their family, another business entity or ordinary citizens (Peserta Mandiri).

BPJS Kesehatan Kantor Cabang Utama Bandung have a high arrival especially in information and customer service counter for Pekerja Bukan Penerima Upah (PBBPU) or "Peserta Mandiri". There are some long queue of customer that wait to be served in BPJS Kesehatan Kantor Cabang Utama Bandung even BPJS Kesehatan Kantor Cabang Utama Bandung have 10 minutes standard of waiting time for their customer. Because of that long queue, the customer of BPJS Kesehatan Kantor Cabang Utama Bandung have to wait for longer time and the idle time for the counter guard will be really low. If the customer must wait for a long time, it will lower the customer satisfaction of BPJS Kesehatan Kantor Cabang Utama Bandung. Because of that, the resercher want to analyze the queue system information and customer service counter for Pekerja Bukan Penerima Upah (PBBPU) or "Peserta Mandiri" and give some suggestion to the queue problem in information and customer service counter for Pekerja Bukan Penerima Upah (PBBPU) or "Peserta Mandiri".

### LITERATURE REVIEW

Multi Chanel Queue Model usually found in the bank. A common path is created and the customer in leading line will firstly serve by the customer. Multi Chanel Queue model assumption that arrival pattern follow poisson distribution and service time follow negative exponential distribution. arrival serve as First-come, First-served, and every service station have the same service level. (Heizer and Render, 2006)

Research from Petrus Lajor Ginting (2013) with the title “Analisis Sistem antrian dan Optimalisasi Layanan Teller pada Bank X di Kota Semarang”. The objective of this research is to identify the optimal teller in Bank X in Semarang city because the researcher find that the teller in Bank X Semarang City is only five teller but the transaction that the teller must do is very much. The results showed that the model of the queue used by Bank X is a queue model of Multi Channel - Single Phase by applying queuing discipline namely First Come - First Serve ( FCFS ). From the research, optimal number of tellers in providing customer service is by adding 2 - 5 tellers to the ones originally amounted to only 5 tellers. And the result of calculation shows that the queue waiting time which is originally 5.41 minutes turns to be 4.00 minutes.

Research about the application of queue theory ever done by Wallace Agyei, Christian Asare-Darko, Frank Odilon (2015) with the title “Modelling and Analysis of queueing System in Banks: (A case Study of Ghana Commercial Banks Ltd. Kumasi Main Branch”. The objectives of this research are to analyze the effect of queue theory and the goal of the queue analysis is therefor to strike a balance between minimize the economic cost to the system and provision of satisfactory and reasonable quick services. The analysis processes calculate by TORA Optimization software. This Research use Multi Channel Queue Model and economics analysis of queueing system. This Research find that the usage of 3 teller in of Ghana Commercial Banks Ltd. Kumasi Main Branch and at the end of the reseach, the management should adopt a five teller model to reduce total economics cost and increase customer satisfaction.

## METHODOLOGY

This research held in BPJS Kesehatan Cabang utama Bandung which is located at Pelajar Pejuang 45 street, Turangga, Bandung, Bandung City, West Java 40264. The time of the reseach is in April 2017 from 08.00 AM until 16.00 PM. The Data retrieval is doing for one month from Monday until Friday on the working days. The types of data used quantitative data

In the process when served the customer, Information and Customer Services in BPJS Kesehatan Cabang Utama Bandung use multi-Channel queue model. It means that there are more than one counter and there are one phase for the customer to get served by the counter guide. Because of that reason, to optimize the process in every counter can use queuing formula for Model B (M/M/S) as follows:

The probability that there are zero people or units in the system is

$$P_0 = \frac{1}{\left[ \sum_{n=0}^{M-1} \frac{1}{n!} \left( \frac{\lambda}{\mu} \right)^n \right] + \frac{1}{M!} \left( \frac{\lambda}{\mu} \right)^M \frac{M\mu}{M\mu - \lambda}} \quad \text{for } M\mu > \lambda$$

The average number of people or units in the system is

$$L_s = \frac{\lambda \mu \left( \frac{\lambda}{\mu} \right)^M}{(M-1)!(M\mu - \lambda)^2} P_0 + \frac{\lambda}{\mu}$$

The average time a unit spends in the waiting line and being serviced (namely, in the system) is

$$W_s = \frac{\mu \left( \frac{\lambda}{\mu} \right)^M}{(M-1)!(M\mu - \lambda)^2} P_0 + \frac{1}{\mu} = \frac{L_s}{\lambda}$$

The average number of people or units in line waiting for service is

$$L_q = L_s - \frac{\lambda}{\mu}$$

The average time a person or unit spends in the queue waiting for service is

$$W_q = W_s - \frac{1}{\mu} = \frac{L_q}{\lambda}$$

Where:

M : Number of Channels open

$\lambda$  : average arrival rate

$\mu$  : average service rate at each channel

All the calculation of the primary data that already collected in this research will use manual way and use Microsoft Excel Operation Management Software. After do some analysis and interpretation for the existing output for determining the amount of the counter of every situation so the company can give the optimal service to their customer.

## FINDINGS AND ARGUMENT

To do some analysis, the researcher must know about the queue performance of the object, in this case is BPJS Kesehatan Kantor Cabang Utama Kota Bandung. Some important things that the researcher must know are number of Channels open (M), average arrival rate ( $\lambda$ ), and average service rate at the channel ( $\mu$ ). The value was derived from the result of the observation.

The counter that served for information or customer service is 2 (two) so the number of channel open (M) for information or customer service. the average arrival rate ( $\lambda$ ) is 19,03472222 or 19 customers. BPJS Kesehatan Kantor Cabang Utama Bandung has average service time for Information and Customer Service is 6 minutes because they must give some specific information. Customer that come to Information and Customer Service Counter in BPJS Kesehatan Kantor Cabang Utama Bandung are usually asking about the requirement to do registration in BPJS Kesehatan, payment status, and membership status in BPJS Kesehatan. So, the average service rate at the channel ( $\mu$ ) are 10 customers. That Value is coming from

$$\frac{1 \text{ customer}}{6 \text{ minutes}} \times 60 \text{ minutes} = 10 \text{ customers per hour}$$

Because the queue system that applied in BPJS Kesehatan Kantor Cabang Utama Bandung is multi-channel queue system so the queue system analysis use Model B queue model (M/M/S). The next value that the researcher must calculate are utilization factor for the system ( $\rho$ ), The probability that there are zero people or units in the system (P0), The average number of people or units in the system (Ls), The average time a unit spends in the waiting line and being serviced (Ws), The average number of people or units in line waiting for service (Lq), The average number of people or units in line waiting for service (Wq). There are two kind of counter for peserta mandiri in BPJS Kesehatan Kantor Cabang utama Bandung. The counter are Information or Customer Service Counter and Mutation or Data Changed Counter. For calculating that value, the researcher use Excel Operation Management Software and the following is the result of calculation of the data:

**Table of Result of Data Calculation of One Month Observation in Information or Customer Service Counter**

Variable Name	Calculation Result
$\lambda$	19,03472222
$\mu$	10
M	2
$\rho$	95,17%
P0	0,02473
Ls	20,20706
Ws	1,06159
Lq	18,30359
Wq	0,96159

*Source: Calculation Using Microsoft Excel*

From the Table 4.12, we can analys that BPJS Kesehatan Kantor Cabang Utama Bandung have 2 counter in Information and Customer Service with average arrival rate ( $\lambda$ ) in BPJS Kesehatan Kantor Cabang Utama Bandung is 19,03472222 or 19 customers and the average service rate at the channel ( $\mu$ ) are 10 customers, have utilization factor for the system ( $\rho$ ) is 95,17% from their working time. That value is near 100% and it means that the queue in Information and Customer Service Counter is long and the counter guard do not have enough time to idle from their working time.

Because of the arrival rate is high, the probability that there are zero people or units in the system (P0) is low. From the calculation in the table above, the probability that there are zero people or units in the system (P0) is 0,02473 or 2,47%. It showed that the probability that there are no customer in the system is 2,47%.

The average number of people or units in the system (Ls) is 20,20706. It means that the number of the customer in the system (customer that wait in the queue line and the customer that being served) is 20 customer. The average time a unit spends in the waiting line and being serviced (Ws) is 1,06159 hours or 63.6954 minutes. It means that the customer spend for 1 hour and 3.6954 minutes in the system. After that, ther researcher do some evaluation of queue system in Information or Customer Service BPJS Kesehatan Kantor Cabang Utama Bandung.

**Table of Result of Data Calculation of One Month Observation in Information or Customer Service Counter (using three counter)**

Variable Name	Calculation Result
---------------	--------------------

$\lambda$	19,03472222
$\mu$	10
M	3
$\rho$	63,45%
P0	0,12723
Ls	2,59802
Ws	0,13649
Lq	0,69455
Wq	0,03649

Source: Calculation Using Microsoft Excel

We can see that with additional one counter from 2 counter into 3 counter, it will decrease the utilization factor for the system ( $\rho$ ) from 95,17% into 63,45% respectively. It means that the queue become not as longer as before and the counter guard can have some idle time especially on Monday when the arrival rate was high.

The average number of people or units in the system (Ls) will be decreased to from 20,20706 or 20 customers becomes 2,59802 or 2 customer. The average time a unit spends in the waiting line and being serviced (Ws) will be decreased to from 1.06159 hours or 63.6954 minutes into is 0,13649 hours or 8.1894 minutes. It means that the customer spend in the system will be decreased from 63.6954 minutes into 8.1894 minutes.

The average number of people or units in line waiting for service (Lq) decreased from 18,30359 or 18 customers into 0,69455 or 0 customer. And the average time a person or unit spends in the queue waiting for service (wq) will be decreased from 0,96159 or 57,6954 minutes into 0,03649 hours or 2.1894 minutes. It faster than 10 minutes standard of waiting time in BPJS Kesehatan Kantor Cabang Utama Bandung and it means that 3 counter is the optimal number of counter for Information or Customer Service Counter in BPJS Kesehatan Kantor Cabang Utama Bandung because it can fulfill the service standard of BPJS Kesehatan Kantor Cabang Utama Bandung.

## CONCLUSIONS

From the research that has been conducted, the researcher can conclude that:

Queue system performance in BPJS Kesehatan Cabang Utama Kota Bandung was not optimal because there's still some queuing in Information and Customer Service counter and the customer must wait until 57.954 minutes from 10 minutes standard waiting time in BPJS Kesehatan Kantor Cabang Utama Bandung. From the evaluation of the queue system in Information and Customer Service Counter, The researcher suggest to add one more counter in Information and Customer Service counter so the average waiting time for customer will become 2.1894 minutes and the customer do not need to wait for a long time to be served.

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## IMPROVEMENT OF FOOD-INVENTORY MANAGEMENT USING CONTINUOUS REVIEW SYSTEM IN RESTAURANT

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### EXTENDED ABSTRACT

This research was aimed to analyze the inventory issue in a restaurant warehouse. The main objective of this research is to achieve the optimum level of inventory and achieve the solution for inventory control. For this research, we use a quantitative method to collect the inventory historical data of Tjikinii Lima from November 2016 until April 2017. The data contain information of 120 item of dry foods. The collected data was analyzed using continuous review system, Economic Order Quantity (EOQ), Reorder Point (ROP), Average Inventory Level (AIL), and ABC Classification. By using continuous review system, the restaurant inventory was calculated to compare the ideal and actual amount of average inventory level. From the analysis, we have discovered that the restaurant has a potential to reduce almost Rp17 Million or 51% of the inventory value. We also classified the items with ABC classification to make the inventory easier to control and this research can be as a guide to the restaurant management for making the policy.

**Keywords:** Continuous Review System, Inventory Control, Inventory Management, Restaurant, AIL

### INTRODUCTION

Foodservice industry is one of the most consistent growth industries that consist of many diverse operations that provide foods and drinks (Kotschevar & Withrow, 2007). The operation is the best way to get higher progress in food service industry. All employees have an important role and same responsibility in food service industry (Reynolds et al., 2013). There are three operation areas in food service industry includes; front of house, back of house and office. In order to control the revenue stream, food cost also needs to be controlled (Kotschevar & Withrow, 2007). According to Kotschevar and Withrow (2007) and Brown (2006), food cost in restaurant are 30% to 35% from sales and labor cost also 30% to 35% from sales. Meanwhile, the average profit of restaurant industry is small, ranged 3% to 7% (Kotschevar & Withrow, 2007) and (NRA, 2008).

Purchasing function in restaurant company has an important role in determining food cost. They have to determine the factual cost, quantity, quality and also the supplier. Thus, the absence of purchasing role, can make the food manager have difficulties in controlling the food cost. There are several factors that make food cost are high, including; incorrect purchasing, poor inventory control, inaccurate forecasting, lack of menu portioning, and poor in decisions menu items (Kotschevar & Withrow, 2007). Problems in food service inventory are related to inaccuracy in determining when to order and how much to purchase (Farsad & LeBruto, 1993). Determining correct inventory is challenging, especially since there are several factors that depend on determining inventory level. Those factors include; correct forecasting of sales, maintaining receiving, storing, supplier reliability and efficiency, correct predicting consumer wants, and knowledge and application of menu items (Farsad & LeBruto, 1993).

Tjikinii Lima is a casual dining restaurant in Jakarta. Tjikinii Lima officially started the operation since October 2016. In Tjikinii Lima, there are 56 menus of food and 54 menus of drink. From October 2016, this restaurant has an increasing sale in each month, however the food cost is relative unsteady. Currently, Tjikinii Lima has a target to record 27% margin of food cost to total sales. In October, the margin of food cost to total sales was 31%, in November was 26%, in December was 31%, in January was 27%, in February was 36%, and in March was 22%. In general, Tjikinii Lima's food cost is still above the target. In addition, the unstable inventory level

of food items also affected Tjikinii Lima's profit for last 6 months with the average profit has only 10% of total sales.

In this research, we want to solve the inventory problem that caused the high food cost, by means of the inventory management technique such as Economic Order Quantity (EOQ), reorder point (ROP), safety stock (SS), average inventory level (AIL) and inventory control in Tjikinii Lima using continuous review system. The objectives of this research are to achieve an optimum level of inventory, achieve the effective time to order inventory items, reduce the operating cost and prevent the out of stock, analyze the average inventory level, and achieve the solution for inventory control.

## **LITERATURE REVIEW**

### **Restaurant**

Restaurant is a business licensed by a government agency to provide and sell food or drink for people away from home. This business equipped with equipment to process; production, storage, and serving the food or drink (Ministry of Finance of the Republic of Indonesia, 2012). The meaning of restaurant comes from French in mid-1700s that meaning "restore energy" and now the word of restaurant covers of all foodservice operation (Reynolds et al., 2013).

### **Economic Order Quantity and Average Inventory Level**

According to Heizer and Render (2011), Economic Order Quantity (EOQ) is the old technique to maintain the inventory level. This method is easy to use but it has to base on the several assumptions, such as: (1) the demand is known and tends to constant; (2) lead time, which is the time between ordering and receiving, is known; (3) inventory items from an order arrives in one batch at one time; (4) there is no quantity discount; (5) the only variable cost are cost of placing an order (ordering cost) and cost of holding the inventory over time (holding cost); (6) there is no out of stock if order item at the right time. According to Hansen and Mowen (2005), EOQ is a push inventory system. In this system, inventory is provided to anticipate the demand and to prevent the out of stock. According to Heizer and Render (2011) average inventory level (AIL) is the number of average stock from order quantity. Meanwhile, in the continuous review system the number of average inventory level formula is from the average of order quantity plus safety stock.

### **Reorder Point, Lead Time, and Safety Stock**

Reorder Point (ROP) is a point in time which determine when new order must be done (Hansen & Mowen, 2005). According to Heizer and Render (2011), ROP is an inventory method to determine when to order which they assume; the firm will place an order when the inventory level want to reaches zero and the firm will receive the ordered items. However, the time between place an order and receive the order is called lead time. Lead time is a required time to receive an economic order quantity after place an order (Hansen & Mowen, 2005). The equation for ROP assumes that demand during lead time and lead time are constant which not include the safety stock (Heizer & Render, 2011). Safety stock (SS) is an extra stock to allow for unequal demand (Heizer & Render, 2011). In addition, Assauri (1998) also say that safety stock is an extra stock to keep a stock from stock out.

### **Inventory Management under Uncertainty**

According to Fitzsimmons, Fitzsimmons, and Bordoloi (2006), the simple EOQ is not consider the uncertainties demand rate. This uncertainty may risk of out of stocks during the lead time. Since the demand rate in foodservice industry is not constant, maintaining safety stock is the big issues that a manager must handle to minimize the risk of out of stock in foodservice environment (Farsad & LeBruto, 1993). The key to maintain inventory management under uncertainty is a service level. Service level is define as policy of a percentage demand in lead time to maintain stock out in inventory (Fitzsimmons et al., 2006). Service level is the complement of stock out probability that manager concern to face of uncertain demand (Heizer & Render, 2011).

### **Inventory Control System**

Inventory system control the level of inventory to determine how much to order and when to order. There are two basic inventory control system: a continuous review system ( $Q$ ,) and periodic review system (Order-Up-To) (Fitzsimmons et al., 2006). In this paper, we only focus on continuous review system. This system referred as a

fixed-order-quantity system. Whenever the inventory level reaches the ROP level, a new order is needed with fixed amount of EOQ (Fitzsimmons et al., 2006). To able to control the inventory, we need to know the characteristic of the inventory whether it is dependent demand inventory or independent demand inventory. In this research we focus on independent demand inventory and the inventory control model in this research will be continuous review system.

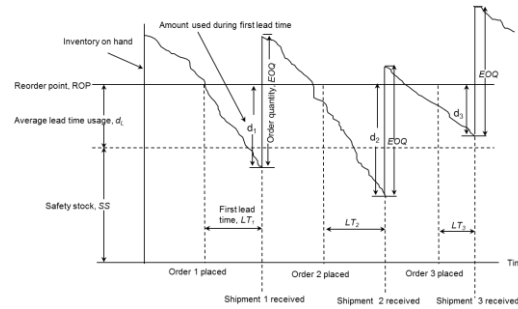


Figure 1. Continuous Review System

## METHODOLOGY

The research was conducted using the quantitative method. This method is used to collect the inventory historical data of Tjikinii Lima from November 2016 until April 2017. The data contains information of 120 item of dry foods. The collected data was analyzed using continuous review system, EOQ, ROP, AIL and ABC Classification. The ABC classification technique, classified three groups based on cumulative average inventory level cost. Based on policy in the restaurant, class “A” contains 15% of dry foods that consume 50% of AIL costs, class “B” contains 35% of dry foods that consume 35% of AIL cost, and class “C” contains 50% of dry foods that consume 15% of AIL costs. For the continuous review system calculation, the EOQ, ROP, SS, and AIL was calculated using:

$$EOQ = \sqrt{\frac{2DS}{H}}$$

$$ROP = SS + \bar{d}L$$

$$SS = Zr\sigma\sqrt{L}$$

$$AIL = \frac{Q}{2} + SS$$

Equation 1. Calculation for Continuous Review System

Whereas;

$D$  = Annual Demand

$S$  = Setup Cost

$H$  = Holding cost

$\bar{d}$  = Average Demand per period

$L$  = Lead Time

$Zr$  = Service Level Constant

$\sigma$  = Standard deviation of demand

To analyze the data, first, we observed the historical data from November 2016 until April 2017, and we calculated the existing data by means of EOQ, ROP, SS, AIL using continuous review system. Then, we classified the data into ABC classification.

## FINDINGS AND ARGUMENT

In this restaurant, there are 120 types of dry foods. The historical data of this inventory is available in 6 months (November 2016-April 2017). The lead time for dry foods in restaurant is 1 – 2 days depend on the items. In this research, we assume that lead time is one day by following the average lead time for all items. According to

Heizer and Render (2011), holding cost inventory is assumed as 25% of the item's price. The setup cost is Rp5000 and service level in the restaurant is 95% to prevent the company from stock out. In the current practice, Tjikinii Lima already has a procurement procedure for dry food items. The policy made by purchaser is based on the minimum order price and minimum order quantity from the suppliers. Store-man has an important role to keep record the items and order to purchaser when the items in the warehouse reach the minimum level, which policy made by the management. Because of that, there are lot of excessive dry food stock in the warehouse. To know the optimum level of inventory in this restaurant, we calculated the data using the formulation theory. The following table is examples of calculation of the 10 random items.

Items	Average	EOQ	ROP	SS	Lead Time	Price	AIL Ideal	AIL Actual	GAP	GAP	Status
	Unit	Unit	Unit	Unit	Month	(IDR)	(IDR)	(IDR)	(IDR)	(%)	
Minyak Goreng Bimoli	12.83	2.00	3.00	2.00	0.0333	237,000.00	711,000.00	1,896,000.00	1,185,000.00	167%	Overstock
Coffee Bean Bitter & Sweat	8.83	2.00	2.00	1.00	0.0333	240,000.00	480,000.00	1,440,000.00	960,000.00	200%	Overstock
Gulaku	78.67	14.00	10.00	7.00	0.0333	17,500.00	245,000.00	735,000.00	490,000.00	200%	Overstock
Fresh Milk Diamond	118.00	20.00	17.00	13.00	0.0333	12,872.00	296,056.00	450,520.00	154,464.00	52%	Overstock
Kacang Tanah	0.17	1.00	2.00	1.00	0.0333	11,000.00	16,500.00	55,000.00	38,500.00	233%	Overstock
Mie Telor 3 Ayam	46.00	22.00	6.00	4.00	0.0333	3,850.00	57,750.00	38,500.00	(19,250.00)	-33%	Understock
Sunquick Lemon	4.67	3.00	2.00	1.00	0.0333	38,500.00	96,250.00	-	(96,250.00)	-100%	Understock
Maizena	6.00	5.00	2.00	1.00	0.0333	15,000.00	52,500.00	15,000.00	(37,500.00)	-71%	Understock
Monin Tiramisu	0.67	2.00	2.00	1.00	0.0333	121,000.00	242,000.00	242,000.00	-	0%	Normal
Garlic Powder	0.50	1.00	2.00	1.00	0.0333	40,000.00	60,000.00	360,000.00	300,000.00	500%	Overstock

Table 1. Calculation Example of 10 Items of Restaurant Inventory

The table above shows that the optimum order (EOQ) for Gulaku is 14 units where the reorder point (ROP) is when the Gulaku reach 10 units in the warehouse and the safety stock (SS) of Gulaku is 7 units. From table 1 also we can see that Monin Tiramisu in the restaurant has a value of Rp242.000 whereas the ideal condition is also Rp242.000. This condition occurred because that items was in optimum level of inventory. This situation can be classified as normal item. Meanwhile, Minyak Goreng Bimoli in the restaurant warehouse has a value Rp1.896.000 whereas the ideal condition is only Rp711.000. This condition occurred because of Minyak Goreng Bimoli has less demand than the available stock in the warehouse. The state is similar with Coffee Bean Bitter & Sweat, Gulaku, Fresh Milk Diamond, Kacang Tanah, and Garlic Powder. That items can be classified as an overstock items. In the meantime, for Sunquick Lemon item in the restaurant warehouse has a value Rp0 whereas the ideal condition is Rp96.250. This condition occurred because of Sunquick Lemon has greater demand than the available stock in the warehouse. The situation is similar with Mie Telor 3 Ayam and Maizena. This condition is classified as an understock items.

In general, the characteristic of inventory in this company is divided into 3 statuses, which are normal, overstock, and understock. There are 7 items (6% of total items) was normal, 83 items (69% of total items) was overstock, and 30 items (25% of total items) was understock. The company is currently facing the overstock situation. Based on the value of money (IDR / Indonesian Rupiah), currently the restaurant spent Rp33.634.511 to store items in company's warehouse whereas in the ideal condition, the restaurant supposed to spent only Rp16.618.878 for stocking goods in the inventory. Therefore, the restaurant has a potential to save Rp17.015.632 (51%) of the actual inventory value. The comparison is shown in figure 2 below.

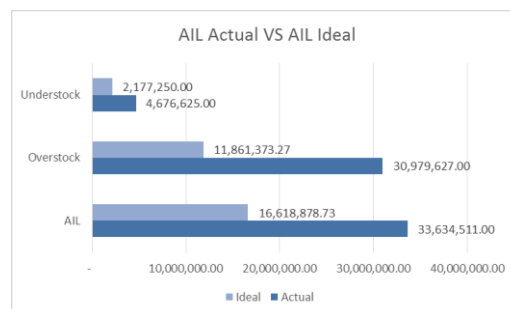


Figure 2. Value of Money and Ideal Condition Comparison Based on Status

In order to simplify the system and to improve the efficiency of the inventory control, the researcher conducts the ABC Classification analysis. Based on the restaurant policy, the items classified into class "A" are items that

contains 15% of dry foods and consume 50% of AIL costs, class “B” contains 35% of dry foods and consume 35% of AIL cost, and class “C” contains 50% of dry foods and consume 15% of AIL costs. To make the classification of the inventory, we sort the list of actual AIL (IDR) from the largest to the smallest, then calculate the value until reached the specific value as shown in table 2. In addition, the examples of ABC classification is shown in table 3 below.

Table 2. Restaurant Inventory ABC Classification

Class	Total Items	AIL (IDR)
A	18	17,058,585.00
B	42	12,602,442.00
C	60	3,973,484.00

Table 3. ABC Classification Examples of 6 Items of Restaurant Inventory

Items	Class	Status
Monin Peach	A	Overstock
Mayonnaise Best Food	A	Overstock
Susu Coklat Kental Manis	B	Overstock
EQUIL Sparkling	B	Overstock
Lea & Perrins Sauce	C	Normal
Mie Telor 3 Ayam	C	Understock

From table 2, we can see that class A contains 18 items, class B contains 42 items, and class C contains 60 items. Meanwhile, table 3 shows the examples of items appropriate to the classes. From the table we can see the example of 6 dry food items, which are Monin Peach and Mayonnaise Best Food that classified into class “A”, Susu Coklat Kental Manis and EQUIL Sparkling classified into class “B” and Lea & Perrins Sauce and Mie Telor 3 Ayam classified into class “C”. After we classified the items, we use the data to make an inventory control system. The system is used by the store-man to perform the daily check for the selected items. From the calculation, there are 3 items belongs to class “A”, 4 items of class “B” and 4 items of class “C” that should be checked per day. Thus, in total the store-man should check 11 items every day. According to the management in Tjikinii Lima, the restaurant is already applying the IT system for the inventory control. Therefore, this method is very applicable to implement.

## CONCLUSIONS

To conclude, the restaurant has a potential to save the inventory cost as much as Rp17.015.632 (51%). The research also shows that the restaurant did not have a system for inventory control. The restaurant can use the continuous review system with ABC classification to control the inventory level. Based on the data, the restaurant can control the inventory by checking 11 items per day. Those items are 3 items that belongs to class “A”, and 4 items from class “B” and class “C”.

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# THE CREATION OF BUSINESS INNOVATION: UNDERSTANDING THE ENTREPRENEURIAL HUMAN CAPITAL FOR WOMEN ENTREPRENEURS

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## EXTENDED ABSTRACT

Based on the data published by BPS (Central Bureau of Statistics), the total number of men entrepreneurs is still higher than the women entrepreneurs. This fact occurs since women entrepreneurs have to face obstacles, such as financial access, networking, government policies, cultures and many more. In this sense, it is more difficult for them to enter the field compare to men entrepreneurs. However, there are numbers of successful women entrepreneurs who have been built great companies. In fact, they have certain characteristics of human capital which support them in creating business innovation. The entrepreneurial human capital (EHC) is the key elements for entrepreneurs in generating ideas for innovations. For women entrepreneurs, the EHC can be their entrance to the field and overcome the impediments such as access to financial institutions, networks and low level of education. By using the EHC, they will be able to identify the opportunities to be innovate in terms of goods and services, resources, methods or new business units. There are fewer researches have done study of the EHC in details. Most of the researches are only discussed about education and training which less specific for entrepreneurs. Consequently, this paper aims to explore the EHC of women entrepreneurs in enhancing the creation of business innovation. By using the literature reviews, this study identifies the EHC, the development of women entrepreneurs and the relation between the EHC and the innovation.

**Keywords:** human capital, entrepreneurial human capital, woman entrepreneur, innovation

## INTRODUCTION

The human capital which is generally explained as education and training is very critical in this dynamic and competitive business environment. The environment which serve a stiff competition requires individual with best quality in order to win the competition. Therefore, the human capital which is the intangible investment embedded in the individual become important. Becker (1964 as cited in Margaret, 2008) states that individual who has higher human capital will likely perform better result for the tasks. The individual with good human capital has ability to process information regarding business by identifying opportunities and counting the risks faced. In this sense, the individual knows exactly the execution for the business.

In the past, the discussions of human capital are related to employees and work performances. As asserted by Becker (1992), the investment of human capital will determine the income of the individuals. Then, it is realized that human capital is embodied to every individual (Schultz, 1961). This means it also exists in those who are not working in the company. The individuals who work as self-employers or entrepreneurs also have the human capital. The difference among them is only the quality level of human capital of oneself to the others.

Recently, the dialogues of human capital is expanded to other fields, including the entrepreneurial field. William (2004, as cited in Jones and Jayawarna, 2012) explains that individual with higher quality level of human capital is more able to utilize resource for business. This indicates that an individual who has good human capital is better to earn income by working independently, rather than having a salary as an employee. It is better to be entrepreneurs rather than to be workers. In fact, the recognition to become entrepreneurs increase significantly in most part of the world. According to GEM (Global Entrepreneurship Monitor, 2014), the Total Early-Stage Entrepreneurship Activity (TEA) rates have risen by 7% since 2012. This expresses that many people are trying to create new businesses.

The increase of the total number of entrepreneurship indicates that entrepreneurship has demonstrated certain benefits that attract people. One of the benefits is its critical roles for the economic development of a region. Lambing and Kuehl (2000) state that entrepreneurship has become a major source of vitality in today's world economy. In fact, it supports the economic growth of nations during economic crisis (Kritikos, 2014; Paul and Sarma, 2013; Thurik, 2014; Uzunidis, Boutillier and Laperche, 2014). In developed countries, the entrepreneurship practice increases because the change of business practices for massive downsizings executed by large companies. Those who impacted from layoffs realize that being an entrepreneur is a good option to earn income (Lambing and Kuehl, 2000). Thus, entrepreneurship is a choice to solve the unemployment problems while at the same time it gives job opportunities to others.

Another advantage of entrepreneurship is displayed when monetary crisis hits the Asian region, including Thailand, Malaysia, Indonesia, Phillipines and South Korea, in 1997. Many big companies collapsed since their financial infrastructures were actually weak. They were strong from loans and debts which essentially vulnerable for the business health. On the contrary, it less happen to independent businesses called entrepreneurship. In countries which experienced crisis like Indonesia, only the independent business which had no loan to the bank that could survive. Although the business were small and medium size, they were strong in natural and financial resources since the resource were self-funded. Therefore, they had zero impact from the monetary crisis. In fact, they gained profit from the different monetary rates. As Uzundis, et.al. (2014) state that entrepreneurship generates economic development through innovation during the crisis period. The entrepreneurship allows and assits the people to find solution for the problem risen during the crisis.

The existant of entrepreneurship is crucial because it has a gap filler and input complemener functions (Rachbini, in Iwantono, 2002). As a gap filler, an entrepreneur can link the opportunity of business and the reality of business, such as resources, consumers, competitions, etc. Besides that, an entrepreneur can utilize opportunity according to the market by producing goods and services. It shows that entrepreneurship has certain role in supporting the activity in the business. Indeed, it is also influenced the achievement of economics in a nation. It is stated that, a nation has to have 2,5% of entrepreneurs in order to have a developed economics (Rachbini, in Iwantono, 2002). For Indonesia with the total population of around 240 millions people, it means there should be at least 6.25 millions of entrepreneurs. However, the total actual number of entrepreneurs is still low.

According to BPS (2014), the number of entrepreneurs in Indonesia is still dominated by men. The men entrepreneurs is around 51 percent of the total entrepreneurs in Indonesia. However, there is a stagnant number of men entrepreneurs from November 2013 to May 2014, while there is a slightly increase of 2% for women entrepreneurs for the same time. This gap is also the fact occurs in the world. As stated by Ascher (2012) that the gap between men and women entrepreneurs is still large. It is because the entrepreneurial field is perceived as a masculine field (Adler, 2002, Bekele and Worku, 2008; Kinyanjui, 2008; Elam and Terjesen, 2010, as cited in Junquera, 2011). This masculinity's view also enhances opinion regarding the ability of owning a business for a woman entrepreneur (Baron, et.al., 2001, as cited in Mattis, 2004). They think it is difficult for women to create business and develop it until success. This stereotype of masculinity arises because whoever enter this field, has to cope with hard situations, such as competition, challenging risks, opportunity exploitations, difficulty in bank loans. Nonetheless, this labelling does not make women relinquish. They do many effort to attempt the business field because they know that by having their own businessess, they can gain many benefits such as earn income, flexy time, work and life balances and many more. In this sense, the women entrepreneurs can defeat the masculinity field by their human capital.

The success of entrepreneur is not decided by the gender. Actually, it depends on how they use the capital to develop the business. Consequently, discussing the human capital specifically for entrepreneurs is important to identify factors which can support the creation and development of businesses. The entrepreneurial human capital (EHC) is the human capital specifically for entrepreneurs. It usually consists of education and trainings (Schultz, 1961; Becker 1992). The identification of EHC will be elaborated comprehensively along with the discussion of women entrepreneurs to develop their own business and create innovations to boost the business. Literature studies will enable the discussion to find the key elements for women entrepreneur in achieving successful businesses. The women entrepreneurs need neccessarily to learn the elements of EHC in order to enhance their resources in participating in the perplexing entrepreneurial field.

## LITERATURE REVIEW

When the individuals are seen as a production factor of the businesses, they are only treated in order to be productive by giving them money in terms of wages or salary. They are viewed the same like other production factors such as machines, buildings, and lands (Jones and Jayawrna, 2012). These production factors become the tangible assets of the company. Until 1950's, the economist assumed that the abiliy of worker is ready and fixed (Becker, 1992).

Nevertheless, this perspective has changed as the result of studies and thoughts of experts in business, economics, management and psychology sciences. Schultz (1962) states that the individuals are not a marketable asset. They, essentially, have knowledge and skills which embodied in themselves as intangible assests. These assets are the investment of human capital which critically principal to advance the economic development. Based on these perspectives, the theory of human capital is discussed comprehensively.

### *The Theory of Human Capital*

On early discussion, the topic of human capital is influenced from the economic perspective. Nahapiet (1998) asserts that the human capital is a term used by neoclassical economists to describe the knowledge and skills which create the economic value. Becker (1992) explains that the starting point of human capital is the assumption lies beneath it. The individuals will likely evaluate the benefits and the costs when they need to involve in education and training activities in order to obtain knowledge and skills. The benefit refers to the income earned when they use the educations and trainings for work. Meanwhile, the cost is considered as time, money and effort spent to invest in educations and trainings. The economists such as Adam Smith, Alfred Marshall and Milton Friedman had built the basic foundation to this thought (Jones and Jayawarna, 2012). However, their thought is lack in integrating the discussion between the human capital investment (education and training) and productivity (Becker, 1992). Schultz and some experts, then, start to discuss the implication of human capital investation to the economic growth and questions related to economic.

Schultz (1962) realizes that the individual is a vital part in a nation's wealth. The economist is lack in emphasizing that education and training are actually the real investments. The investment are enormous. He explained about five categories to increase the capability of individual in investing for human capital, namely healthcare, on-the-job trainings, formal educations, study programs for adults, and migration of individuals and families to adjust to changing job opportunities. It means that the five categories are the priority to be concerned in order to have high level of human capital. These categories is similar to Becker's (1992) consideration to human capital. Four factors need to be involved in relation to human capital investment, which are on-the-job trainings, schools, other knowledge and mental and physics health. This theory based on the assumption that the more individuals invest in educations and trainings, the higher their income (Becker, 2011 as cited in Sriyani, 2008). In this sense, the human capital is seen as critical to the economic growth, from the individual level up to national level. As affirmed by Becker (1992) that the individual level can be perceived through work performances, the organizational level is viewed from the productivity and revenue and the national level is identified from the quality of goods and services.

### ***The Definition of Human Capital***

Most literatures which discuss about human capital indicate it as education, knowledge and skill. OECD (2001 as cited in Sriyani, 2008) states that human capital as knowledge, skills, competencies and competencies reside in oneself in which assist the conception of personal, sosial and economic well-being. The human capital, then, determines the achievement level of personal, social and economic well-being. In addition to the definition above, Coleman (1988) and Gimeno et.al. (1997, as cited in Saffu et.al., 2008) explain that human capital is a focal basis of competitive advantage in the form of skills and abilities. The skills and abilities are acquired through education, training and experiences. In relation to skills and abilities, Shanahan and Tuma (1994 as cited in Markman and Baron, 2003, in Sriyani, 2008) explain that the abilities is things influenced by genetic factors, such as intelligent, health, personality, meanwhile the skills is linked to education, training, work experiences and interpersonal relation. In this sense, the skills embedded in individuals determine by their abilities. A person who has a higher level of intellegent will likely has a higher level of skills.

Some literatures explain that human capital consists of the general human capital and the specific human capital. The general human capital refers to common things which can be transferred to various industries and companies, such as knowledge and training used for companies (Becker, 1992), years in school and years in work (Bruederl, et.al., 1992 as cited in Sriyani, 2008), knowledge gained from education and experiences shared to others (Clausen, 2006), skills and knowledge transferable to different economy situations (Ucbasaran et.al., 2008) and knowledge, skills and experiences obtain through one's life (Brixy and Hessels, 2010). On the other hand, the specific human capital is the exclusively capital applied to certain activities such as product development (Becker, 1964 as cited in Margaret, 2008), knowledge and skills that benefit for companies (Becker, 1992), experience of specific industries, leadership experiences, experiences in a business (Bruederl et.al., 1992 as cited in Sriyani, 20008), skills and knowledge in which particularly only be used to create a new business (De Clerk and Arenius, in Clausen, 2006); skills and knowledge which less transferable and have narrow area of applications (Ucbasaran et.al., 2008); experiences related to business (Brixy and Hessels, 2010).

From the definition described above, it is clear that general human capital consists of knowledge, skills and experiences embedded in individuals which can be employed to any industrial sectors or companies. Nonetheles, Bayan (2010) states that this capital is only beneficial up to the level where it serves access to job opportunities. On the other side, this capital is less suitable for works that need certain knowledge with repetition. The specific human capital is utilized for specific industrial sectors or companies. Becker (1992) gives a clear example to understand the differences between the two. To teach an individual to operate the computer is a common knowledge, meanwhile teach an individual to understand the talent of employees in a company is a specific knowledge. Everybody will likely has general human capital, but in order to have more specialized human capital, the individuals have to study. In fact, the particular expertise is the key in today's business. Especially for men entrepreneurs, they are known for their specific business (Coughlin and Thomas, 2002). They are more expert in manufacturing, financial and technical fields. On the contrary, the women entrepreneurs in the regions with many factor-driven economies mostly run business in consumer sectors. Meanwhile the women entrepreneurs in developed countries will likely enter the business services activity (GEM, 2012). The main point is that both capital, general and specific, has its own advantages to support the development of the business because the challenge will always change since the business environment is dynamic and uncertain.

Basically, the study of human capital has been conducted through many research. It is found that the human capital study is related to companies performance (Coleman, 2005 and 2007; Saffu et.al., 2008; Sriyani, 2008), entrepreneurship (Clausen, 2006; Ruzier and Antoncic, 2007; Sluis and Praag, 2007; Ucbasaran et.al., 2008; Oong and Ismail, 2008; Brixy and Hessels, 2008; Gimmon and Levie, 2009; Bayan, 2010; Junquera, 2011; Jones and jayawarna, 2012; and Toth, 2012), sosial and personal impacts (Hartog and Oosterbeek, 2007; Lindahl and Canton, 2007; and Leuven, 2007).

To sum up, the human capital is seen as an investement in terms of knowledge, skills and experiences of the individual. It reveals that the human capital is applied to the individuals worked in the companies or self-employed. To obtain the knowledge, skills and experiences, the individuals need to involve in education, trainings and other activities that provide them with the opportunity to advance the investment. The one who have better investment will likely be able to achieve more success.

### ***The Entrepreneurial Human Capital***

The discussion of human capital is obstructed by the generalization of the meaning of human capital in all field of work. It is thought that the human capital is the same to all field of work. Therefore, it is merely about education and



training. It is lack to identified that each field has its own uniqueness in which can create the need for specific human capital. In fact, the specific human capital may become the critical point of success in certain fields. Many studies about human capital which executed in different sectors are using education and training as the measurement which might inappropriate. In this case, the specific human capital for each field need to be identified.

The human capital served for entrepreneurs is called as the entrepreneurial human capital. The entrepreneurial human capital (EHC) is defined as the set of knowledge, competences and personality attributes existed in the self that generate the creation of transforming innovation into goods and services (Junquera, 2011). Besides the competences, knowledge and personality attributes, experience (Coleman, 2007; Ucbasaran, dkk, 2007; Ong dan Ismail, 2008; Margaret, 2008) is another important capital that must embedded in entrepreneurs' individual self.

According to Johnson et.al. (2002, in Skuras, 2005), the knowledge for entrepreneur consists of four types knowledge. *Know-what* refers to facts gained from the understanding of knowledge, *know-why* refers to the principles of nature, human's thought and society, *know-how* is all the skills and the competencies and ability to do something. Lastly, *know-who* relates to who knows about what, who knows about what to do in which it needs network and trust in order to know the people in the business. The knowledge must be achieved simultaneously since the entrepreneurs are the one who lead the business.

The entrepreneurship, especially the small and micro sizes, operates in a more informal way. However when the size is larger, it is actually form as organisations. In relation to this, Audretsch et.al. (no year) explain about entrepreneurial capital based on four levels, which are the regional and industrial level, the company level, the group level and the individual level. At the regional and industrial level, EHC is the factors related to social capitals that influenced and formed an area to generate the entrepreneurship activities. For the company level, EHC refers to the organization factors linked to social capitals that influenced and formed organizations that condusively create new business units. At the group level, EHC acts as the interpersonal factors influenced and formed the group to invite the entrepreneurship activities. For the individual level, EHC serve to influenced and formed the cognition of individual to identify and exploit the opportunities for business.

Gimeno et.al. (1997) state that the EHC is the result of education, training or experiences which has limited implementation. Those three factors are actually the principles needs for individuals that interested in entering the entrepreneurial field. Meanwhile, Skuras et.al (2005) identify that the family environment is one of the critical EHC. Family environment, especially the childhood, will likely influence the decision of job for the individuals. Many studies have revealed that there is a relationship between the family enviroment and the individuals' work. According to Jones and Jayawarna (2012), who have conducted a longitudinal survey about human capital, have revealed that those who raised in business environment will tend to be business persons in the future.

In conclusion, the EHC is the specific human capital intended for the entrepreneur. The specialty of this human capital is differ from the general human capital. It is related to the investment that can alter ideas into goods and services suitable for the market. This means that EHC must be inserted in the entrepreneurs so that they can utilize the opportunities in the market.

### ***The Development of Women Entrepreneur***

In the past, only men who are involved in the business field. The field is seen as a more masculine world since it has risks, forecasts, opportunities, and many unpredictable things that are difficult to calculate. However, women perceive the opportunities to enter the area in order to earn income and have a better life. Women are engaged with entrepreneur activities around 1970's (Coughlin and Thomas, 2002) and the pattern is increased until today. Since the World War II, there was a significant movement of work environment in western countries in which women started to take part. Women wanted to have a financial freedom and fulfill their needs by themselves (Starcher, 1999 as cited in Coughlin and Thomas, 2002). This situation influences the eastern part of the world, the developing countries.

Nonetheless, when women participate in labour fields, they recognize that it has different facts compare to their expectations. They face impediments to grow of their carreer as an employee and of their personal needs as an individual. They have to accept the reality of downsizing and glass-ceiling (Krueger, 2000) in the working environment. Fairchild (2015) explains that only 25 companies of the 500 companies listed in Fortune 500 that have women CEOs. Also, the incident of sexual harrasments and psychological abuses to working-women are increased lately. Given these illustrations, women can become the leader of their own business without having afraid of downsizing or carreer obstacles by creating and developing independent businesses. As asserted by Coughlin and Thomas (2002) that this action contributes to ehance the local economy and is the key to promote the sustainable development of grass root groups.

The potrait of women entrepreneurs in today's context is shown in Women's Report of Global Entrepreneurship Monitor (2012). It is reported that 126 millions of women start new bussinesses in 67 countries of GEM survey areas. They create business, while at the same time provide job opportunities for others. 18 percentages of 30 percentages of entrepreneurs in Southeast Asia are women (Teoh and Chong, 2007). Indeed, the women entrepreneur were the booster of the economic regional changing during and after the monetary crisis in 1997 (Coughlin and Thomas, 2002). In the Indonesia's context, women entrepreneurs have critical roles for the growth of entrepreneurial field. The women entrepreneurs not only empowers themselves, but also the surrounding community, especially in rural areas (Tambunan, 2009). The number of women entrepreneurs increased since 1980's. The majority of them is in Jawa and Bali areas (Saputri and Himam, 2015).

Being women entrepreneurs is a challenging work. They will face obstacles and at the same time, they need to overcome those hindrances in order to have developed businesses. Generally, the impediment is the access for capitals.

Ayadurai (2006) explains that lack access to financial institution faced by women entrepreneurs in United States, Korea and Indonesia. They have limited access for bank loans which make their businesses is difficult to develop. In this situation, they only have small and medium businesses. Specifically, access to capital, information and networks are identified as hindrances of women entrepreneurs in developed countries (Ayadurai, 2006). Meanwhile, the problems of women entrepreneurs in developing countries are related to economic pressures, socio-cultural backgrounds, government policies and the situations of social, economy and politic of the country (Tambunan, 2009). The women entrepreneurs needs the key to overcome the obstacles to support the businesses and create business innovations.

Given the description of women entrepreneurs above, it shows that women entrepreneurs are growing in numbers in many regions. This occurs since women understand the potentiality of themselves. Although they have many obstacles to start the entrepreneurial field, but they attempt to find the solution because they know that this field will provide them with many opportunities to exploit their human capital.

#### ***The EHC and The Business Innovation***

The discussion of entrepreneur will likely involve the dialogue about innovation. Innovations are the key for entrepreneur in order to be able to face the competition in the dynamic business environment. It is basically because entrepreneurship is an activity aimed to change society in a good manner. Meanwhile, the change it self can only be happened if only the innovation exist (Johansson, 2010). The facts have shown that without innovations, many big and best companies have experienced the decline phase, which is unavoidable. Nokia and Blackberry (Hessman, 2013) are the good examples.

There are many definitions for innovations. Schumpeter (1934, in Mitra and Borza, 2011) is the first who defined the meaning of innovation which renewed it in 2000 (in Dovleac, 2014 and Johansson, 2010). Schumpeter acknowledge the entrepreneur as an innovator who can do some changes in the market by performing new combinations of things. The combination can be seen in several forms such as new quality products, new production methods, new market entrances, new raw material supplies, new organizations in certain industries. Another expert who concerned with the discourse of innovations is Peter F. Drucker. Drucker (1985, in Mitra and Borza, 2011) explains that innovation is a special tool to utilize a change as an opportunity for different businesses or services. From these definitions, innovation can be defined as a way to transform ideas into real forms that beneficial for the market.

According to Smith and Tushman (2005), the innovation occurs in several forms. Those are *innovation in process*, includes the changing and increasing methods of operations; *innovation in goods and services*, includes search and develop for new markets; and *innovation in organisation managements and works*, includes the human resource management, technical capacities. The position of innovation in business success is at the concept development that refers to the increasing benefits for the organization and the social environment.

Having said that, the entrepreneur have to learn in creating and nurturing innovations in their business. As an entrepreneur, the individual has to constantly creating change in many forms that suitable for the business. The individual can purely create a new innovation or imitate a new one with slightly differences so that the market still recognize it as the new creation.

To be able to create innovations, the individuals must realize the internal and external capital they have, that is the human capital. The knowledge and experiences while running the business can be a starting point to think about creating innovations. For example, the Google was designed when the inventor realize search engines available have a limited ability to explore information in the internet. Trainings will give the individual more understanding about the using the knowledge and experiences in such a way to create innovations. Trainings lead to skill that will ensure the process of forming innovation into real things. This means by sinergizing the human capital, it will likely enhance the possibility to create innovations for the business.

Particularly for women entrepreneurs whose many of them are participated in the “soft industries”, must understand the position of EHC in themselves. Eventhough they enter the soft areas, mainly in service sectors, they still need to concern about having innovations in the middle of tough competitions in those fields. Those who never have backgrounds related to the business must improve the knowledge and skills through trainings, workshops, networks or other forms of resources to keep them on the right track. Experience of works and manajerials will enhance the knowledge they have in understanding the business. The challenge for women entrepreneur is to ensure that the EHC they have need to be internalized in a way that will form innovations needed by the business.

To conclude, innovation is the key for entrepreneurial field. It means the women entrepreneurs have to understand how the innovation can be exist in goods and services. It is by internalizing the EHC they have. It needs a good skill to recognize the internalization of the EHC. The good skill obtains through exercises in solving the problems of the business.

## **CONCLUSION**

The discussion of human capital in entrepreneurial field becomes important since each sector industry has its own characteristics. Individuals who decided to enter the business need to understand about the EHC. It helps them to recognize their internal resources which are benefits to the business. Moreover, they have to be aware of the importance and the usage of the EHC because it serve a dynamic interaction within the-self. For women entrepreneurs, the EHC also becomes a key point to lead for the successfull business. However, it needs a deep understanding to internalise the EHC within themselves, so that it then result in innovative outcomes of the products, methods, processes or organizations.

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# IDENTIFICATION OF ENTREPRENEURIAL SELF EFFICACY ASPECTS TO THE ACHIEVEMENT OF GOALS OF TECHNOPRENEUR (CASE STUDY RUMAHSINAU.ORG, PASARLAUT.COM, SMASH)

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## ABSTRACT

The objective of this research was to understand the aspect of Entrepreneurial Self Efficacy (ESE) that could lead to the goals of the technopreneur by conducting assessment of ESE's aspects, they are developing new product and market opportunities, building an innovative environment, initiating investor relationships, defining core purpose, coping with unexpected challenges, developing critical human resources on RumahSinau.org, PasarLaut.com and .SMASH. This research was a case study using qualitative research method. Data were collected through in-depth interview with semi-structured format and questionnaire against the figures involved in the founding & operation process of RumahSinau.org, PasarLaut.com and .SMASH. Secondary data related to the theme of the research were used to support this research, such as scientific journals about technopreneur, data from news and social media related to the research. The results of this research shown that the ESE's aspects, defining core purpose, build an innovative environment & initiating investor relationship become the top 3 aspects that need to be considered in order achieve company goals from those 3 technopreneurs, we could see that PasarLaut.com is a good example of technopreneur, they provide good ESE in overall as they implementing company roadmap, targets, monitoring, collaboration of the team, build environment of business & investors, meanwhile RumahSinau.org need to improve ESE on aspects defining core purpose, build an innovative environment & initiating investor relationship & .SMASH need to improve on defining core purpose & initiating investor relationship so that it could lead to the goals.

**Keywords:** *Technopreneur, Entrepreneurial Self Efficacy (ESE), Technopreneurship*

# SMALL AND MEDIUM ENTERPRISES IN INDONESIA: COLLABORATIVE MANAGEMENT MODEL TO SUPPORT OPEN INNOVATION BY USING QUADRUPLE HELIX INNOVATION THEORY

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## EXTENDED ABSTRACT

SMEs are valued for its contribution in affecting social and economic growth in Indonesia. Government highly supports their business process by creating many regulation and programs. However it seems failed and still created many problems. The problems common appears are about marketing, technology, and capital access which can be solved by doing such a collaboration. Unfortunately, the SMEs in Indonesia are still reacting negative to the possible opportunity collaboration due their low knowledge of open innovation. The collaborative management, which renew by quadruple helix innovation theory is perform to support the open innovation process in SMEs. The model will be tested to traditional food SMEs cluster around Jawa Barat, which produces variety chips and dessert cakes. The sample will be SMEs in Cimahi, Ciherang and Subang and will conduct the qualitative methods by using in depth interview and focus discussion group. The expected result concludes in the conclusion part as well as further research.

**Keywords:** *SMEs, collaborative management, quadruple helix, open innovation, strategic alliance*

## INTRODUCTION

Small and Medium Enterprises (SMEs) is highly supported by Indonesia's government due to its important role in affecting social and economic growth (Kurniawati et al., 2015; Hamdani et al., 2012; Irjayanti et al., 2012). Their contribution to the GDP is 57,48 (Kementrian Koperasi dan Usaha Kecil dan Menengah, 2013) even bigger than large companies. However, this situation does not achieve maximum earnings because the percentage of entrepreneur in Indonesia is only 1,65% from population (Badan Pusat Statistik Indonesia, 2016). This condition is far from an ideal one which should achieve minimum 2% entrepreneurs from population (David McClellan Theory). If Indonesia can obtain the ideal criteria, the GDP will increase and supply significantly to Indonesian welfare.

Preposition above encourages government to form many programs and regulations in order to promote the SMEs in Indonesia. Unfortunately, the result is found not satisfying yet because most of SMEs are still faced dreadful issues. In Indonesia, SMEs generally encounters ten major obstacles such as competition barriers, financial access, price of energy, technology, inefficient production cost, economic factors, management skill, process, market of sales, and raw material (Irjayanti and Azis, 2012). Another study, focus on how SMEs face problems in quality of human resource, technology, knowledge, facility, capital access, disproportion competitive, market access, and information (Kurniawati, 2015; Indrawati, 2012; Tambunan, 2011). Hamdani in 2012, also highlighted the problems that have positive relations to the SMEs are marketing, technology, and capital access. Those three studies have same opinion about technology, marketing, and capital as frightening factors that should be handle to create sustainable business in future.

Government, universities, non-profit research centers and business development service are becoming necessary role to help SMEs in creating sustainable business especially in traditional food clustering (Hamdani et al., 2012). In fact, many SMEs are closed to the idea of being open to collaboration with external parties (Nugroho, 2014). They are still afraid to sharing the knowledge and/or to accept the idea of another element besides their internal capacity. Although, the collaboration idea can help them to ease legitimate problems above and achieve business sustainability by doing such innovation. In this situation, the open innovativeness knowledge should be conducted and applied to SMEs in Indonesia. Open innovation is defined as how firm can

accepted the other idea/innovation rather than their own capabilities/idea/product/service. In this term, innovation is developed to produce product and services relevant with the citizen and/or society (Carayannis, 2014) which supported by other parts beyond the firm.

SMEs' problems appear simultaneously with many studies explore and map the potential problems to be faced by SMEs nowadays. However the proposing solution is still unclear as well as not satisfying solved. The paper is offering one of ways to minimize the problem by developing collaborative management model for traditional food's SMEs clustering by maximizing the quadruple helix innovation theory. The innovation in this term is typical act to create sustainable business in the real world. The system thinking of open innovation is also necessary in this issues to be supported in order to achieve the business sustainability. The paper will contribute the support of open innovation by doing collaborative management model as well as quadruple helix in its application. The result should answer the effective program of government needs. The paper will start with finding the literature about SMEs, collaborative management, open innovation and quadruple helix innovation theory. Then mapping the role and functions all of actors in the term of collaborative management and quadruple helix innovation theory. The model is expected to be applied in the real SMEs case, especially traditional foods cluster. The qualitative methodology will be conducted to support the research. For now, the expected result will be delivered as well in the part of expected findings.

## LITERATURE REVIEW

### Traditional Food SMEs Cluster in Indonesia

The European Commission in 2003, defines SMEs as enterprise that employ less than 250 heads with annual turnover no more than 50 million euro (Zhao, 2014). Meanwhile according to Indonesian Government, SMEs divides into small enterprise with firms' total asset up to Rp 200 million excluding land and building and medium enterprise with firms' total asset more than Rp 200 million until maximum Rp 10 billion excluding land and buildings (Hamdani et al., 2012).

Clustering traditional food in SMEs means the process close in geographically group which act as producers, suppliers, buyers, and other actors in mutually benefit to collaborate developing the tradition food industry (Tambunan, 2005). The industry chosen is traditional food such as cassava chips, soybean chips, peuyeum, and others, which still conducting business in rural area. The industry separated in Jawa Barat, such as; Cimahi, Ciherang and Subang. In this area, the clustering is only about producing and selling-buying act. They only produce by self and for themselves. In fact, they are lack of open innovation knowledge, making their business stagnant and just delivered to its area. In fact the possibility to sell in the domestic market such as Bandung is still wide and become potential. Doing such as collaborative management, the SMEs are expected opening their business to open innovation and collaboration act.

### Collaborative Management as one of Strategic Alliance

David Faulkner in his book defines strategic alliances as an inter-organizational relationship between partners in order to develop a long-term collaborative effort and common orientation. Meanwhile some author explains strategic alliances as long-term cooperation between two or more firms by sharing risk and resource to improve the competitive and performance (Zhao, 2014; Inkpen et al., 2007). Strategic alliance advantages to develop and enhance SMEs' entrepreneurial, innovativeness and competitive advantage capability due to the alliances help them gain strategic resource and build critical mass (Zhao, 2014). Generally, SMEs' have a limited resource and limited market. This condition influences the SMEs to do collaboration in order to maximize their capability and resource. Many SMEs is found to be afraid to collaboration as they passively join with external parties in their business (Nugroho, 2014). As a result the collaboration should be appropriate to make them open to the possible partnership.

Many types of partnership are globally defined such as; collaboration, joint venture, acquiring and merger, etc. Collaboration as well as partnership unites of resources by two or more stakeholders to solve problems but collaboration is emphasized to the process interaction among actors (Berkes, 2010). SMEs' collaborates by partnering in order *for acquiring tangible and intangible resource* to develop their capability to enter a new market, to develop new technology, and to extend their domestic market share into global markets.

Another sample of collaboration is collaborative management or co-management, which is defined as sharing of power and responsibility between the government and local resource users (Berkes, 2010). In the case of big companies, the collaboration becomes platform to enable different users at different places to work simultaneously via system (Choy et al., 2004). This paper definitely examines this kind of collaboration management but taking the example of many elements can collaborates to create new idea/innovation. This collaborative management includes the main role of government and support role by the other actors, which are,

education institution and industry. Bellows are the actors may have role for doing collaborative management in terms of SMEs especially traditional food clustering;

#### 1. Government

The role of government is being an important to support the SMEs, because they have the biggest power from all stakeholders in terms of countries' regulation. Study presents the capability of government to improve quality standard, make some effective program and evaluate them, protect market price, facilitate with technology, and formal regulation to support SMEs in Indonesia (Irjayanti et al., 2012; Zhao, 2014).

#### 2. Education Institution

Institution, especially university has role to increase SMEs performance in term of dedication to develop country. Collaboration with the university has specifically point for exploiting their knowledge (Buganza, et al., 2014). The SMEs can access the university resource easily and cheaply. Even though the access seems easy and cheaper, the R&D can still be professional by their professors (Pecas, 2012).

#### 3. Industry

Industry in these terms is related to the SMEs itself. For the SMEs cluster, the producers of the product in the area are not only them. However the competitors has role to support their business activity. The common problem of SMEs appears when other competitor is more successful than other. In fact doing such collaboration with competitor such as, making the same price to be competition, can increase all component benefit.

Another industry is a bigger industry, which is related or not but same area with the business activity. The bigger industry cannot be competed due to their advantage resource and technology. However, doing collaboration with bigger industry can help and support the SMEs in terms of financial access and resource capability.

### **Open Innovation**

Innovation is a continuously process of success invention to be developed, produced, and commercially marketed (Garcia, 2002). It also defines as application of idea/invention, technology or product/services process that will satisfy the need and can be benefit to the economic view (Parveen et al., 2015). As well as Drucker in Nugroho is suggesting, innovation as an action that provides strong resources and new abilities to create value in order to increase growth and social well being (Nugroho, 2014; Parveen et al., 2015). There are many varieties of innovation such as, radical innovation, incremental innovation, very new innovation as well as the application such as closed innovation and open innovation. Closed innovation is defined as firm produces, generates, process, develops, and commercialized their own new idea/products/services/capabilities meanwhile open innovation has more modern perspective (Chesbrough, 2003; Hamdani, 2012). Open innovation is defined as firm can use the internal as well as external ideas/capabilities to be produced, generated, processed, developed, and supported in order to achieve market by advance technology (Hamdani, 2012). According to Chesbrough (2006) in Parveen study, open innovativeness is used of purposive changing process of knowledge to expedite internal innovation and expand the markets for external innovation respectively.

### **Quadruple Helix Innovation Theory**

The Quadruple Helix is not a really common model to be used, differently with Triple Helix Model. Triple Helix is common used to describe the spiral shaped innovation cooperation between firms, universities and or government (Colapinto, 2012; Parveen et al., 2015). In triple helix theory, the university is as a main role for doing innovation (Colapinto, 2012). In fact the goals of triple helix and quadruple helix are almost same, except the quadruple helix is adding a new actor to do cooperation. Quadruple Helix is the concept of cooperation model, which includes the industry, universities, government and society in order to achieve innovation (Colapinto, 2012; Parveen et al., 2015). Quadruple helix is as co management for support SMEs in open innovation;

#### 1. Industry

The industry in this term is not only the firm itself, but also the possible bigger industry related/not which can supported the SMEs. The support is mostly about financial and access process. Many big industries, which make business in the SMEs area, can be a sponsor of the R&D process and market expanding. They become a sponsor for the cluster to fulfil their responsibility to the society. Another action that industry can build is developing commercial products and services of SMEs to be contributed to society based on money/sharing capability (Colapinto, 2012; Carayannis 2014).

#### 2. University



The university should give the contribution to the SMEs by doing R&D performance as well as publication, patent, and deliverable based on fundamental and applied research. The university also can develop human resource skilled in graduate training and co-operative programs, collaboration or consulting and technology licensing, connecting SMEs with network and opportunities. Another role of university can be a marketer of the product. The capability of university nowadays increase based on entrepreneur skill appeared (Colapinto, 2012; Carayannis 2014).

3. Government

The role of government is mostly about giving access to finding and facilitate in term of tangible and intangible assets. Another roles are becoming the decision maker for the innovation policy, support the development of model partnership, raise the awareness of this model to the society and partner related, and as quality control of standard of business activity. The government is also has responsible act to offer the dialogue forums to citizen and forums to participate in decision-making (Colapinto, 2012; Carayannis 2014).

4. Society

The society can be community, non-profit organization, or real society around/beyond the business area but still can contribution to the SMEs. The goal of quadruple helix is making the product that society needs in order to achieve selling and innovation performance. The role of society can be presented by campaigning the traditional food consumption. The community can help to deliver the campaign. Its purpose to convert information to the society. The society can also contribute to create citizen relevant innovation and decide which innovation should be developed (Colapinto, 2012; Carayannis 2014).

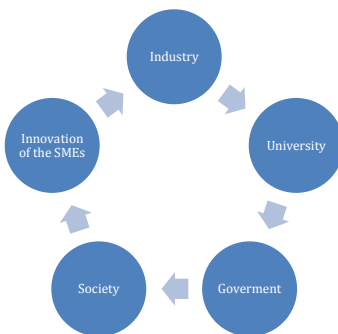


Figure 1. Co-Management Model by Quadruple Helix

## METHODOLOGY

The sample are 11 samples of traditional food SMEs which takes place in Jawa Barat such as cluster SMEs in Subang, Cimahi, and Ciherang. The method of taking sample will be in depth interview and focus discussion group, which will perform in two periods. The first period is before applying the co-management process and quadruple helix innovation theory. Then the second period is after applying the model. The result will analyze by team using triangulation as validation. The expectation research is about 2 years since 2015- the end of 2017.

## EXPECTED FINDINGS

The expected finding of this result is forming the effective collaboration model for SMEs in Indonesia by maximizing quadruple helix innovation theory in application. The SMEs will be analyzed before and after doing co-management. It is expected to be more innovative by using co-management rather than doing the management by firm self. The innovation should be becoming from collaborative performance which is also expected to increase the promotion and selling of product all over Jawa Barat, especially in Bandung city. Thus, Bandung city is the biggest city in Jawa Barat, which is attractive for most tourists. The case of tradition food clustering in rural area (around Jawa Barat) is intended to explain the condition of Indonesia's SMEs nowadays.

## CONCLUSIONS

The SMEs in Indonesia is found to have problems in marketing, technology and capital access. On the other hand, they are still afraid to being helped by several elements business besides their internal source. The

SMEs in Indonesia should have the open innovation knowledge to increase their innovation in technology, expand the market in marketing aspect, and opportunity to be invested by other element. This kind of platform, can be expressed by collaboration management, which applied the quadruple helix innovation theory in order to make the SMEs more open to the open innovation.

Open Innovation describes as opening the possibility business partnership of new idea and innovation by doing collaboration. The quadruple helix is helping the platform to coordinate the role of each partner in collaboration management. Collaboration management is completed by quadruple helix application, which adding society as one of element possible.

The form of collaborative management by quadruple helix is expected to be applied in the real SMEs then give the output of positively supported the open innovation process. The element of industry can help the SMEs in terms of supporting facilities, sharing knowledge, and expanding the market. The government has role in supporting the facilities, conducting the policy, and control the partnership program. On the other hand, the university has role to support the R&D process, share the knowledge and skill, help the patenting process, and also increase sales of product. Last element to be found is society, which can be; perform as target market or someone who inform the program to increase sales. The society is also can be part of the innovation process, which the product is answered the society needs. This form is also expected to help the government to achieve an effective program.

Although the program is ready to be presented to the government, the paper still has limited research. The research is not accessing the collaborative management yet in the real world. However, the model will be applied in the traditional food SMEs. For further research, the model should be not only applied to the traditional food SMEs but also to another SMEs which need to perform to the open innovation.

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## NEW APPROACH TO SMALL AND MEDIUM ENTERPRISES ASSESSMENT

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### EXTENDED ABSTRACT

Small and Medium Enterprises (SMEs) play an important role for many countries as the significant sources of economic growth i.e contribute to GDP growth, employee creation, and export performance. Based on Ministry of Cooperatives Small Medium Enterprises, SMEs is growing in numbers but not in quality, one of the factors is because SMEs faced several constraints in most of the business aspect including financial and non-financial aspects. The objectives of this research are to improve and help SMEs by developing the first SMEs Soundness Assessment. The assessment is obtained by collecting data from the expert through Focus Group Discussion (FGD) to determine the indicators, weighting Analytical Hierarchy Process (AHP), and interview. The result is the assessment both financial (liquidity ratio, profitability ratio, debt ratio and activity ratio) and non-financial (operational, marketing, human resources and good governance aspect) indicators. Moreover, each business sector has different weight on both financial and non-financial aspect ratio. The scoring sheet of the assessment generates 7 classes of soundness which are great soundness level.

**Keywords:** *Small and Medium Enterprises, SMEs Constraints, SMEs Guidelines, Analytical Hierarchy Model, Balanced Scorecard, Scoring Sheet, SMEs Soundness*

#### 1. Introduction

According to Yoshino & Taghizadeh (2014), SMEs are the backbone of the economist in Asia. Over the period 2007-2012 they accounted for 98% of all the enterprises and 38% of the gross domestic product on average, and employed 66% of the national labor force. Therefore the need to ensure sustainability and development of SMEs appears considerably. Moreover, SMEs also gives contribution in nation development from economic condition to social issues such as eradicating poverty by creating employment and generating income. However, the condition of SMEs in Indonesia is hampered by several constraints to develop. SMEs are getting bigger in numbers but they do not develop well. This condition caused by several constraints faced by SMEs which includes in almost all management business aspect—financial and non-financial (operational, marketing, human resources and good governance). Kim et al (2010) stated that individual performances of the SMEs are influenced by the business ecosystem. Some government formulated and executed many policies for improving SMEs by promoting cooperation with large firms.

The fact is that SMEs still hampered with several problems in growing and developing them to be better in scale because they have no clear description of its condition and position and have no guidelines. It is important to have a business soundness assessment in order to make sure that everything is still functioning properly or even be better. This research is generated to explore the business issues on SMEs related to its business soundness and performance as the effort to ensure business sustainability and improve its performance for the development.

The result of this research is the assessment tool, this tool is intended not only for SMEs actors to assess their own soundness condition and performance, but also open a chance for others stakeholders that have interest on SMEs, such as Banks, Financial Institutions, Non-governmental agencies or even for the Government Officials and other parties that concern and have interest on SMEs. This tool measures the current condition of SMEs performance and helps them to determine the next steps needs to be taken for better future.

## 2. Literature Review

Based on Law No. 20 The year 2008, SMEs have different definition according to each size. Micro enterprises are classified with a maximum net worth of IDR 50,000,000 excluding land and buildings, or having annual sales of IDR 300,000,000. Small enterprises criteria are having a net worth of more than IDR 50,000,000 to IDR 500,000,000 not included land and buildings, or having annual sales of more than IDR 300,000,000 to IDR 2,500,000,000. Medium enterprises are enterprises that have a net worth of more than IDR 500,000,000 up to IDR 10,000,000,000 not including land and buildings and have annual sales of more than IDR 2,500,000,000 up to IDR 50,000,000,000. The current exchange rate as of the writing date of this paper is 1 USD = IDR 13,385. Moreover, if the enterprises have more net worth and annual sales are classified as large enterprises. This research will only discuss the SMEs who have entered growing phase. BRI and AUSAID (2012) stated that the SMEs who are in that phase are Small Enterprises.

SMEs also distinguished by its business sector. Ministry of Cooperatives and Small and Medium Enterprises classified 9 business sector according to the type of economic activity following the concept of the ISIC (International Standard Classification of All Economic Activities) Revised 1968 (2013). The largest proportion of business sector are (1) Agriculture, Livestock, Forestry and Fisheries; (2) Trade, Hotels and Restaurants; (3) Transportation and Communications, (4) Manufacturing Industry, and (5) Services, each of which was accounted for 48.85 percent, 28.83 percent, 6.88 percent, 6.41 percent and 4.52 percent respectively. Ministry of Cooperatives and Small and Medium Enterprises Official Website (2013) stated that business sector of SMEs to be developed the most are manufactures, trading and services with 23%, 20% and 57%. Several national banks in Indonesia also stated the most debtors comes from trading, services and manufactures business. Therefore this research only limited for trading, services and manufactures sector. From the literature review, we can generate SMEs common constraints. The constraints can be divided into external and internal factor. The external factor such as bureaucracy namely inefficient and costly bureaucratic procedures and regulations (Tambunan, 2011; Mawardi et al, 2011); finance, namely lack of capital, lack of access to banks or other formal financial institutions (Tambunan, 2011; Tambunan, 2009). Whereas the internal factor such as human factor, namely lack of skilled human resources (Tambunan, 2011); innovation, namely poor technology, no research and development (AUSAID 2012; Sriyana, 2010, Tambunan 2009); and management skills, namely poor management capabilities, poor records, clueless about their condition (Sriyana, 2010).

The literature review and Balanced Scorecard framework are used as the basis indicators for measuring SME's soundness which covering financial and non-financial review. Based on literature review, variables are generated and ready to be discussed through Focus Group Discussion (FGD). The result from FGD will be calculated and proceed with Analytic Hierarchy Process (AHP) and form a proposed SMEs soundness management tool. This tool will be implemented through several SMEs to get the justification whether the tool is suited well or not.

According to Kaplan and Norton (1996), Balanced Scorecard (BSC) represents a balance between external measures for shareholders and customers, and internal measures of critical business processes, innovation and learning and growth. It is presented as a management tool that aims to provide a comprehensive and integrated vision of organizational performance under financial and non-financial perspectives. This framework has four perspectives which are financial, customer perspectives, the internal business process also learning and growth. It is used because it covers all dimension of business management from all four perspectives.

In assessing SMEs soundness, it evaluates financial performance and non-financial performance such as operations, marketing, human resources and administrative with letter symbol like A, B or C. The difference between these ratings and proposed rating are in the indicator area. These ratings focus on the SMEs performance to generate access credit to the financial institution. Meanwhile our proposed rating include all aspect from financial and non-financial which intended not only for self-assessment and self-improvement for SMEs but also as input for SMEs stakeholders. The concept of soundness measurement for SMEs is not existed until now yet (January 2014). However, the definition of soundness assessment for State Owned Enterprises can be applied for SMEs as well, because both entities are in the same neighborhood character—which is in Indonesia, so that more or less would have a similar situation and conditions. Cahyono and Judisiawan (2011) define soundness as an entity's condition in avoiding any possibility of business failure which can make an entity can continue to thrive and survive in the fierce competition. From this definition, soundness means

reviewing the current performance of SMEs itself, then used it as the early warning system or as decision tools in going forward to compete in the fierce market competition to stay sustain and exist.

### 3. Research method

Focus group implies a group discussion in order to identify perceptions, thoughts and impressions of an as elected group of people regarding a specific topic of investigations (Kairuz, Crump and O'Brien, 2007 in Milena et al, 2008). FGD can generate data from multiple individuals simultaneously, to find the consensus on certain topics. Hence, this research is using FGD to generate data for this topic because we need to get opinions and insights from multiple participations and can provide possible solutions for the topic conducting. In this research, a method that we used to determine the weight of each aspect and indicators is Analytical Hierarchy Process (AHP).

AHP is introduced by Thomas Saaty in 1977 as a multi-criteria decision-making approach. By reducing the complex decision to a series of pairwise comparison, then synthesizing the result, AHP helps to capture both subjective and objective aspects of a decision. The process of AHP is firstly generating each evaluation criterion with a weight according to the decision maker's pairwise comparisons of the criteria. Secondly, AHP will assign a score to each option according to the decision maker's pairwise comparisons of the options based on that criterion for a fixed criterion. Finally, the AHP combines the criteria weights and the options scores, thus determining a global score for each option, and a consequent ranking. In the process, AHP also can be conducted using Software (Expert Choice). However, Saaty (1990) stated that the weights of the criteria must depend on a certain scale so it will derive from some underlying standard scale with inconsistency should only be not more than of 0.1 (as a rule of thumb).

The main problem with this current research this SMEs have many constraints and no clue on their own condition and how to improve them this caused by they do not have any guidelines in running their business. An SMEs soundness assessment is proposed where it is most useful for SMEs as guidelines to understand their condition and also as self-assessment and self-improvement as well. The common soundness assessment only assesses from a financial aspect, however this soundness assessment will include not only financial aspect but also a non-financial aspect. Both aspects in the soundness assessment will try to collect all indicators needed and be as their guidelines.

### 4. Findings

Based on the FGD with 13 participants of SMEs Expert in Indonesia which are from academicians, banks and SMEs development national and international agencies, the discussion reveals the final indicators to assess SMEs' Soundness. The discussion starts with how to assess the SMEs soundness itself. The result of FGD only has slight changes in indicators and the other remain the same. To understand well about the results of this FGD can be seen from in Table 4.1 below, which shows the simpler distribution of the area and also show areas that have been agreed upon. The chosen indicators are generated from SMEs experts. Some experts define the best and most representative indicators. Moreover each indicator has yes-no-statement with a score of 0 to 3. In the financial aspect, it emphasis more on the importance of measuring the current financial situation while in non-financial aspect will emphasize more past and current performance that can help SMEs to determine the next steps in the future. The proposed indicators for the tool are as follows:

**Table 4.1 Summarization of Proposed Financial and Non-Financial Indicators**

Ratios	Manufactures	Trading	Service
Financial Indicators	• Liquidity Ratios	• Liquidity Ratios	• Liquidity Ratios
	• Activity Ratios	• Activity Ratios	• Activity Ratios
	• Debt Ratios	• Debt Ratios	• Debt Ratios
	• Profitability Ratios	• Profitability Ratios	• Profitability Ratios
Operational Indicators	• Purchasing	• Purchasing	• Scheduling
	• Raw Material Inventory	• Inventory*	• Quality
	• Quality Control	• Quality Control	• Research and Development

Marketing Indicators	• Maintenance	• Research and Development	• Customer Service
	• Finished Goods Inventory	• Customer Service	
	• Research and Development		
	• Customer Service		
	• Marketing Strategy		
	• Media Marketing		
Human resources Indicators	<ul style="list-style-type: none"> <li>• Job Specification</li> <li>• Training and Development</li> <li>• Human resources numbers</li> </ul>		
Administrative Indicators	<ul style="list-style-type: none"> <li>• Business reports</li> <li>• Legal aspects</li> </ul>		
General Issue Indicators	<ul style="list-style-type: none"> <li>• Business Planning</li> <li>• External Business Knowledge and Analysis</li> <li>• Internal Business Knowledge and Analysis</li> </ul>		

The procedures of AHP used starts with making pairwise comparisons of attributes (aspect). Thus the importance of 'Financial Aspect' and 'Non-Financial Aspect' are first compared. Then the four 'Financial Aspect' attributes are compared with each other for importance and so on. Note that the comparisons are pairwise so that if there are four attributes, A, B, C and D, then we need to compare the importance of A with B, A with C, A with D, B with C, B with D and, finally, C with D (Goodwin and Wright, 2004). This process is repeated, yielding a result for each of aspects to represent the more important aspect to others. Besides that, the AHP involves relatively complex mathematical procedure software; EXPERT CHOICE has been developed to support the method. The summarization of AHP Result for each business sector can be seen in Figure 4.1 below. From all the numbers below, researcher classifies that each business sector will have different percentage and weight. This weight will be the basis for calculation for assessing SMEs soundness.

Industri Sector		Service	Manufacture	Trading
Financial Aspect		57.5%	73.8%	75%
Non-Financial Aspect		42.5%	26.2%	25%
•	Liquidity Ratio	17.2%	25.6%	25.5%
•	Activity Ratio	13.2%	19.6%	17.3%
•	Debt Ratio	10.4%	8.5%	10.4%
•	Profitability Ratio	23.1%	24.4%	29%
•	Marketing	17.1%	9.1%	9.7%
•	Operational	5.8%	6.3%	4.0%
•	Human Resources	8.7%	4.2%	2.5%
•	Good Governance	4.4%	2.3%	1.7%
Total		100%	100%	100%

**Figure 4.1 Final Weighted Percentages for Assessing SMEs Soundness in All Aspects and Indicators (As Result from AHP)**

The final score of both financial and non-financial aspect will reveal whether the SMEs are having great soundness, good soundness or even poor soundness level. The soundness level is also determined by Sturges Equation. The following table presents the final SMEs Soundness Level.

**Table 4.2 SMEs' Soundness Level**

SCORE	SMEs Soundness Level	RATING
87 – 100	Great Soundness	AAA
72 – 86	Good Soundness I	AA
58 – 71	Good Soundness II	A
44 – 57	Fair Soundness I	BBB

30 – 43	Fair Soundness II	BB
15 – 29	Poor Soundness	CCC
0 – 14	Bad Soundness	CC

## 5. Conclusion

This SMEs Soundness Assessment is the first measurement for SMEs to know their soundness. This SMEs Soundness Measurement is intended to be used for government, banks, financial institutions as the several parties who have interest on SMEs and used for SMEs as well to be self-assessment and self-improvement tool. In measuring SMEs' soundness, there are two aspects required which are a financial aspect and non-financial aspect. Both aspects have some different indicators. A financial aspect includes liquidity ratio, profitability ratio, activity ratio and debt ratio as its indicator. Meanwhile non-financial aspect involves marketing, operational, human resources and good governance as its indicator. In every indicator will be explained by the component indicator. These indicators are obtained through several processes which are FGD, AHP, interview and justification from several leading banks' data. The result of this analysis will be formed in Scoring Sheet.

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## SHARED VALUE STRATEGY, OWNERSHIP STRUCTURE AND FINANCIAL GROWTH FOR SMES (CASE OF INDONESIA MARKET)

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### EXTENDED ABSTRACT

This paper aims to contribute to deepen our knowledge through examining the degree of strategic choices of small firms toward social responsibility as a vehicle for fostering firm's performance through encouraging firm's involvement in social responsibility practices, and to investigate how far is the ownership structure and hopefully, stakeholder involvement, will affect firms' CSR strategy selection. The focus of this study is SMEs in Bandung city, West Java province, with specialization in Culinary and Tourism. Our primary hypothesis posits that the difference in ownership structure of SMEs firms will bring the differences in how companies designed their CSR strategy.

**Keywords:** Corporate social responsibility, shared value, strategy, ownership structure, financial growth, SMEs

### INTRODUCTION

Prior research has illuminated the role of corporate social responsibility (CSR) disclosures as strategic tools (Groening & Kanuri, 2013) through which managers secure broader stakeholder support and attract the interest of institutional investors and analysts (Dhaliwal, Li, Tsang, & Yang, 2011). While strategic orientation has been found to have a positive influence on performance and growth of small firms (Laukkanen et al. 2013), there is paucity of research in the extant literature examining the impact of strategic approach adopted by small firms regarding CSR on their socially responsible practices. Additionally, despite extensive research into the possible link between CSR and financial performance, the findings still remain inconclusive (Rivoli and Waddock 2011). Similarly, the impact of CSR policies on firm performance remains uncertain and relatively unclear (Morsing and Perrini 2009).

The inconclusive findings concerning the relationship between social performance and financial performance might be mainly attributed to using aggregate measures for assessing social performance of the firm, as noted by Brammer and Millington (2008). This study uses the key constituents of social responsibility practices separately (namely responsibility to employees, responsibility to customers, responsibility to environment, responsibility to community, responsibility to suppliers etc.), to avoid limitations caused by using an aggregate measurement of social responsibility. Overall, this paper aims to contribute to deepen our knowledge through examining the degree of strategic choices of small firms toward social responsibility as a vehicle for fostering firm's performance through encouraging firm's involvement in social responsibility practices, and to investigate how far is the ownership structure and hopefully, stakeholder involvement, will affect firms' CSR strategy selection.

The novelty of this paper lies in the comprehensive approach that it takes in investigating whether strategic postures of firms have anything to do with their commitment to socially responsible practices leading to organizational performance in financial and reputational terms.

Small businesses are a vital component of Indonesia's economic development and make major contributions to the Indonesian economic life. Small firms constitute more than 40% of the total number of business establishments in Indonesia, and contribute to 20% of the nation's Gross Domestic Product (GDP) (Indonesian statistics bureau, 2014). As a rapidly growing economy, Indonesia is considered as key player in the contemporary world economy.



Our study contribute to the academic literature, especially in Indonesia context, by providing an empirical evidence how the CSR strategy linked with firms performance and ownership structure, and we also show the model that actually pays. Our study will put managerial and policy recommendations that can be replicate easily by practitioners in the real life. Our primary hypothesis posits that the difference in ownership structure of SMEs firms will bring the differences in how companies designed their CSR strategy.

## LITERATURE REVIEW

Recent research has shown that SMEs can acquire competitive advantages through ethical practices (Fuller and Tian 2006) or proactive environmental and sustainability strategy (Aragon-Correa and Sharma 2003). Moreover, often SMEs' managers do not plan and implement social engagement in a strategic way (European Commission 2009; Ortiz Avram and Kuhne 2008). Adopting a Strategic CSR creates value for both SMEs and society and hence SMEs could benefit from such an approach. By prioritizing their stakeholders, SMEs leverage social capital and enhance their growth (Russo and Perrini 2009). Furthermore, CSR activities that enhance firm growth vary with the competitive strategy pursued by the firm. As the competitive strategy of a firm represents the route to creating and maintaining the firm's competitive advantage (Porter 1998), by helping firms create and manage effectively resources (Castelo Branco and Rodrigues 2006) different CSR activities contribute to different types of competitive advantage, facilitating firm growth.

We thus argue that CSR activities are more likely to contribute to firm growth if they are aligned with the competitive strategy of the firm, be it cost leadership, differentiation, or quality driven. To investigate the impact of CSR activities on SMEs growth, we use CSR framework developed by Firmialy and Nainggolan (2016), which consist of three dimension (social aspects, environmental aspects and economic aspects), 17 main indicators and 68 sub-indicators. The framework developed based on stakeholder approach. We focus on CSR activities because activities help firms implement their competitive strategies with the view of creating and maintaining a sustainable competitive advantage and in doing so adding value (Porter 1998).

We focus on firm growth rather than other performance measures among SMEs sales growth is a widely used long-term measurement of performance (Chong 2008), consistent with the notion of sustainability of firms (European Commission 2002). We build on Chandler and Hanks (1994) who distinguish between innovation, cost leadership, and quality as positional competitive advantages for SMEs, stating that quality is an important driver for SMEs' competitiveness. Given our arguments above, we thus expect that CSR activities that influence firm growth vary with the strategy pursued by the SMEs. We argue that by focusing on CSR activities related to the community, the workforce, and the environment, firms can achieve cost savings. Based on previous explanations from the literature review, we established several hypotheses:

H1: The difference in ownership structure of SMEs firms will bring the differences in how companies designed their CSR strategy.

H2: Firms that pursue a cost leadership strategy are more likely to grow fast if they implement their CSR activities.

H3: Firms that pursue a differentiation strategy are more likely to grow fast if they implement their CSR activities.

H4: Firms that pursue a quality-driven strategy are more likely to grow fast if they implement their CSR activities.

## METHODOLOGY

We test our hypotheses using data gathered via a questionnaire survey, with the design anchored to the CSR literature and SME growth literature. To capture the key research themes outlined above, we used a combination of dichotomous, multiple choice and Likert scales, ranging from between three and seven options. We pilot tested the questionnaires with a panel of academics and owner managers to minimize bias. The focus of this study is SMEs in Bandung city, West Java province, with specialization in Culinary and Tourism. To show that the data is representative for the population, we conduct a comparison of proportions test (Kolmogorov-Smirnov test) between our data and the official SMEs statistics provided by Indonesian Ministry of SMEs.

To explore whether the CSR activities that affect growth are aligned with the company's pre-dominant strategy, we estimate the regressions using subsamples by competitive strategy. We asked respondents how often (often, sometimes or never) their companies competed on cost (reflected in lower prices), quality, or differentiation. Each company was then assigned a dummy reflecting its predominant strategy, that is, the strategy used often or sometimes. These dummies help us identify three subsamples, according to the predominant strategy used: cost leadership, differentiation, and quality driven. We use multinomial logistic analysis to establish the relationship and then we will report the results that pass the test of Goodness-of-Fit, that is, for which the model adequately fits.

Our dependent variable is Ownership structure (OWN) and Firms' Growth trend (GROW). For ownership structure, we distinguished into three main categories, which are higher than 80% (dummy variable 3), between 51-79% (dummy 2), and less than 51% (dummy 1). For our second dependent variable, growth trend, we distinguish between rapid growth (higher than 20 percent), slow growth (between 5 and 20 percent), stagnation (between 25 and 15 percent growth) and decline (sales decline of more than 5 percent). Our independent variables, describe various types of CSR activities, anchored to CSR framework developed by Firmialy and Nainggolan (2016).

Our independent variables contains nine dummies variables: CSR Employee (EMP), CSR Customers (CUST), CSR Community (COMM), CSR Competitors (CMPT), CSR human rights (HRIG), CSR products and services (PROD), CSR suppliers (SUPP), CSR environment (ENV), CSR Economic aspects (ECON). We ask respondents whether their firm has implemented CSR activities related to these nine main indicators and their respective sub-indicators. Each dummy takes the value 1 if the firm has implemented CSR activities related to the respective category and 0 if the firm has not implemented CSR activities that fall into the respective category.

We use several control variables such as Age (AGE), Micro Company (MC), Small Company (SC), Growing Market (GM), Declining Market (DM), Strategic Approach (SA), Manufacture (MN) and Services (SR) to account for factors other than CSR activities that may influence firm growth, as discussed in the extant literature. Age captures the number of years since the company was established and accounts for the extent to which companies have developed inbuilt capabilities to manage effectively their resources and thus achieve high growth.

We use two dummy variables, Micro Company and Small Company to investigate whether the impact of CSR on growth is affected by firm size (micro, small, or medium). We use two dummy variables, Growing Market and Declining Market, as control variables, to account for the impact of market growth on firm growth. We use the dummy variable Strategic Approach to examine whether the impact of CSR on growth is affected by the general strategic approach of the firm. Finally, we use two dummy variables (Manufacture and Services) to investigate whether the industry in which firms operate affects the relationship between CSR and firm growth. Here below is our model formulation:

$$\text{OWN, GROW} = \alpha_0 + \alpha_1 \text{EMP} + \alpha_2 \text{CUST} + \alpha_3 \text{COMM} + \alpha_4 \text{CMPT} + \alpha_5 \text{HRIG} + \alpha_6 \text{PROD} + \alpha_7 \text{SUPP} + \alpha_8 \text{ENV} + \alpha_9 \text{ECON} + \alpha_{10} \text{AGE} + \alpha_{11} \text{MC} + \alpha_{12} \text{SC} + \alpha_{13} \text{GM} + \alpha_{14} \text{DM} + \alpha_{15} \text{SA} + \alpha_{16} \text{MN} + \alpha_j \text{SR} + u_j$$

Whereas: OWN = Ownership structure, distinguished into three main categories, higher than 80%, between 51-79% and less than 51% (dummy 1-3), GROW = Growth Trend, rapid growth (higher than 20 percent), slow growth (between 5 and 20 percent), stagnation (between 25 and 15 percent growth) and decline (sales decline of more than 5 percent),

EMP = CSR Employee, CUST = CSR Customers, COMM = CSR Community, CMPT = CSR Competitors, HRIG = CSR human rights, PROD = CSR products and services, SUPP = CSR suppliers, ENV = CSR environment,

ECON = CSR Economic, AGE = Company's Age, MC = Micro Company, SC = Small Company, GM = Growing Market, DM = Declining Market, SA = Strategic Approach, MN = Manufacture and SR = Services.

We present our model in Figure.1 below.

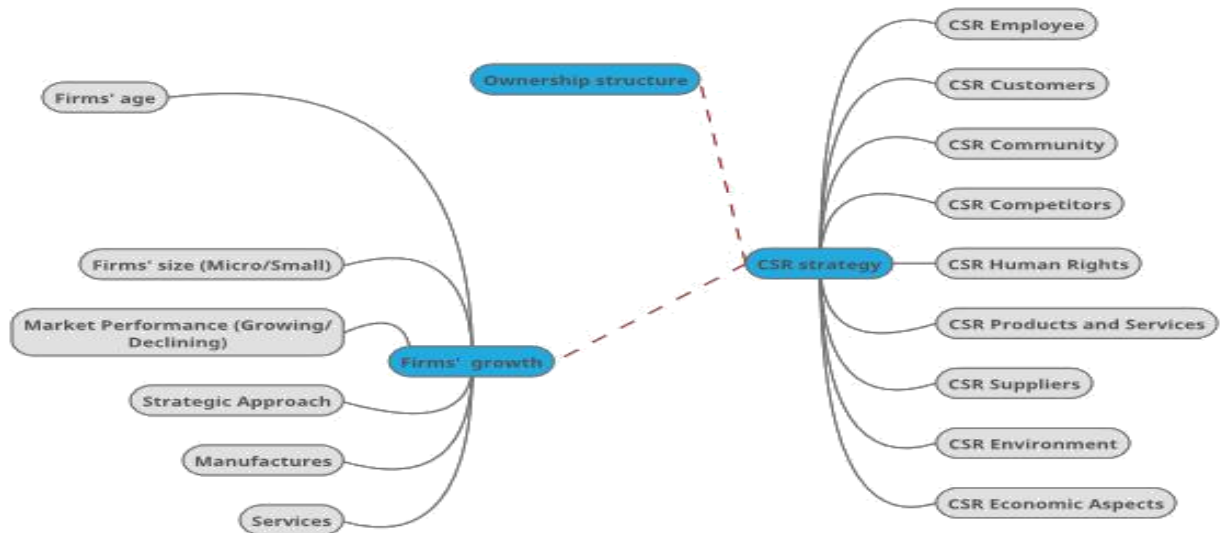


Figure1. Our Model Specification

## CURRENT FINDINGS AND EXPECTED RESULTS

This paper aims to contribute to deepen our knowledge through examining the degree of strategic choices of small firms toward social responsibility as a vehicle for fostering firm's performance through encouraging firm's involvement in social responsibility practices, and to investigate how far is the ownership structure and hopefully, stakeholder involvement, will affect firms' CSR strategy selection. The novelty of this paper lies in the comprehensive approach that it takes in investigating whether strategic postures of firms have anything to do with their commitment to socially responsible practices leading to organizational performance in financial and reputational terms.

Small businesses are a vital component of Indonesia's economic development and make major contributions to the Indonesian economic life. Small firms constitute more than 40% of the total number of business establishments in Indonesia, and contribute to 20% of the nation's Gross Domestic Product (GDP) (Indonesian statistics bureau, 2014). As a rapidly growing economy, Indonesia is considered as key player in the contemporary world economy.

Our study contribute to the academic literature, especially in Indonesia context, by providing an empirical evidence how the CSR strategy linked with firms performance and ownership structure, and we also show the model that actually pays. Our study will put managerial and policy recommendations that can be replicate easily by practitioners in the real life. Our primary hypothesis posits that the difference in ownership structure of SMEs firms will bring the differences in how companies designed their CSR strategy.

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## REDUCING POVERTY AND INEQUALITY OF OTOP HOUSEHOLD ENTREPRENEURS: EVIDENCE FROM THAILAND.

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### EXTENDED ABSTRACT

This research is part of the dissertation “Reducing Poverty and Inequality of Household Enterprises of One Tambon, One Product of the Local Cotton Processing at Ubon Ratchathani Province,” and this research paper seeks to analyze the solutions to the problems of poverty and inequality of OTOP household entrepreneurs using the community enterprise development processes as a tool for solutions to poverty and disparity among the people. The research instruments were in-depth interviews and focus group discussions with 42 key informants who are entrepreneurs, officials of the sections supporting the project, and a group of academicians to draw conclusions on poverty reduction and disparity of OTOP household entrepreneurs using the community enterprise development processes. The research findings indicated that four important guidelines for community enterprise development feasibly leading to the reduction of poverty and inequality among OTOP household entrepreneurs is to improve the work were: 1) System and mechanism development for business support/development, 2) Entrepreneurship development, 3) Product development, and 4) Marketing opportunity.

*Keywords:* Reducing Poverty, Inequality, OTOP, Community Enterprises

### INTRODUCTION

Back to the times Thailand and the people at all levels were facing an economic crisis with a number of problems with which one being beset by the grassroots who were the majority of the country was *poverty*, Thai Rak Thai party-led government under Prime Minister Taksin Shinawatra declared a *war against poverty* with one policy announced to the Parliament to organize the **One Tambon, One Product (OTOP) project** (henceforth "OTOP") in order for each community to utilize the local wisdom in its own product development. With the government prompt assistance in modern technology and the network management of the linkage between the community products and both domestic and international markets via the network and internet-based store systems, this should well encourage and promote the local development processes and the establishment of a strong, self-reliant community. Later, the Office of the Prime Minister Regulations on the One Tambon, One Product National Board (2001) were formally announced, assigning the OTOP Directive Committee under the Prime Minister's Office, authorized to formulate strategic policies and operational master plans “One Tambon, One Product,” to define standards and criteria for selection and registration of *OTOP Product Champions* of the sub-districts, and to support efficient implementation according to the policies, strategies and master plan. (Jaiborisudhi, W., 2011; Pinchai, K., 2013)

The OTOP program would play an important role in reducing still considerably high poverty and inequality in Thailand, especially in the Northeast of the country—the region with poverty spread in 17 provinces, regarded as the highest number in the country. With that in consideration, the research *Reducing Poverty and Inequality of Household Enterprises of One Tambon One Product of the Local Cotton Processing in Ubon Ratchathani Province* was conducted, investigating the performance of three OTOP textile business groups in the Northeastern region of Thailand. It is designed to analyze the solutions to the problems of poverty and inequality of OTOP household entrepreneurs using the community enterprise development processes as a tool for solutions to poverty and disparity among the people.

### LITERATURE REVIEW

#### 1. The situations of poverty and inequality in Thailand

##### 1.1 The situations of poverty

Poverty is one of the major obstacles and problems of the people being faced with, particularly all around the world. As of 2013, there were about 2.47 billion people in the world, living in poverty with an income of USD 2 or less a day, of which most are from developing or under developing countries located in African and Asian continents. The population living under poverty only declined from 2.59 billion to 2.47 billion between 1981 and 2013 (Hussain, M. D., Bhuiyan, A. B. & Bakar, R., 2014).

As for poverty in Thailand, the incidence of poverty has continuously declined from around 33.8% in 1988 to 9.0% in 2008. The poverty rate of 9.0% is relatively low compared to other middle-income countries (Bird, K., Hattel, K., Sasaki E. & Attapich, L. 2011). Most recently in 2015, overall poverty rate has fallen to 7.2 percent, or equaling to 4.8 million deprived people in the country, still populated in the Northeast, due to low education, main agriculture-based jobs, and a high proportion of non-registered workers (Office of National Economic and Social Development Board: NESDB, 2016b). Of the declined rate of poverty, however, the indigent of 2.24 percent or about 1.5 million poverty-stricken people still need public concern. The most worrying issue for this group is their inability to provide security assurance for their children allowing generations of poverty cycle. The main policy on any support for this group shall, therefore, be very purposive and specific, covering social security and welfare (Jitsuchon, S. & Plangraphan, J., 2013).

### **1.2 The situations of inequality**

As for the situations of inequality, the disparity in income or income distribution as a whole is relatively poised, with an issue of income distribution at a moderate level. When viewed through the Gini Coefficient, the rate is about 0.4-0.5, prone to slightly decrease from 0.487 in 1988 to 0.445 in 2015. However, when the income gap between the richest and the poorest is considered, the difference is about 22.1 times in 2015 due to the fact that 10% of the income is concentrated in a small group of people, especially the richest group, holding 39.3% of the total income, while 10% of the poorest group possesses only 1.6% of the total income. The disparity in expenditure on consumption or *the inequality in living standard* of people in the Thai society is still present but seems less problematic than the income disparity. On financial asset disparity, financial assets are clustered together in a small group of people as deposits appears in the savings and fixed deposit accounts in commercial banks fixed in to a group of only about 0.1% of the total numbers of accounts with a credit limit of 10 million baht or more. However, the total deposit amount of this group hits up to 46.5% of the entire deposit amount in the system (NESDB, 2016).

## **2. OTOP Implementation for Poverty and Inequality Issues**

In a big picture of the mechanisms, activities and project performance, the OTOP project was driven by the government important policy of increasing careers and income for the community from the grassroots level, so the mechanisms and the organizations in charge were assigned in a strict and careful manner. Thus, apart from the nomination of the National Directive Committee, nine subcommittees were also appointed, comprehensively responsible for scheme and budget planning, promotion of production, standardization and product selection criteria, marketing promotion, research, and so forth. Moreover, there were other organizations associated to take responsibility, namely 1) Community Development Department 2) Ministry of Internal Affairs 3) Ministry of Agriculture and Cooperatives by the Cooperative Promotion Department 4) Ministry of Commerce 5) Office of Small and Medium Enterprise Promotion 6) Department of Industrial Promotion 7) The Thai Industrial Standards Institute 8) Office of the National Economic and Social Development Board, and 9) Office of the Permanent Secretary, Prime Minister Office (Office of Economic Research and Assessment, Excellent Business Management Co., Ltd., 2015)..

According to the aforementioned important activities, work outcome has been achieved as planned. In 2012, there were 36,090 entrepreneurs with 71,739 products registered in the Community Development Department. The Thai Industrial Standards Institute (TISI) managed to set up the Community Product Standards including 1,469 standard items applicable to entrepreneurs for standard certification. In addition, through the years 2003 - 2014, The Thai Industrial Standards Institute granted certifications to accredited 60,490 products of the OTOP businesses. As for the intellectual property registration, 6,961 items were involved in 4,843 registered trademarks, 1,055 registered local wisdoms, and the rest in other types of intellectual property registrations such as copyrights, trade secrets, petty patents, and geographical indications. The patent registration was overall viewed as a considerably low rate, however. In terms of income, the total sales of 736,878 million baht made an increase of 5.86% average cumulative rate per year during 2002-2013. Nonetheless, the assessment of the project according to the plan is considered an unachieved success (Office of Economic Research and Assessment, Excellent Business Management Co., Ltd., 2015).

On operating mechanisms supporting OTOP businesses in the study area, the OTOP business groups in Ubon Ratchathani province officially registered in the system of the Community Development Department have all been supported by the units according to the national mechanisms formulated together with the Provincial Administrative Organization, the Provincial Chamber of Commerce, Non-Formal Education Center and local higher education institutions (Ubon Ratchathani University and Ubon Ratchathani Rajabhat University). The most frequent practical activities so far have included mentoring, entrepreneurship development, production skill improvement (weaving, cutting, sewing, etc.), designing patterns, productivity, book-keeping, product standard development, consultation on patent and intellectual property registrations, budget support, campaigns for marketing channels, and selection of best products in the areas.

When tracking the success of the project in the area, however, the research team considered the success of the operation in terms of increasing income and reduction of poverty and inequality to be unclear. The fact that the activities and the results are unstable and inconclusive should call for attention: most of the participating members feel that their own household condition is still mediocre, while most of the participants with fewer family members and if especially in working age indicate that their income and living condition are even more likely to improve. On the contrary, those with more family members and if most in an older age indicate that earning a living, income status and living condition tend to worsen.

The study of factors indicating success and failure in SMEs suggests that as SME businesses continue to be an important channel for increasing income to the grassroots community which have still been maintained by the Thai government (2559a) and other countries in Asia, Europe, America, Africa and Russia (Pletnev, D. & Barkhatov, V., 2016).

To develop a more successful model of community business schemes, a number of researchers conducted researches to draw a conclusion of factors influencing community business operations (Laowchod, A., 2004; Nimpanich, J. & Prommapun, B., 2005; Jongwutiwes, N. Singhalert, R. & Patsago, S., 2009; Thanosorn, S. Chantasena, C. & Bunjerdrid, S., 2010; Vesdapunt, R. & Santipolwut, S., 2012) twelve factors were suggested in the success of the community business: Leader, Labor Management Process, Production Process, Capital, Marketing, Management and Administration, Product Development, Organization Regulations, Membership Participation, External Interactions, Community Welfare Management, and Sufficiency Economy Model.

## METHODOLOGY

In this research, several methods were employed as follows:

**1. Research approach:** this qualitative research was given data by the key informants including the *entrepreneur group* comprising manufacturers, entrepreneurs, and academic staff/governmental officials serving as group mentors, of ten members apiece, 30 participants in total, and *Ubon Ratchathani supporting academician group* consisting of 12 academic staff.

**2. Research tools:** in-depth interviews and focus group discussions

**3. Data collection:** In the first phase, group discussions were held in the target villages with business groups. The data obtained from the interviews was analyzed for an optimal development guideline for OTOP textile business of Ubon Ratchathani Province in the second phase. Finally, in the third phase, an academic group discussion was held with the academicians for a summary of optimal development guideline for OTOP textile business of Ubon Ratchathani Province.

## FINDINGS AND ARGUMENTS

The findings included feedback given by the target groups to the work in reducing poverty and inequality of OTOP household entrepreneurs using community enterprise development processes according to the previous activities promoting OTOP business development: any types of activities emphasizing knowledge and education provided by the supporting organizations in the forms of trainings and consultation with trainers or specialized facilitators have been of moderate practical use. This is due to the promoters' belief that such development processes would render solutions to product, administration, and marketing issues and seek increasing income for the people resulting in reduction of poverty and inequality among the OTOP entrepreneurs. In fact, however, the previous course of action still seems beyond practicality in that any supporting operational processes lack the essence of true potential drawn from the business groups, particularly groups, in particularly areas with a discrepancy of knowledge, competence, and skill of the executives, manufacturers, distributors, time and cooperation dedicated by the group members. Therefore, a number of times of occasional success in the development processes assisted by the consultants and facilitators, to the

products, administration and marketing are usually unsustainable ones. Moreover, assistance and support given at times are based on superficial information or an overview of problems at parts rather than as a whole. Thus, the support can only fix specific parts, not all others, affecting new constantly occurring issues. Finally, another problem that follows the activities that do not fix the contextual requirements is the fading enthusiasm with which the members pay in the participation, thereby lowering group cooperation, strength, and business competitiveness.

The key components that can lead to the solution of poverty and inequality problems of OTOP household entrepreneurs consist of the four main issues as follows;

- 1) System and mechanism development for business support/development: Researches should be conducted, and database of each business segment should be provided, for instance the group development, previous performance reports, current conditions of business potential, group management potential, production skills, quality, product standards, marketing, distribution, problems and obstacles to be coped with urgently, etc., so as to be able to provide supporting plans with ultimate goal and activities facilitating the development emphasizing the cooperation of both internal and external sections of duty, skill, and expertise and to develop the textile businesses in production, administration, and distribution with more income distribution leading to reduction of poverty and inequality in a practical manner.

- 2) Entrepreneurship development: Under the development scheme in accordance with guidelines and plans, this should be done with emphasis on the benefits, needs, participation (in the sharing, planning, and decision-making processes), and a sense of responsibility for the social, cultural and environmental diversities in the community as the first priority for sustainable community enterprise development leading to income distribution and reduction of poverty and inequality of the household members.

- 3) Product development: Support should be given to the study and collection of *local wisdom manuscripts* and establishment of the *local wisdom library* together with development guidance and extended productivity using local wisdom, clarification and time-and-process saving manner of assisting the business group members in eligibility for community product quality certification under the *Geographical Indication Mark* that will lead to pricing and bargaining power of the community products. This is hoped for steady income that will help to reduce poverty and inequality.

- 4) Marketing opportunity: Expansion of OTOP markets or distributing centers should be supported in various other communities, provincial OTOP exhibition centers coordinating with the local government sections and private department stores, and connections between OTOP businesses and tourism in tourist attractions and hotels in the province to facilitate OTOP promotions. The OTOP sub-committee at the provincial level may coordinate with business sections, such service centers as hotels, restaurants, department stores, etc. to increase the use of OTOP products in the province for increased sales as another way to increase income and reduce poverty and inequality.

## CONCLUSIONS

The OTOP project implemented by the Thai government is one of the mechanisms to fight against the problem of poverty, create jobs, and promote income of the grassroots economy in the community level which has been operating since 2001 up to the present. Results from the project assessment have been shown at a mediocre level due to problems in the government sector supporting processes limited to some aspects of integrated work with others resulting in the inability to reduce poverty and inequality of the household entrepreneurship. The results of this research suggest that the importance of the database system of the business groups, the development plan appropriate for individual group, the focus on the households having been assessed as developed, and mobilization of participation from all the parties involved could lead to the tangible solution of poverty and inequality of the OTOP household entrepreneurs. Public participation is another way to reduce conflicts in resource sharing with the Thai government's decision to set a policy that is beneficial to the people with more effective participation. This way participants can gain tangible benefits from efficient public participation processes. However, the expectations of planners and citizens must be equivalent to the efficient processes.

The OTOP implementation by the Thai government as a mechanism to cope with poverty problem has not been very successful due to limited support on integrated work provided by the government sector resulting in intangible poverty reduction and household disparity. The results of this research have important suggestions as in the following:



1. Community enterprise development should be under the network partnership, both government and private sectors collaborating on these issues with the focus on database system of the enterprise partnership for an up-to-date catch in the modern era with information technology in methods of order placing and marketing for accessibility to a variety of target groups both domestically and internationally.
2. The development plan is made appropriate for individual groups especially in the age of mobile competitiveness. Activities for enterprise group development should be based on the needs of the business, not directed by the government as a project developer. Therefore, the sections responsible for the coordination should take this idea as a priority and jointly design activities together with the enterprise groups.
3. Enterprise group development with a "quantitative" focus rather than a "quality" focus as previously done has proved to be inefficient. To maximize the implementation of the activity plan, an opportunity for all the parties involved to brainstorm, to study, to prioritize and to find out how to resolve those issues together should be considered. This aims to jointly set policies beneficial to the people and to seek the solution to poverty issue and disparity reduction of the OTOP household entrepreneurs.

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## EXPLORATION AND EXPLOITATION STRATEGIES IN SME FAMILY FIRMS

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### EXTENDED ABSTRACT

The survival of family firms may lie in their ability in exploiting their current competitive advantage while concurrently exploring new opportunities present in their way. However, scantiness of resources makes it hard to employ both strategies simultaneously. As such, this paper looks on how family firms decide to pursue exploitation or exploration strategies. Furthermore, the unique culture of family firms, for instance, long-term orientation, risk aversion, and aspiration, suggests a variety of ways to implement strategies, which could be of exploration or exploitation strategy. Hence, the main objective of this study is to review both the exploration and exploitation strategies found in the literature as practiced in family firms. On top of that, this study proposes a conceptual model to further comprehend the decisions made in undertaking exploration and exploitation strategies among family firms.

**Keywords:** : exploration, exploitation, family firms, family firms culture

### INTRODUCTION

Exploration and exploitation strategies are pivotal to intensify both the long-term performance (Chen, 2016; Kammerlander et al., 2015) and the survival (Hill & Birkinshaw, 2014; Kollmann & Stockmann, 2014) of a firm. In fact, the implementation of exploration strategy enables organizations to alter their direction and encourage them to move forward (Gupta, Smith, & Shalley, 2006), whereas exploitation strategy enables organizations to remain strong and ample in performing their current activities (Blindenbach-Driessen & Ende, 2014). In addition, exploration strategy is defined as entrepreneurial action (Hitt et al., 2011) that aims to create new business opportunities by developing new products or services, processes or market (Ireland, Hitt, & Sirmon, 2003, Lumpkin & Dess, 1996). On the other hand, exploitation strategy refers to entrepreneurial actions, inclusive of refinement, selection, efficiency, and production, besides serving as the foundation for current sources of a firm in the light of competitive advantage (Ireland & Webb, 2009).

The exploration strategy leads firms to produce new products or services, besides creating new businesses and markets, as well as reaching out to new customers (Lin et al., 2016). Nevertheless, placing focus on exploration strategy only inhibits firms from generating sufficient income stream in order to remain sustainable in the market (Kollmann & Stockmann, 2014; Lee, 2015). Meanwhile, the exploitation strategy concentrates on exploiting the present competitive advantage of a firm by efficiently managing its existing resources and capabilities. With exploitation strategy, firms are able to produce likeable products befitting to the market and thereupon, generate short-term income (Govindarajan & Trimble, 2010). Nonetheless, depending solely on exploitation strategy hinders firms from being able to cope with rigorous competitors that develop new technologies and products (Chen, 2016). Therefore, pursuing both strategies are indeed essential to compete in the long term, as well as to stay sustainable in the market (Kollmann & Stockmann, 2014; Lin et al., 2016). However, the limited resources, especially those faced by SMEs, have created a tension between exploration and exploitation strategies (Ireland & Webb, 2009; Kyrgidou & Petridou, 2011). Therefore, understanding how family firms decide to pursue exploration or exploitation strategies is indeed imminent.

Exploration and exploitation strategies have been previously researched and amplified in well-established firms (Hill & Birkinshaw, 2014; Yang et al., 2014), but few has looked into the context of SME family firms (Moss, Payne & Moore, 2014; Hiebl, 2015). As such, this study highlights the implementation of exploration and exploitation strategies within the context of family firms mainly because this area is untapped, as well as the unique aspects of family firms in managing business, in comparison to non-family firms. Besides, family firms play a crucial role in boosting the national economic development, where two third of the businesses worldwide are controlled by family firms (Family Firms Institute, 2015).

Additionally, family firms contribute about 70 to 90 percent of the global gross domestic product (GDP) annually (Family Firms Institute, 2015) and provide 50 to 80 percent employment worldwide (European Family Businesses Review, 2012). On top of that, family firms are defined as firms that are managed and owned by family members (Deakins & Freel, 2012; Sharma & Salvato, 2013), besides sharing similar vision and commitment for future success (Hoy & Sharma, 2010). These family members are usually comprised of both immediate family (i.e. parents, spouse, siblings, and children) and extended family (i.e. cousin, aunt, and uncle) (Nordqvist & Melin, 2010). In fact, most family firms possess the potential to sustain long-term business due to their ultimate goal, which is to survive across multiple generations (Nordqvist & Melin, 2010). However, a prior study indicated that 70 percent of these family firms fail to survive the second generation, while 90 percent hardly sustain in the third generation (Walsh, 2011). Hence, it is essential to understand both the exploration and exploitation strategies since these approaches have the tendency to boost the performance of these firms. Therefore, this study reviews the literature pertaining to exploration and exploitation strategies practiced in family firms, besides proposing a conceptual model to comprehend how these family firms pursue exploration and exploitation strategies.

## **LITERATURE REVIEW**

The exploration and exploitation techniques employed in various organizations have emerged as prominent studies since the seminal work of organizational learning initiated by March (1991). As such, this particular notion has been applied in various contexts and interpretation, such as in organizational learning (Levinthal & March, 1993; Siren, Kohtamaki, & Kuckertz, 2012), technological innovation (He & Wong, 2004; Hughes et al., 2015), organizational design (Jansen, Volberda, & Van Den Bosch, 2006), marketing (Geerts et al., 2010), strategic alliances (Yang, Zheng, & Zhao, 2014), and strategic entrepreneurship (Ireland & Webb, 2009; Shirokova, Vega, & Sokolova, 2013). As for this paper, exploration and exploitation approaches are denoted as strategies, where exploration is the development of new product or service or market, while exploitation is the refinement of any existing product or service or market, which is in agreement with studies carried out by Patel and Chrisman (2014), as well as Piao and Zajac (2015). Furthermore, these firms would necessarily need to employ the exploration strategy as a source for wealth creation, whereas the exploiting strategy ascertains the future competitive advantage of a firm (Foss, Lyngsie, & Zahra, 2013; Hitt et al., 2011).

## **EXPLORATION**

Exploration refers to the activities carried out by an entrepreneur, including risk taking, searching, discovering, experimenting, and innovating (March, 1991). Hence, exploration activities focus on developing new knowledge, products, and services for potential customers and market (Lavie, Stettner, & Tushman, 2010; March, 1991; Piao & Zajac, 2015). With that, these exploration strategies are established via experimentation, creativity, and broad knowledge to develop the novelty of a product or service, besides creating capabilities necessary for survival and long-term prosperity (Ireland et al., 2003; March, 1991; Uotila et al., 2009). Nonetheless, exploration activities are uncertain, imply longer time horizons, and focus on new opportunities, as well as long-term competitiveness, by keeping the firm agile in facing upcoming challenges (Hiebl, 2015; Miller & Breton-Miller, 2015). Therefore, it is crucial to manage potential resources and uncertainties (Ireland & Webb, 2009) in order to attain success with exploration strategies. Hence, firms would need to integrate new knowledge with that existing to especially be positioned in the changing market (Ireland & Webb, 2009). Nevertheless, placing too much of focus on exploration strategies may harm the performance exerted by firms as they run the risk of getting stuck in unprofitable experimentation (Raisch et al., 2009; Wiklund & Shepherd, 2011). Besides, focusing solely on exploration strategies may inhibit firms from generating sufficient income, thus jeopardising their sustainability in the market (Kollmann & Stockmann, 2014; Lee, 2015).

## **EXPLOITATION**

In contrast, exploitation strategies refer to the activities performed by entrepreneurs, for instance, refinement, production, efficient implementation, and execution (March, 1991). Besides, exploitation activities focus on reducing variance, besides extending and improving present products and services for the current market (Wang & Rafiq, 2014). In precise, these exploitation strategies are essential to strengthen the current customer relationships (Hitt et al., 2011). Moreover, these exploitation strategies are formed by utilizing both existing competitive advantage and less influential sources of uncertainty as the product or service is already well-known and accepted by the stakeholders (Ireland & Webb, 2009). However, focusing solely on exploitation may eventually diminish the possibility to detect and adopt growth opportunities deemed necessary for the long-term survival of firms (March, 1991; Kollmann & Stockmann, 2014). To sum up, exploration strategies are for long-term performance, whereas exploitation strategies are beneficial for short-term performance (Chen, 2016; Kammerlander et al., 2015; Makkonen, et al., 2014). Thus, employing both exploration and exploitation activities is indeed significant in determining the success (Shirokova et al., 2013; Stettner & Lavie, 2014), the survival (Hill & Birkinshaw, 2014), and the sustenance of competitive advantage among firms (Abebe & Angriawan, 2014; O'Reilly & Tushman, 2013). Furthermore, both strategies facilitate entrepreneurs to take strategic actions in overcoming uncertainty issues (Kyrgidou & Petridou, 2011; O'Reilly & Tushman, 2013; Shirokova et al., 2013), for example, volatile market and changes in government policy.

## **CULTURE OF FAMILY FIRMS**

The importance of family firms for economic development has been acknowledged since long time ago. Family firms are rather unique in their context as they consist of family members (ownership), the family itself, and the business interaction (Chrisman, Chua, & Steier 2005), as proposed in the three-circle model initiated by Tagiuri and Davis (1996). This interaction between the family members builds a greater level of trust, as well as more mutuality and exchange of information among them. This notion of trust among the kin is indeed beneficial for family firms especially in accumulating resources, such as transferring tacit knowledge (Breton-Miller & Miller, 2015), protecting and leveraging reputation (Habbershon & Williams, 1999), building strong relationships (Arregle et al., 2007; Pearson, Carr & Shaw, 2008), as well as slacking of resources, which support firms to succeed even while enduring uncertainty periods. In precise, family members are tied with bond of affection, loyalty, and shared values (Gomez-Mejia et al., 2011). They show their loyalty and affection by giving the best performance to their firms by putting their selfish motivation away (Lubatkin, Ling, & Schulze, 2007). In fact, they are often willing to work for long hours with meagre wage (Gomez-Mejia et al., 2011; Breton-Miller & Miller, 2015). Furthermore, with the training taken from family firms, family members become more confident as they enrich themselves with experiences and have ability to discover the right opportunities (Sardeshmukh & Corbett, 2011). In addition, long-term orientation could potentially shape the mindset of family members involved in the business and develop core competencies. Long-term orientation is defined as “the tendency to prioritise long-range implications, as well as the impact of decisions and actions that come to fruition after an extended time period” (Lumpkin, Brigham, & Moss, 2010, p. 241). Hence, family firms are said to possess long-term orientation primarily due to their desire to pass the business to the next generation (Carney, 2005; Patel & Fiet, 2011). However, family firms are known as risk averse. Risk averse reflects the willingness of a firm to venture into the unknown without certain knowledge of the possible outcomes (Covin & Slevin, 1991). As family firms usually rely on their own assets, they pursue strategies that would decrease the risk of financial failure. Therefore, comprehending how family firms decide to pursue exploration and exploitation strategies is indeed significant.

## EXPLORATION AND EXPLOITATION STRATEGIES ADOPTED BY FAMILY FIRMS

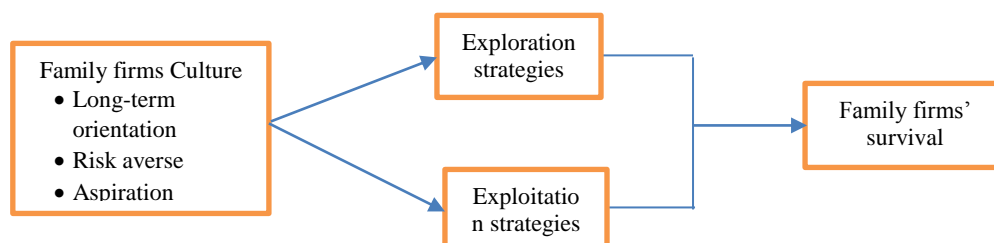
Family firms would need to reflect their entrepreneurial culture to ascertain the implementation of exploring and exploiting strategies (Goel & Jones, 2016). The long-term orientation in family firms offers the advantage of exploring and exploiting new opportunities in both static and dynamic environments (Patel & Fiat, 2011). Besides, it is advantageous for firms to develop core competencies due to the path dependencies, which could have been developed over the years (Brigham et al., 2014; Teece, 2014). In addition, Moss et al., (2014) suggest that path-dependency of either exploration or exploitation is specifically salient in family firms. The entrepreneurial mindset developed in the light of long-term orientation does support the comprehensive environmental screening and exploring new opportunities (König, Kammerlander, & Enders, 2013). Conversely, via long-term orientation, family firms might likely pursue the exploitation strategy due to rigidity factors by solely focusing on current expertise and capabilities primarily due to their reliance on inside resources, perspectives, and opinions (Gomez-Mejia et al., 2011).

Meanwhile, as for SME family firms, more opportunities lay at their doorstep to explore new resources (Tsai & Lei, 2016; Yang et al., 2014) mainly due to their flexible and unimpeded operations that disregard rigid procedures with involvement of external capital provider (Konig et al., 2013). Moreover, SME family firms tend to have more skills and motivation in exploring new opportunities, but their limited knowledge and capabilities hinder them from exploiting those opportunities (Tsai & Lei, 2016; Yang et al., 2014). Nonetheless, SME family firms with high level of risk aversion may resort to exploitative activities (Abebe & Angriawan, 2014; Hiebl, 2015; König et al., 2013). Furthermore, the aspect of family control might be detrimental to aggression and hinders the exploration strategy (Chrisman et al., 2015). Therefore, family managers would try their best to avoid failure and may end up considering less risky projects (Hiebl, 2015), which reflects the exploitation strategy.

Nevertheless, the implementation of exploration or exploitation strategies is highly dependent on the aspiration held by the SME family firms (Patel & Chrisman, 2014). Furthermore, based on the socioemotional wealth considerations, family firms are likely to engage more in exploitation strategy due to firm traditions, reputation, and family ownership dilution when their performance overpowers aspiration (Patel & Chrisman, 2014). On the other hand, they may turn to exploration strategies when their performance is below their aspiration in order to prevent loss of socioemotional wealth (Patel & Chrisman, 2014). Hence, family firms may opt either exploration or exploitation strategies based on the culture adopted by these firms.

## CONCEPTUAL FRAMEWORK

The conceptual framework of this study is developed based on the discussion in section 2 above. Generally, the (a) family firms' culture consists of long-term orientation, risk averse and aspiration to support the exploration and exploitation strategies engagement. The family firms culture typically reflect on the decision either to pursue with exploration or exploitation strategies or implementing both strategies simultaneously. Both exploration and exploitation strategies assist family firms to survive in the market. The conceptual framework of this study is shown in Figure 1.



**Figure 1:** Exploration and exploitation strategies in Family firm

## CONCLUSIONS

Exploration and exploitation strategies are indeed distinct and separate organizational activities, but they are correlated. While exploitation focuses on quality and efficiency, enabling firms to closely monitor and optimize current business activities; exploration looks into new opportunities, products, services, market, and customers, thus enabling firms to attain long-term competitiveness. Besides, exploration and exploitation represent two connected elements in achieving current and future firm performance. Therefore, in order to achieve long-term survival, these organizations must be able to continuously adapt to volatile environments, besides managing both exploration and exploitation strategies in an efficient manner. Meanwhile, in the context of family firms, studies concerning exploration and exploitation strategies do provide additional information to entrepreneurs and encourage family firms to implement both strategies simultaneously. As such, future studies can be expanded by interviewing successful family firms, in which the result can be compiled into multiple-case studies. Such case study design could validate the proposed conceptual framework and directly enhance one's comprehension regarding family firms, especially the benefits of implementing both exploration and exploitation strategies.

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## DO WE NEED SURROGATE ENTREPRENEUR? THE CASE OF UNIVERSITI SPIN-OFF PERFORMANCE IN MALAYSIA

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### EXTENDED ABSTRACT

The importance of exploiting and commercializing products from research and innovation is beginning to be realized throughout the world especially through the formation of university spin-off company. The formation of university spin-off (USO) companies are becoming more important because they are potentially very lucrative, help promote local economic development and provide continuous income for the university. Realizing the importance of forming the spin-off company for universities, this study looks on the role of surrogate entrepreneur involved along the formation and development of a USO. This is an empirical study discussed about the role of surrogate entrepreneur in USO companies. Qualitative method with case study using semi-structured questionnaire were used in this study. Respondents of this study were officers of technology transfer office (TTO) and inventors of USO companies in four (4) Research University in Malaysia. The findings shows that when the surrogate entrepreneur paly their roles in USO, the USO formation was increased and performance was higher. Thus, the role of surrogate entrepreneur will help the commercialization rate of university patents plus also will help the industry.

**Keywords:** : surrogate entrepreneur, university spin-off, technology transfer office, commercialization

### INTRODUCTION

This paper aims to prove that surrogate entrepreneur play the big role on the performance of university spin-off company. Recently, TTO in certain Research University (RU) in Malaysia appointed surrogate entrepreneur to make a venture to form a university spin-off (USO) company. Surrogate entrepreneur can be define as the entrepreneur who attempts to create a new venture which in this case is the USO (Lundqvist, 2014) . Surrogate entrepreneur will help the university (as the owner of the technology), inventor and also TTO to make the company viable. This study is an empirical study that will discuss the role of surrogate entrepreneur that will help USO to sustain in the market place. The research methodology used in this paper is qualitative method with case study using semi-structured questionnaire. The IV for this study is the surrogate entrepreneur and the DV is the company performance. Respondents of this study were the officer of technology transfer office (TTO) and founders of USO companies in four (4) Research University (RU) in Malaysia. The findings shows th relationship between the role of surrogate entrepreneur, rate of USO formation and the performance of the USO. From total of 43 USOs incorporated from 2007-2010 in four RUs in Malaysia, only 56% USO make the collaboration with the surrogate entrepreneurs. When the surrogate entrepreneur play their roles in USO, the USO formation was increased and performance was higher. Thus, the role of surrogate entrepreneur will help the commercialization rate of university patents plus also will help the industry.

### LITERATURE REVIEW

The literature review will begin with defination of USO and surrogate entrepreneur followed by role of surrogate entrepreneur in formation of USO, funding provider and seeker, and managing the USO.

#### 2.1 Defination of USO and Surrogate Entrepreneur

University spin-off (USO) company began to be recognized from the legendary “Silicon Valley” and “Route 128”. There are various interpretations that can define a university spin-off (USO) company based on the previous researchers scope and studies. Basically, the main idea of a USO is that it should be a new company that is being created from the university, to exploit knowledge produced by academic activities with a profit-making perspective (Hayter, 2016; Hogan & Zhou, 2010; Shane, 2004). According to Algieri, Aquino, & Succurro, (2013), they defined USO as companies which are evolved from universities through commercialization of intellectual properties and transfer of technology developed within academic institutions. USO is one of the mechanisms to transfer the technology because the formation of the USO is to commercialize a technology that is originated from a university research and the USO can be regarded as a sub-set of innovation-based companies. As being mentioned by almost all scholars, a university spin-off company is a new start up that exploits a university-developed technology as the university is the parent organization. There are several definition of USO when it comes to who the founders of the USO. Research found that USO in which the founders were not only someone who left the university and form their own company. Pirnay et al., (2003), Shane, (2004) and van Geenhuizen & Soetanto, (2009) broadened their scope of founders by pointing to current or former members of a university (including academic staff, researcher student) and also surrogate entrepreneurs who exploited university-developed invention and created a new venture, assumed as the USO.

## *2.2 Role of Surrogate Entrepreneur*

### *2.2.1 Funding seekers*

Surrogate entrepreneur has experience with the and actively seeks for the seed fund (Elpida et al., 2010; Franklin et.al., 2001). He know the major player in who can provide funding. Surrogate entrepreneur can also convince venture capitalist or other financial providers for seed fund, with their credibility in the business industry.

### *2.2.2 Networking*

According to (Vohora et. al., 2004) the ability to access the resources, good in social capital (network with the outside parties) and sufficient entrepreneurial capabilities such as entrepreneurial intelligence and entrepreneurial mindset are the examples of the credibility that should be anchored in new venture entrepreneurs. This is the pinned point the surrogate role is important in forming the USO. If the technology is at an early stage of technology development at which the university inventions are licensed to the USO established by a surrogate entrepreneur, the tacitness of the knowledge that underlies these inventions, shows that the inventor's involvement is the central of the spin-off company development (Shane,2004). Thus, surrogate have to work closely with the inventor to make sure the sustainability of the USO. This statement was supported by Blair & Hitchens (1998). Therefore, the role of the inventor together with the surrogate entrepreneur is very important starting from the decision to form a new venture until the development of the USO.

### *2.2.3 Improved entrepreneurial team formation*

In year 1996, Roberts & Malone came out with the idea to engage surrogate entrepreneur with USO from the initial stage of its formation as surrogate entrepreneur plays as a major instigator for the new venture creation. Surrogate entrepreneur with an experience managing the business, their intervening will help in entrepreneurial team formation (Lundqvist, 2014). The idea was supported by Franklin et. al. (2001) with the statement that surrogate entrepreneur can also helps in venture management team competency.

## **METHODOLOGY**

For this study, qualitative research method have been used because it have social phenomena, holistic enquiry, naturalistic environment and also narrative description. With case study approached, four Research University have been chosen. Twenty five (25) interview have been conducted consist of university TTO officers, inventors and also surrogate entrepreneurs. In-depth interview have been conducted using semi-structured questionnaire with the time range between 30 minutes to one and half hours. Data have been recorded and transcribed verbatim. The qualitative data were analyzed using computer-assisted qualitative data analysis software, NVivo in order to manage the data properly.



## FINDINGS AND ARGUMENT

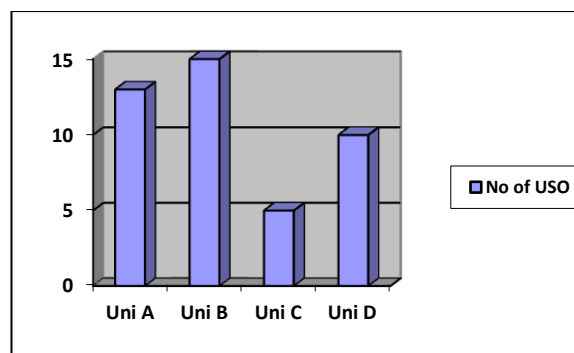
From the findings, it shows four RUs name as University A, University B, University C and University D have a different understanding of USO concept. Table 1 demonstrate the concept of USO by each university. With the different school of thought, thus the result were not synchronize. From Table 1, it shows that University A and B engaged with surrogate entrepreneurs. In contrary, University C and D form USO without the assistance of surrogate entrepreneur.

**Table 1. Concept of USO by Universities**

Name of University	USO Concept
University A	The decision to form USO made by TTO. The founder of USO can be either inventor (academician), student or surrogate entrepreneur and university hold 20% to 40% shares in the company.
University B	The decision to form USO made by TTO. The CEO of USO must be the surrogate entrepreneur and inventor (academician) as the technical manager. University hold 30% to 40% shares in the company.
University C	The decision to form USO made by inventor supported by TTO. The founder of USO must be two academician (inventors) and university hold 50% shares in the company.
University D	The decision to form USO made by either inventor or TTO based on the technology. The founder of USO must be inventor (academician) and university hold 30% shares in the company.

*Data were collected in year 2010 by author*

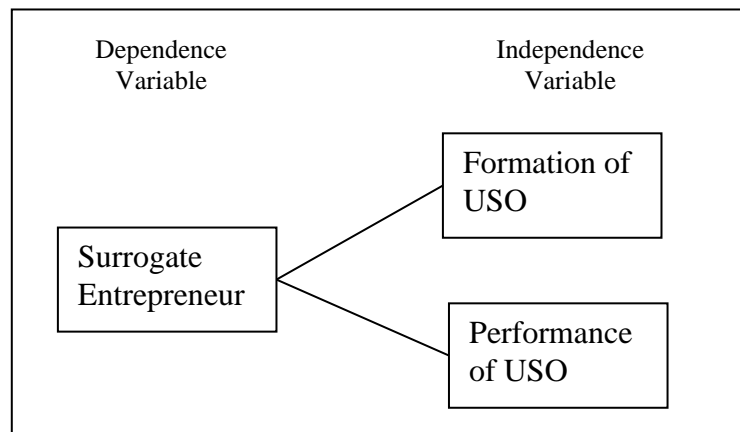
With the different concept of USO formation, each university have their own target in commercializing their research result. For university A, TTO have set their aim to form at least two spin-off companies a year. With the new commercialization team and due-diligence, they have system in choosing the best technology to be commercialize either through USO or licensing. University B have their own “traffic light” system in choosing their technology to be commercialize. The engagement with surrogate entrepreneur as CEO of the company, inventor can focus on managing the technical part as they can do further R&D to bring the new version of their technology. It will help the USO to sustain in the market place. Contrary, University C 100% depend on the inventor to decide whether to form USO or just license their technology. USO must lead by two academician and one university officer because their concept of USO that the company must form by university staff as the owner of the patent. For University D, located near the capital city of Malaysia, they always engage with the industry. In many cases, researchers built the new technology based on industry need. Thus the decision to form USO came either from inventor or TTO. From the data collection, the number of USO for each university demonstrate in Figure 1. The number of USO stated in Figure 1 shows that university A and B produce more USO than University C and D. Thus, with the intervening of surrogate entrepreneur, university can produce more USO than non-surrogate entrepreneur intervening USO.



**Figure 1. Number of USO in Each University**

## CONCLUSIONS

This study can conclude that the more TTO engage with surrogate entrepreneur, the more USO formed. This result aligned with the previous study by Franklin et al., (2001) and Lundqvist (2014). The study proved the concept of engaging with surrogate entrepreneur by Robert & Malone (1995). It helped the formation and performance of the company according to the revenue data and LOU with the industry USO. Thus, engagement with the surrogate entrepreneur will shows that the more USO establishment and will increase the performance of USO company. Figure 2 demonstrate the relationship between USO and surrogate entrepreneur.



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# BARRIERS OF IP MANAGEMENT IN SMES ACCORDING TO ITS CHARACTERISTICS AND FEATURES – A LITERATURE REVIEW

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## EXTENDED ABSTRACT

SMEs give positive contribution to the economy growth and play an important role in the development of a country. Nevertheless, in today competitive global economy, SMEs face numerous challenges to stay on a competitive edge. Characteristics and features of SMEs are deemed to play important roles which may affect the company's management of IP strategy and IPR practices. Therefore, one of the challenges that have been facing by SMEs is to understand the role and the importance of IP management to their company based on the company's characteristics and features. This paper aims to investigate how SMEs perceived the role and the importance of IP management process to their company, to analyze barriers or challenges that inhibit IP management process within SMEs and also to study how and why the characteristics and features of SMEs can be the barriers of IP management process at each stage. This research will be carry out by conducting interviews and distributing questionnaire to a number of selected SMEs in Japan.

**Keywords:** Barriers, IP management, SMEs, characteristics, features

## INTRODUCTION

SMEs give positive contribution to the economy growth and play an important role in the development of a country. Nevertheless, in today competitive global economy, SMEs face numerous challenges to stay on a competitive edge. Therefore, they need to carefully choose strategies in order to appropriate the returns from innovation investments. One of it may be to delicately conduct IP management of the organization. IP management is believed to be an important process especially in technology-oriented SMEs. The strategic implementation of IP management process can enhance the competitiveness of SMEs. However, the implementation of IP management represents a challenging task for SMEs due to a number of barriers which presumably derive from the company characteristics and features.

There are a number of previous research papers explained that the main functions of IP which may be benefited for companies are to protect an invention (patents), to exclusively protect the commercial source of a product or service (trade marks) and also to block competition (IP rights). These functions may give economic effect to SMEs. However, none of the papers provide a clear picture on how SMEs measure the role of patenting and the importance of IP management to their company according to its characteristics and features.

The growing literature and discussion about IP management and scarcity of knowledge about how IP works for SMEs leads to the following research objectives:

- To investigate how SMEs perceived the role and the importance of IP management process to their company
- To analyze barriers or challenges that inhibit IP management process within SMEs
- To study how and why the characteristics and features of SMEs can be the barriers in IP management process at each stage.

### 2.1 IP Management

According to Bo Wang et al (2015), the process of intellectual property management is the means through which companies or individuals maintain their patents, trademarks, copyrights, and trade secrets. Activities involved in this process can be as simple as obtaining IP rights and keeping them renewed, or as complicated as developing an integrated IP strategy and aligning it with business strategies. The most important

objective of IP management is to ensure that all intellectual property is being used to its fullest extent and serves to maximize profitability.

Meanwhile, Jalil A. et al (2010) which based their definition on Moore and Craig (2008) elaborates that IP Management involves the integration of business, legal and technological expertise to leverage an organisation's IP to increase profitability and maintain a competitive advantage.

There are several main objectives of IP management execution by SMEs. According to Jennifer Brant et al. (2013), the first objective is for appropriation which refers to the act of capturing the value of one's ideas and investments in developing and bringing them to market. Secondly, IP management in SMEs is important to protect their interests when engaging in collaborations with other companies. SMEs must ensure that the IP that results from joint projects is fairly distributed and managed. Thirdly, SMEs have to ensure freedom to operate (FTO) and to avoid infringement of third-party IP rights (IPRs), as well as to minimise the risk of unnecessary licensing costs and litigation. Last but not least, SMEs can use IPRs to signal their value to investors, potential partners, competitors, and customers when conducting IP management thoroughly.

## 2.2 IP Management Process

IP management is far more than the patenting of inventions. IP Management is a business process in itself, with specific actions, deliverables, timelines, and regulations. It also involves the understanding of what intellectual property is, when intellectual property has been created, the value of the created knowledge, and also how to protect intellectual property that has value. IP management is an ongoing process which lasts throughout the life of the IP. It involves the lifecycle of an IP asset as well as the decision points that need to be consider at each stage of its life for the effective management IP.

An example of IP management process is adapted from a journal entitled "*Intellectual Property Management: A Practical Guide for Electrical and Electronics Related Industries*". The first stage of IP management involves identifying existing IP and the need for new IP. At this stage, it is important to identify the organisation's need for an IP asset and how it may be obtained. At the second stage, it involves recording existing and new IP. The activities include identifying and recording any new IP that are researched & developed by the organisation, acquired through inward licensing, acquired & developed by re-using existing designs, as well as acquired from third parties. The third stage of IP management process relates to IP protection decision. At this stage, the activity comprises identifying the available forms of protection for the IP asset and to decide on the most appropriate which may include registered protection such as patents and trademarks and/or unregistered protection, such as copyright and trade secret. At the fourth stage, it is about the usability of the IP Asset. Company has to decide on whether the IP asset will be commercialised by the organisation, used internally on an operational basis, licensed out to the public or even offered to the public for free. The final stage of IP management process refers to the evaluation of the IP Asset. At this stage, company will periodically evaluate the IP asset and then make decision whether to maintain the present form of IP protection for the IP asset, vary the form of IP protection, allow the IP rights to lapse, or even further modify and develop the IP asset to enhance its strength or create new IP.

## 2.3 SMEs

There is no specific definition of SMEs that may be taken as a reference. According to Berisha G et al (2015), they stated that SMEs are commonly divided into classes according to some quantitative measurable indicators. The most common criterion to distinguish between large and small businesses is the number of employees. On top of that, financial criterion such as annual turnover and annual balance sheet are also deemed to be important criterion in defining SMEs.

## 2.5 Barriers of IP Management in SMEs According to Its Characteristics and Features

Characteristics and features of SMEs play important roles which may affect company's management of IP strategy and IPR practices. A paper conducted by Talvela J. et al (2016) entitled How Individual Inventors and SMEs Exploit Intellectual Property Rights: The Case of Finland opined that company size is one of the

differentiating features that are thought to affect company's IP management. Whether the company is a micro enterprise, small enterprise or medium enterprise. Company size may be referred to its number of employee and also its annual sales or turnover. Besides that, ownership is another feature of SMEs that could be worth considering. These include autonomous firms, partner firms and also linked firms. Moreover, company orientation in regard with technology and market is also another feature to be considered as features affecting IP Management practice in SMEs.

A paper conducted by Vinod Kapoor et. al. entitled "*Intellectual Property Rights and Small Medium Enterprises (SMEs)*" opined that due to its size, SMEs has limited access to the necessary human resources and/or accessible legal advice. This causes the use of the IP system complicated and decreases the chances of success in the application process for registration/grant of IP rights. According to Sukarmijan, S. et al (2014), efficient IP management requires an array of skills ranging from the legal to the scientific/technical and the commercial that is generally lacking in many if not most SME support institutions.

Also, due to its size, SMEs are having difficulty in management of IP mainly due to high costs, not just for acquiring and maintaining but also for monitoring and enforcing IP rights are an additional barrier. According to Sukarmijan, S. et al (2014) which adapted from Idris (2003) elaborates that the costs of getting IP protection may be perceived by many SMEs as exceeding the potential benefits to be obtained from protection considering that a significant part of the costs may be incurred before the product has reached the market and that lenders, investors or government programs rarely provide financial support for the protection of IP rights.

A paper by Frietsch R. et al (2013) entitled "*SME Patenting – An Empirical Analysis in Nine Countries*" expressed that SMEs fewer resources due to its small size has caused SMEs to file fewer patents internationally mainly due to the market development costs. What is more, SMEs may also file patents less broadly in terms of the number of different patent offices that are targeted by one patent application which will cause SMEs to have smaller family size. Besides internationalization aspect, this paper also stated that due to SMEs small size, they tend to have smaller inventor teams. Despite that reason, SMEs tend to be more productive in terms of the number of inventors per patent. What is more, due to its smaller inventor teams, SME less often have a formal R&D department and even do not always have R&D personnel.

According to Talvela J. et al (2016), ownership of a company also affects the company's management of IP. For example, there are two SME companies, where one is owned and managed by a technology oriented entrepreneur, and the other partly owned by a large company or a venture capital company, and managed by a professional manager, would have different networking resources, different goals, a different mindset, and probably different ways to cope with IP and its protection. It could be argued that, ownership of a company affects the goal setting and relevance of IP protection in the company.

Moreover, company orientation in regard with technology and market is also another feature to be considered as features affecting IP Management practice in SMEs. Companies that are technologically oriented are thought to be more active in R&D and creating inventions. They are keener and have high interest concerning IP protection. On the other hand, market oriented companies are thought to approach business from another angle where they put the customer deal first. Most often, they concentrate on business and customer first and did not give attention about R&D and inventions. Therefore, it could be argued that, market oriented companies might face difficulty in their IP management.

Additionally, Frietsch R. et al (2013) also conveyed that SMEs have a lower capability of pursuing their IPR in case of infringements. This is because, SMEs are often the target of patent litigation mainly due to its lower threat potential with small patent portfolio. Therefore, patents filed by SMEs are opposed more frequently.

Furthermore, motives for patenting may also be regarded as characteristics or features of SMEs which may affect the implementation of IP management. Frietsch R. et al (2013) expressed that

besides using patents as a protection from imitation, there are two strategic motives to patent that are potentially more beneficial for SMEs. Firstly, SMEs are using patent to gain access to the capital market or venture capital, and attract investors and the second one is to generate licensing revenues. This shows that SMEs file patents with a higher technological value due its strategic patenting where their patents logically involve a considerable inventive step. What is more, SMEs is perceived tend to focus on problem solving in core technological areas. Therefore, patents from SMEs are more valuable as patenting for strategic reasons is less likely to occur for SMEs.

Other characteristic and feature which may affect IP management implement by SMEs include the technology field specificities in patenting. According to Frietsch R. et al (2013) Previous studies show that SMEs are more active in the emerging fields of technology development. This is because, established fields have a clearly defined market with high entry barriers in terms of blocking patents which possibly deter market entry especially for SMEs as they have limited financial resources. Another point is about product cycles. At the beginning of the product cycle, companies face other market participants in a technology rather than a price competition. In the later phase of product cycle, the technology competition regularly shifts to a price competition as the technologies mature. Price competition will be hard to face by SMEs due to economies of scale

A paper by Holgersson M. (2013) entitled “Patent Management in Entrepreneurial SMEs: A Literature Review and An Empirical Study of Innovation Appropriation, Patent Propensity, and Motives” revealed that there are other characteristics of SMEs of importance to IP management. SMEs are more likely to involve in product than process innovation. They are also more likely to focus on niche market rather than mass markets. Also, SMEs are more likely to involve linkages to external resources. In addition to that, SMEs are deemed to be lean, flexible, visionary, and nonhierarchical with fast decision making. This is primarily due to its resources which are mainly people embodied and that there is a lack of organizational legitimacy. However, looking more specifically at new technology-based SMEs, they are characterized by a lack of financial capital, and partnerships with larger firms commonly spur (mutual) success.

Degree of awareness may also have influenced the IP management implementation by SMEs. According to Sukarmijan S. et al (2014) in their article *The Importance of Intellectual Property for SMEs; Challenges and Moving Forward*, they stated that low awareness of the IP system limits the exposure SMEs have to the IP system and their ability to use all the elements offered by the IP system effectively. Besides that, poor IP management skills within SMEs reduce their ability to fully benefit from the system and, therefore, discourage its future use. These go hand in hand with the system being too complex and expensive to use.

## FINDINGS AND ARGUMENT

In the review of prior literature research on IP management in SMEs, there are a number of barriers which are derived from the company characteristics and features including size, ownership and orientation in regard with technology and market, motives for patenting as well as technology field specificities in patenting. These factors are deemed to be very important characteristics and features which may represents a challenging task for SMEs in implementing IP management.

Although all the characteristics and features mentioned before are affecting largely to the implementation of IP management by SMEs, however, we can clearly see that among all the characteristics and features, SMEs size is deemed to be the major factor. Due to its small size, SMEs have limited financial resources, limited access to the necessary human resources including smaller inventor teams. These two resources, financial and human resources are obviously playing an important role for SMEs to implement IP management in their company.

Based on the previous literature, being reviewed in this paper, only discussed the characteristics and features of SMEs that can be the barriers in the implementation of IP management process in general. Therefore, in this paper, we try to study how and why the characteristics and features of SMEs that can be the barriers in the implementation of IP management at each stage of the process.

With regard to the implementation of IP management issue, SMEs are also having difficulties with the question “when they should patent?”. This is because, many IP protection activities are extremely time sensitive. Therefore, market timing and patent must be planned simultaneously.

SMEs in most cases don't fully grasp the idea of patentability requirements; subject matter, utility, novelty, inventiveness and industrial applicability. This shows that SMEs owner or manager do not understand or recognize the importance of IP to their company. This is presumably due to lack of reference on good or bad practices regarding IP management and exploitation.

## CONCLUSIONS

The strategic implementation of IP management in SMEs can contribute great benefit and protection for SMEs and it depends on the entrepreneur themselves to make use of the advantage. However, it should be noted that the successful implementation of IP management serves challenging task for SMEs due to a number of barriers. Prior literature studied has reviewed that the barriers involve may derive from the company characteristics and features including its size, ownership and also orientation in regard with technology and market, motives for patenting as well as technology field specificities in patenting.

This paper contributes to increase understanding how SMEs perceived the role and the importance of IP management process to their company and also to study how and why the characteristics and features of SMEs can be the barriers in IP management process at each stage.

This paper does not come without limitation. It should be noted that the literature review is insufficient due to the limited number of previous papers could be find related to this topic.

This paper also provide some suggestions for future research. It is suggested to study how SMEs and large companies differ in understanding the role and the importance of IP management to their company based on their characteristics and features. It is also recommended to analyse the difference in characteristics and features of SMEs that can be the barriers in IP management process at each stage between SMEs and large companies.

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# Review and Prospect of Chinese and Foreign Entrepreneurship Research

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## Extended Abstract

The objective of this study is to discuss the significance of entrepreneurship research by comparing China with Europe and U.S. The critical purpose of this study is to measure the relationship of entrepreneurship research, economic development, government policy with job employment rate. Empirical studies explored that the entrepreneurship was a classical topic which improved our lives and enhanced the economics. Additionally, other analysis indicated that entrepreneurial research, entrepreneurship education and entrepreneurial practice affected each other. In Europe and U.S., governments strongly support entrepreneurship research and entrepreneurship practice. They earn much wealth in economics and lots of results on research. On the other hand, Chinese official takes active actions on entrepreneurship. It is objective to find the valuable suggestions for Chinese to start a business. This study is qualitatively on the results of research and experience in practice. This quantitative analysis in the paper base on secondary source data. The secondary data is cited from published sources and official documents. The results explain that Chinese face the facts, such as building a culture among youth, introduce new policies and provider platform. Surely, Chinese entrepreneurship research will become stronger after studying others' works. Other developing countries can study Chinese experience to strengthen their entrepreneurship.

Keywords: Entrepreneurship Research; Government Policy; Comparative Analysis; Chinese Experience

## Introduction

The new way (Belt and Road) for trade and business created from north China to Continental Europe and From South China through the Indian Ocean to the European countries, is to improve people life and enhance businesses. It serves as a platform where friendly environment, political mutual trust, economic integration, benefit sharing, shared responsibility can be achieved. Chinese President Xi Jinping in 2017 New Year's Message has mentioned that China's development is the world's opportunities, welcome it's door for more international entrepreneurs in China. China needed overseas capitals and China's capital also needs to go out.

## The History of Entrepreneurial Literature

Table 1 introduced the fact the entrepreneurship research was obviously influenced by the political environment and economic development.

At first, China had long been at war from 1916 to 1949, economic development stagnation, very few entrepreneurial literatures. Europe and the United States over the same period to obtain some entrepreneurial research results.

Table 1 the history of entrepreneurial research results

Year	Chinese	Europe and US
1916 to 1949	4	514
1950 to 1977	259	8650
1978 to 1995	8518	38900
1996 to 2005	11359	20800



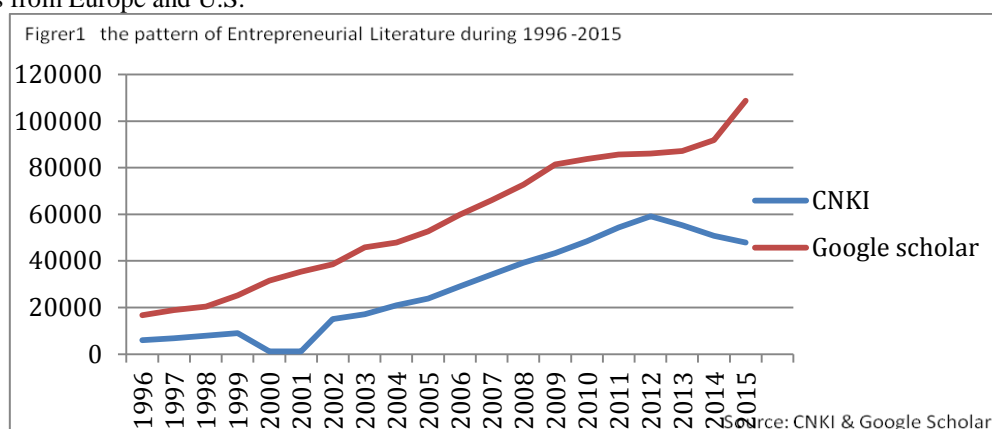
2006 to 2015	194002	462000
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Source: CNKI & Google Scholar.

At last, China's economic growth was more emphasis on quality from 2006 to 2015, entrepreneurial research made remarkable achievements. Europe and the United States economic kept on health development, entrepreneurial research results had been greatly improved.

### The Influence of Chinese Government's Encouraging Entrepreneurship Policy on Entrepreneurship Research

Comparative analysis of foreign entrepreneurial research results was for the next step to provide guidance for business research. According to Google scholar and CNKI the result was generating data in Figure 1. The figure indicated that the articles from Google Scholar was more than those from CNKI during 1996 and 2015. In short, the entrepreneurial research results of the Chinese scholars were more and more, comparing many countries from Europe and U.S.



### Methodology

#### The Research Tool

The development of the internet improved academic development, world academic achievements were fully displayed online. This study was based on several major libraries, selected the following main engines as research tools. China's entrepreneurial research results from CNKI, the largest Chinese literature database. Europe and the United States entrepreneurial research results mainly from Google Scholar.

#### The Data Collection

The keyword that searches on Google Scholar "entrepreneurship research". The keyword that searches on CNKI is "创业研究"(entrepreneurship research). These sites automatically counted the number of articles on related topics in years. Excel statistical software cloud finished statistical analysis on these raw data, and draw the corresponding chart.

### Analysis of Methodology in Entrepreneurship Research

Science uses whatever tools, techniques, and approaches are considered appropriate for the particular subject matter under study (Zinkhan & Hirschheim, 1992). Taking into account the entrepreneurial interface, three research methods were: applying the principles of basic theory; using computer software for data analysis and theoretical development; developing a "stream" of research, combining with a variety of qualitative and quantitative methods. Drawing on the logic of the "stream" of research, provide a radical approach that reflects the entrepreneur's intuitive research process (David, Nicole. 2017). This study argued that the theory of entrepreneurial research revealed that qualitative analysis was more reasonable and that the quantitative analysis was more objective about the social contribution of entrepreneurial research.

### Analysis of Entrepreneurial Research Results

This study focused on the achievements of Chinese and foreign business research from 1996 to 2016. Chinese entrepreneurial research results downloaded from CNKI on the online reference, a total of 34 articles. The results of foreign entrepreneurship research were taken from Google scholar, a total of 30 articles. The analysis combined with China's five-year development plans of the national conditions and literatures. These results were divided into four stages: 1996-2000, 2001-2005, 2006-2010, 2011-2016.

### Comparison of Entrepreneurship Research Achievements

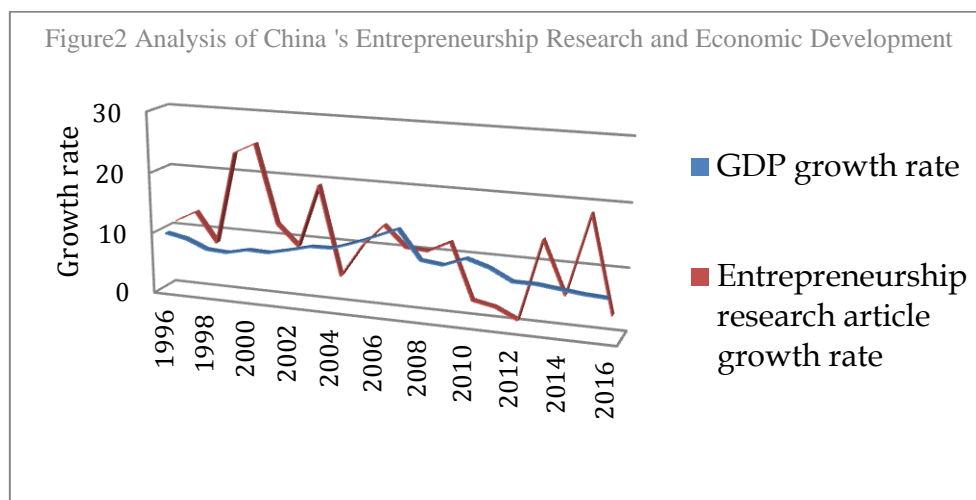
Table 2 1996 - 2016 a comparative analysis of the topics of entrepreneurship research

Year	1996-2000	2001-2005	2006-2010	2011-2016
Chinese academic achievement	(1) Put forward entrepreneurship education. (2) Venture capital plays an important role.	(1) The formation of entrepreneurial theory system. (2) To create a good business environment.	(1) To cultivate the students entrepreneurial spirit and skills. (2) Entrepreneurship is a key to new life.	(1) Innovation of entrepreneurial education in colleges and universities. (2) Farmers entrepreneurship development.
Europe and U.S. academic achievement	(1) Entrepreneurship is a way to emphasize the opportunity. (2) Entrepreneurship research for business services.	(1) Entrepreneurial awareness and entrepreneurial spirit, entrepreneur performance related.	(1) Put Forward social entrepreneurship. (2) Emphasizing the entrepreneurial spirit of entrepreneurs.	(1) Entrepreneurial success model. (2) Globalization of entrepreneurship education.

Source: complied by authors

### Analysis of China 's Entrepreneurship Research and Economic Development

Comparative analysis of entrepreneurial research achievements and economic growth entrepreneurship research results should become the driving force of economic development. Through the comparative analysis of entrepreneurial research and economic growth, this study discussed the development of entrepreneurial research in China. It was as shown in figure 2.



### Conclusion and Implication

In summary, China and European and U.S. entrepreneurship research was more and more popular. Absorb Europe and U.S. research methods, horizontal and vertical direction promoted China's entrepreneurial research (Zhang, Yang & Dai, 2012). Learned the Europe and U.S. entrepreneurial theories, combined with China's national conditions, to carry out a solid situational research, enriched and improved the existing business theories; actively carried out a cross-country comparative study, to speed up with foreign entrepreneurship research team exchanges, entrepreneurship research scholars to make a really valuable academic contribution.

### **Implication**

Public entrepreneurship, innovation and Chinese-style business model like mushroomed growth. All business models were brand new. Starting in our country, we need to study and guard against the risks in practice. Foreign creative industry developed, all the business model had been a very good development. Lack of Chinese innovation capacity, integrity system was poor, all the business models of the growth environment could be not perfect. Foreign for the use, self-improvement, the Chinese entrepreneurship and other models need to further study.

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# EXPLORATORY STUDY: THE INTERACTION BETWEEN TRAVEL BLOGGERS AND TRAVEL CONSUMERS ON INSTAGRAM AND ITS INVOLVEMENT ON TRAVEL CONSUMER'S JOURNEY FOR TRAVEL PLANNING PROCESS

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## EXTENDED ABSTRACT

The growth of social media marketing and the shifting behavior of travel consumers from the linear path to the cyclical path in the travel planning process are the main reasons why social media is commonly being used by travel consumers for the travel-related purpose. As one of the most popular social media platforms, Instagram allows its users, specifically Indonesian travel bloggers, to share photos and videos while they are traveling to several destinations around the world. By this condition, a depth understanding of how social media marketing promotes travel destinations is needed, particularly as Indonesia's attempt to improve its tourism industry. Hence, the objectives of this study were to identify the role of social media marketing performed by each travel blogger, to reveal the content type that is mostly engaged travel consumers on Instagram, and to explore the involvement of travel bloggers on Instagram in travel consumer's journey for travel planning process. A qualitative approach was conducted in this research by performing content analysis for each travel blogger's Instagram account and by interviewing their followers. This approach was followed by a quantitative analysis to validate findings from the qualitative method by calculating the average engagement score for each travel blogger.

**Keywords:** *Travel Bloggers, Travel Planning Process, Travel Consumer's Journey, Social Media Marketing, Instagram*

## INTRODUCTION

Social media has grown up significantly, especially in this era where the internet takes important role in everyone's life. On January 2016, Indonesia has 88.1 million active internet users, in which 79 million of them are also actively using the social media (Balea, 2016), including Instagram. By this number, Instagram is considered as one of the most successful social media platforms in Indonesia (eMarketer, 2016).

The success of Instagram is also supported by its approach to the users that focuses on mobile apps as people are now living a smartphone era. Millward Brown AdReaction Global Report 2014 stated that people in the world spend about 147 minutes per day on their smartphone, 113 minutes on Tv, 108 minutes on a laptop or personal computer, and 50 minutes on a tablet (Southgate, Duncan, 2014), which means that people spend more of their time on smartphone. Due to its popularity, people utilize Instagram for several functions. Not only for posting personal photos and business channels, but Instagram is also used by some people to transform their hobby into specific contents, mentioned as photos, videos, and captions. One of those people who transform their hobby is the travel blogger, particularly Indonesia's travel blogger. Travel bloggers use their Instagram account to post photos and videos while they are traveling to several beautiful destinations in Indonesia (Setyanti, 2015), in which it might help the country to improve its tourism sector.

In Indonesia, tourism is considered as one of the largest industries by contributing approximately 4% of the total economy. The government plans to double this number to 8% of the Gross Domestic Product in 2019 by increasing the number of both domestic and international tourist arrivals up to 20 million (Indonesia Investments, 2016). In order to reach the target, the government is making an aggressive plan to promote 10 new travel destinations in Indonesia to the travel consumers all over the world (Susanty, 2016). But, before taking another step to promote the destinations, the government should concern about the behavior of travel consumers first like how travel consumers gather information for travel planning (Lai, 2015). The significant growth of social media, including Instagram, and also the change of behaviors toward smartphone cause a travel consumer's behaviors to shift from travel agent to the internet, including social media for travel planning

process. Therefore, the presence of travel bloggers in Instagram might be helpful for showing off beautiful destinations and giving wider references for travel consumers, because travel bloggers use their Instagram account to post photos and videos, while they are traveling to several beautiful destinations in Indonesia (Moza, 2015). In this case, the role of social media marketing involved, because travel blogger utilizes social media to promote the destinations in Instagram. Moreover, their contents also engage people by giving their own responses to it (Golshani, 2015).

However, with a different way of performing social media marketing among travel bloggers, the responses that will be derived from the viewers, or in this case, the travel consumers, might also be different. Thus, the researcher would like to identify the social media marketing performed by each travel blogger on Instagram by knowing what content types that are most frequently used by each travel blogger and disclosing the utilization of social media's seven functional blocks for each travel blogger. Not only that, but the researcher would also like to analyze from travel consumer's perspective by finding out what content types that are mostly engaged travel consumers on Instagram. Furthermore, the effects or the involvement of travel bloggers on travel planning process for travel consumers will also be explored, specifically during the phase of share, finding inspiration, and awareness & locate from travel consumer's journey by Deloitte (2015).

## LITERATURE REVIEW

Social media marketing is a connection between the brands and consumers for user-centered networking and social interaction (Chi, 2011). According to the recent research by EyeforTravel, 79.4% of the respondents also agreed that social media marketing contributes to creating customer's engagement (Howell & Hadwick, 2016). Furthermore, Khan and Jan have defined social media marketing as a theoretical approach that tells marketers how the business can reach their consumers in the virtual network by utilizing a social media platform and its seven functional blocks (Khan & Jan, 2016), mentioned as identity, conversation, sharing, presence, relationships, reputation, and groups by Honeycomb Model (2007). Social media marketing is also believed to have more power in this era, in which it is supported by the recent survey by Deloitte (2015) about UK Travel Consumers which stated that travel consumer's behavior has shifted from the linear path to the cyclical path due to the digital revolution as it means that the travel consumers affect others and are affected by the journey of others in social media platform, including Instagram (Deloitte, 2015).

Instagram is considered as one of emerging social media platforms, which is specifically designed for smartphone to provide a mobile photo and video sharing service for capturing and sharing the life moments in a simple and easy way (Hu, Manikonda, & Kambhampati, 2014). Not only having features, but Instagram also has several elements, such as image, video, text, tags, and hashtags (Golshani, 2015). In this research, image and video are considered as the main element of Instagram, meanwhile text (caption), tags, and hashtags are considered as the supportive elements of Instagram. According to Echtner & Ritchie (1991), there are several attributes used to measure the destination image and to perform an image-related research. This concept is further simplified by Gallarza, Gil, Calderon (2002) to provide a better understanding of the attributes of the destination image. For video, the content needs to evoke several emotions, entertain, express one individual's feelings, and inform the viewers (Izawa, 2010). For the text, it is represented by the caption of the post on Instagram as it has a purpose to communicate the posts to a specific target user. Hence, a caption is considered as another form of advertising, specifically on Instagram. For tag, it is actually one of Instagram's elements that allows users to mention someone or particular account in which it directs the other users to the mentioned account only by clicking it (Instagram, 2017). Meanwhile, hashtags are a word or a group of words after the # sign (Faber, 2016) on the caption. All of these element types have their own content types, in which these content types will further generate responses, such as likes, comments, and shares (Golshani, 2015), as forms of customer's engagement on Instagram (Fowler).

In terms of social media, the definition of customer's engagement is slightly different with the general definition of customer's engagement. Similar to what Vivek et al. (2012) stated, it involves a participation and connection between customers and the service or the brand since it is also identified as a participative act, but in an online environment (Evans & McKee, 2010).

The figure 1 depicts the theoretical framework made by the researcher. The left one is the theoretical framework before the preliminary research, while the right one is the theoretical framework after getting the preliminary findings. It is clearly shown from the figure that there are changes and some additional content types to this research

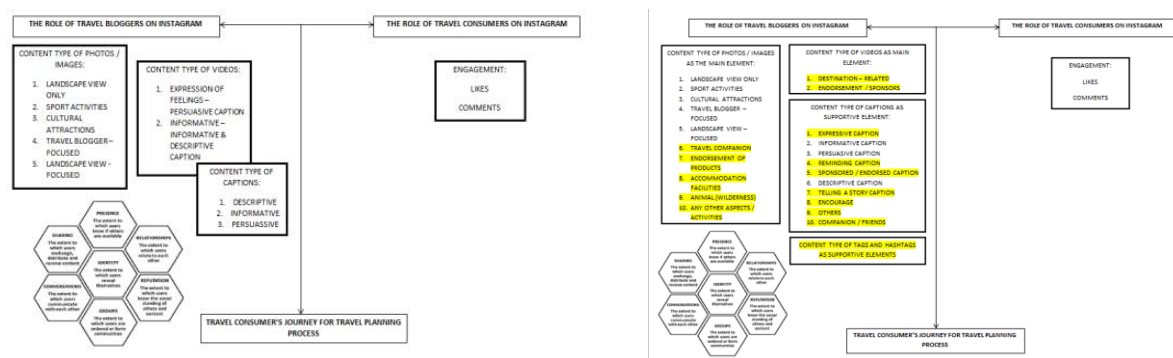


Figure 1 – Conceptual Framework (Own Making)

From the figure above, the researcher would like to understand the role of travel bloggers and travel consumers on Instagram as they interact with each other on the social media environment. The role of travel bloggers on Instagram is their attempt to perform a social media marketing by utilizing social media's functional blocks and sharing a different content type of image, video, tag, and hashtags to others. Meanwhile, the role of travel consumers is to give response to travel blogger's post in a form of likes and comments. By this definition, it clearly tells us that the interaction between travel bloggers and travel consumers on Instagram also involves in travel consumer's journey for travel planning process that needs to be further explored by the researcher.

## METHODOLOGY

In this research, both qualitative and quantitative method were being conducted in order to achieve the desirable result. For the qualitative method, the researcher decided to perform a content analysis and an interview, while a quantitative method was being used to validate findings from the qualitative method by calculating the total engagement score. The population was the number of posts of six selected Indonesian travel bloggers, mentioned as Putri Anindya, Marischka Prudence, Trinity Traveler, Anggey Anggriani, Kadek Arini, and Barry Kusuma. The selection of those six travel bloggers was based on the number of followers that they have on Instagram. Moreover, Marischka, Trinity, and Barry are considered as top three Indonesian travel bloggers (Moza, 2015). For the sampling technique, systematic sample technique was the most appropriate sampling technique for this data collection method by picking 100 recent posts for preliminary study, 50 recent posts from each travel blogger's Instagram as a sample for knowing the mostly used content type and social media's utilization by each travel blogger, 50 most popular posts in terms of likes and comments for revealing the most engaging content types across travel bloggers, and 10 followers of travel blogger's Instagram for exploring the involvement of travel bloggers on travel consumer's journey for travel planning process.

In collecting the data, the researcher decided to record the data from both travel bloggers and the travel consumers. In collecting the data, the steps consisted of Preliminary Data Recording, Preliminary Data Sorting 1: Element Type Selection, Preliminary Data Sorting 2: Content Identification, and Data Sorting. During Preliminary Data Sorting 1 (Element Type Selection), the researcher decided to exclude element video as the main element from this research as it only contributed less than 10% of the 100 recent posts on each travel blogger's Instagram account. By this condition, the researcher considered that there might be a high probability that it couldn't truly represent the findings. Not only eliminating element video, but the researcher also found out some additional content types that were being included in this research. The next step was to perform a Preliminary Data Sorting 2 (Content Identification) and Data Sorting for each travel blogger's Instagram. In this step, the researcher revealed the mostly used content type by each travel blogger and also the most engaging content type across travel bloggers. Recording (1) Date of post, (2) Element Type, (3) Tags, (4) Hashtags, (5) Content Type of Captions, (6) Content Type of Images, (7) Location Tag Utilization (8) Number of Likes, (9) Number of Comments, and (10) Additional Notes were required in performing this step as well as developing the flowchart to define the content type itself. Point (1) to point (7) represented the role of travel bloggers on Instagram, while point (8) and (9) represented the role of travel consumers on Instagram. Another method in collecting the data was the interview session to explore the involvement of travel bloggers on travel consumer's journey for travel planning process. The interview questions were designed to represent the three steps in travel consumer's journey, which are (1) Share, (2) Finding Inspiration to Create Ideas, and (3) Awareness & Locate, as this research was limited on those three steps.

For data analysis, the first thing that the researcher did was to perform a content analysis, quantitative analysis for validating findings from content analysis, and a manual coding to analyze the findings derived from

the interview session. Content analysis was used to define the content type of image as the main element in this research, content type of caption, tags, and hashtags as the supportive elements in this research. Not only defining the content type, but also the utilization of seven functional blocks of social media by each travel blogger. In this research, the researcher decided to use only four of it (Identity, Presence, Reputation, and Sharing) as Gene (2007) stated that it will be better to focus on three or four primary functional blocks. The quantitative analysis was in a form of calculating total engagement score by using a formula used in the recent research by Gong (2014), calculating the average number of likes and comments, % contribution of the maximum number of likes and comments to the total followers, and etc. The manual coding consists of open coding, axial coding, and selective coding to analyze findings from the interview session.

## FINDINGS AND ARGUMENT

After analysing the data, the researcher found out that each travel blogger has similarities and dissimilarities in performing social media marketing on Instagram, in which it is clearly shown on how many content type of both image and caption that they use on one post, the mostly used content type by them, and also the utilization of four functional blocks (Identity, Presence, Reputation, Sharing) by them on their Instagram account. For research question two, it turned out that landscape view – focused is the content type of image that mostly engages travel consumers, followed by landscape view only and travel blogger – focused. Meanwhile, for supportive elements (caption, tags, and hashtags), those might help travel bloggers to increase the engagement, but not that significant as the supportive elements do not affect the engagement directly and significantly. Expressive, Informative, and Telling a Story Caption give the highest contribution to the most engaging content type, so communicating by using these three types of caption might be helping in increasing engagement. For tag, tagging sharing account, friend's account, and service provider's account will also help the travel bloggers to increase the engagement as well as putting a location hashtag, 'others' hashtag, and sharing account – related hashtag. Meanwhile, for the utilization of functional blocks, it will be more engaging if travel bloggers use the bright tone for their posts and also utilize a location tag on their post.

Across 50 recent popular posts, the highest average engagement score belongs to Anggey Anggraini, followed by Barry, Kadek, Marischka, Trinity, and the last is Putri Anindya. Research also found out that tone of posts might be significantly affecting the engagement, followed by the content type of image, particularly those three most engaging content types of an image previously stated above. Furthermore, this research also disclosed that female travel bloggers will be more engaging when they post landscape view – focused, followed by travel blogger – focused, while male travel blogger will be more engaging when they post landscape view – focused, followed by landscape view only. For research question three, it turned out that travel consumers have two type of motivations in following travel bloggers on Instagram, travel bloggers encourage others to seek for more information related to the destination, help travel consumers to discover new destinations, and increase the awareness of the destination as they will share the post, inform others, and recommend others to travel once they are interested with travel blogger's post. By this condition, the involvement of travel bloggers on Instagram during travel planning process is considered as effective, since it gets an average overall score of 8.1 across 10 interviewees.

## CONCLUSIONS

To conclude, the role of social media marketing performed by travel bloggers affect the engagement score that they will get from the travel consumers. As the total engagement score is derived from the sum of total number of likes and number of comments, divided by the total number of followers, it seems pretty clear that the lowest engagement score might be because the travel bloggers do not get a lot of likes and comments, compared to the number of followers that they currently have. Hence, it is really important for travel bloggers to ensure that they focus more to post the most engaging content type to increase the engagement. By this interaction of travel bloggers and travel consumers on Instagram, it is clear that travel bloggers involve on the travel consumer's journey, specifically for sharing the post of destination, in which it might help travel consumers during travel planning process.

This research can be useful for the travel bloggers itself and for some parties, such as any government institutions and travel agent. For travel bloggers, this research might help them to create a better strategy for increasing the engagement score. Once the engagement score is pretty good, then travel bloggers can be one of the promotional strategies for some parties to promote the destinations that they offer to the travel consumers. However, since this research is still limited to six Indonesian travel bloggers in one social media (Instagram) and only focusing on the three steps of travel consumer's journey by Deloitte on 2015 (Share, Finding

Inspirations to Create Ideas, and Awareness & Locate), it is important for the next researcher to involve the other travel bloggers from different nationalities and to find out the effects of travel bloggers towards travel consumer's intention to visit the destination once they are engaged to the post.

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# CREATE A SCENE: HOW WEBCARE CAN INCREASE CONSUMERS REPURCHASE INTENTION

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## EXTENDED ABSTRACT

Web 2.0 has established the social media platform enabled consumers to interact with each other online and. Word-of-mouth (WOM) interaction has become electronic word-of-mouth (EWOM). Thus, brand managers need to proactively face both the positive and negative reactions of users, which can spread quickly and instantaneously. They need to use webcare to reduce complaints and increase engagement that brings satisfaction and loyalty from the consumers. Webcare includes customer care, public relations and online marketing. It involves a company's concern for finding solutions to customers' problems, improving their satisfaction, and even exceeding their expectations on all social media platforms. We used an experimental setting to examine the positive effect of webcare directed at positive continuance intention, and to investigate how webcare should be designed for maximum impact. One group could see the pictures of a fictional positive user comment about the brand on a social media platform which had some feedback from the official company. The other group was not able see any response from the official company. This study adopted the well-established valid instruments with minor changes in wording to fit the Internet shopping retention context. Each item was measured on 7-point Likert scales from 1 (strongly disagree) to 7 (strongly agree). In the turbulent e-commerce environment, web-based companies need to understand how to satisfy customers in order to sustain corporate growth and market share. Customers' intentions of reusing e-commerce websites for shopping has a major consequence for the website's profitability; therefore, understanding the factors that influence a web customer's repurchase intentions is of great importance to e-commerce. This research represents a careful and systemic effort to incorporate elements from two distinct concepts (namely webcare and post-acceptance model of IS continuance use) to construct and develop a webcare repurchase intention model, which will be examined in an integrated model within the context of Internet shopping repurchase intentions. We contend that the cause and effect will contribute to consolidate the value and practicability of knowledge in the field of online repurchase intention .

**Keywords:** webcare, electronic word-of-mouth (EWOM), social media, post-acceptance model of IS continuance, Expectation-Disconfirmation Theory (EDT)

## INTRODUCTION

Fifteen years ago, the rise of Yahoo online auction phenomenon resulted in a new consumer generation in Taiwan. Users can ask sellers any question and get the answers immediately. The same interactions with a seller in the shopping mall can also happen online, but even faster and more conveniently. Now, the use of social media such as Facebook, blogs or Twitter has become omnipresent. Some local internet businesses or famous shopping sites, who sell their products via Facebook Live, they almost immediately show and respond to the users' comments. The number of users also has been growing rapidly.

The advent of consumer-empowering technologies has provided consumers with a plethora of online venues to exchange negative experiences with products and brands with a multitude of other consumers (Van Noort and Willemsen, 2012). Sharing brands, information and experiences, recommending and evaluating brands, co-developing products and services together with brands and other consumers, and providing feedback to brands have become common consumer behavior (e.g., Gensler et al., 2013; Hennig-Thurau et al., 2010).

Company managers need to "leave the home turf", i.e., try to proactively face users' positive or negative reactions (Fournier and Avery, 2011). Webcare is believed to give an effective means to mitigate the effect of negative word of mouth. If they can respond online immediately, it would not only reduce the spread of complaints but also give customers satisfaction which brings retention and loyalty (Schamari and Schaefer, 2015).

In the past, some researchers have called for response strategies to counter negative word-of-mouth (Lee and Song, 2010; Berry et al., 2010; Fournier and Avery, 2011; Hennig-Thurau et al., 2010; Van Noort and Willemsen, 2012). Its focus is on negative forms of consumer engagement, as negative online interactions “are found to have detrimental effects on all phases of the consumer decision-making process” (Van Noort and Willemsen, 2012). However, online consumer engagement was found to be more likely positive than negative (Chevalier and Mayzlin, 2006). They emphasize increasing positive consumer engagement (Schamari and Schaefer, 2015; Hennig-Thurau et al., 2010; Vivek, Beatty, and Morgan, 2012).

This paper is about how to increase the consumer’s webcare, so that it increases their repurchase intention. Based on the Expectation Disconfirmation Theory (EDT), we propose that webcare can be considered a form of observing consumers responses. The results of our research provide company managers with information on how to operate webcare to catch and touch consumers’ hearts in order to reinforce positive consumer repurchase intention.

## LITERATURE REVIEW

### 1. Webcare

Online word-of-mouth in social media is based on physical word-of-mouth (WOM). The earliest study to discuss the effectiveness of WOM is survey based (Katz and Lazarsfeld, 1955) and was followed by more than 70 studies (Herr, P. M., Kardes, F. R., and Kim, J., 1991). Most of them have argued that WOM is a type of communication involving personal relationships and the non-business information interaction of consumers who buy products (Duhan, Johnson, Wilcox and Harrell, 1997).

“Bad news has wings.”

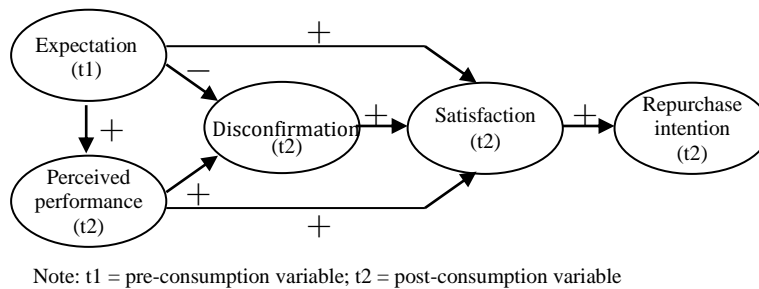
Web 2.0 has empowered consumers to send any message on the platform of social media to a company. With just one click, they can post their dissatisfaction with a consumption experience, which is called negative Word of Mouth (NWOM). It might be served as a deliberate action to harm and backfire on a company (Grégoire, Y., Tripp, T. M., and Legoux, R., 2009). Up till now, little attention has been directed at examining effective webcare strategies in response to NWOM (Van Noort, G., and Willemsen, L. M., 2012).

Webcare has been defined as “the act of engaging in online interactions with (complaining) consumers by actively searching the web to address consumer feedback (e.g., questions, concerns and complaints)” (Van Noort and Willemsen, 2012). It has been discussed with respect to both positive and negative sides. A well-timed monitor and answer to an online complaint which is displayed on multiple public social media platforms can show the sincerity to the customers. It leads to the loyalty and builds brand equity (Breitsohl, Khamash, and Griffiths, 2010; Lee and Song, 2010; van Laer and de Ruyter, 2010). However, it might spin out of control if the complaints can’t be solved thereby creating a vicious circle of NWOM which backfires on a company. Hence, some research has argued that webcare is an online complaint management system (Van Noort and Willemsen, 2012).

With respect to the organizational goals, webcare includes customer care, public relations and marketing. Webcare teams are composed by the company to address and solve the customers’ questions, improve their satisfaction, and even exceed their expectations as any social media platform. From a PR perspective, webcare can prevent negative comments from causing a emergency. It also needs to manage and restore one’s reputation and relationship with the customers (Van Noort, Willemsen, Kerkhof, and Verhoeven, 2014). Third, it can be a marketing tool. The insights that derive from monitoring what people are saying about a company can be used to affect to valence of online sentiment and positively affect customers evaluation of the company (Willemsen, Neijens, and Bronner, 2013).

### 2. Expectation disconfirmation theory (EDT)

Oliver (1980) originally developed Expectation-Disconfirmation Theory (EDT) which involves a customer behavior model that is usually used to define and predict repurchase intention and satisfaction. According to Oliver’s (1980) model, repurchase intention depends upon prior satisfaction, while satisfaction is results from disconfirmation of expectations for the products or services. “Disconfirmation” is the strongest direct influence upon satisfaction. It includes: (1) confirmation: actual performance conform to the expected standard; (2) negative disconfirmation: actual performance fails to meet the expected standard; and (3) positive disconfirmation: actual performance exceeds the expected standard (Chiu et al., 2005; Churchill and Surprenant, 1982; Hsu et al., 2004). Subsequently, Churchill and Surprenant (1982) added perceived performance into EDT as an antecedent of satisfaction, and also pointed out that both expectation and perceived performance have an influence on disconfirmation. The model is illustrated in Figure 1.

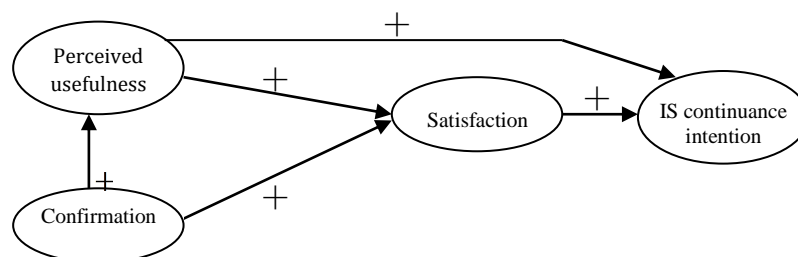


**Figure 1. Expectation disconfirmation theory model**  
(Adapted from Churchill and Surprenant, 1982)

However, considering that some doubtful and inconsistent cases exist in EDT, Bhattacharjee (2001a) pointed out that continuance decision-making of IS customers has some features similar to that of repurchase intention. Hence, it is possible to modify EDT and combine the evidence from IS applications; thereby developing EDT for the continuance of IS (see Figure 2). This helps us to propose more powerful concepts and yields a higher explanatory power for the customers' IS continuance intention. This model includes four aspects (confirmation, perceived usefulness, satisfaction, and IS continuance intention) and five hypotheses. The research findings showed that these five hypotheses are proving a much higher level of explanatory power for IS continuance.

Expectation-confirmation Theory (ECT) involves five primary constructs: expectations, perceived performance, confirmation, satisfaction and repurchase intention (Oliver, 1980). In the beginning, the consumers have an expectation regarding the product. They then form the perceived performance after using it or receiving related service after purchasing. After that, consumers compare the expectation and the perceived performance and produce confirmation or disconfirmation. Repurchase intention depends heavily upon prior satisfaction, while satisfaction is obtained from confirmation.

Although inconsistent cases exist in EDT, Bhattacharjee (2001a) nevertheless emphasizes that continuance decision-making of information system (IS) customers has some features similar to that of repurchase intention. Therefore, he qualified EDT and combined the evidence from IS applications to develop a Post-acceptance Model of IS Continuance. The model includes four aspects: confirmation, perceived usefulness, satisfaction, and IS continuance intention. It includes more reasonable concepts and provides higher explanatory power regarding the customers' IS continuance intention.



**Figure 2. A post-acceptance model of IS continuance**  
(Adapted from Bhattacharjee, 2001a)

### 3. The relationship between webcare and post-acceptance model of repurchase intention

As previous research has argued, consumers' perceptions of a brand's socialness or humanity positively influence attitudes and intentions (Delbaere, McQuarrie, and Phillips, 2011). Webcare can increase the consumer engagement. Besides, webcare as a reaction to positive engagement becomes an effective marketing tool for reinforcing observing consumers' engagement intentions, especially on consumer-generated platforms (Schamari and Schaefer, 2015).

In the online buying context, consumer behavior can be enhanced if online companies pay more attention to them, including one word, after-sales service, and service failures and recovery (Gensler et al., 2013; Grégoire et al., 2009). It is assumed that webcare can also enhance or moderate the consumer engagement, which is based on a post-acceptance model of repurchase intention. Thus, the following hypotheses are proposed, and a research model is also proposed (see Figure 3).

- P1. Webcare enhances the positive relationship between confirmation and perceived usefulness.
- P2. Webcare enhances the positive relationship between confirmation and satisfaction.

- P3. Webcare enhances the positive relationship between perceived usefulness and satisfaction.  
 P4. Webcare enhances the positive relationship between perceived usefulness and repurchase intention.  
 P5. Webcare enhances the positive relationship between satisfaction and repurchase intention.

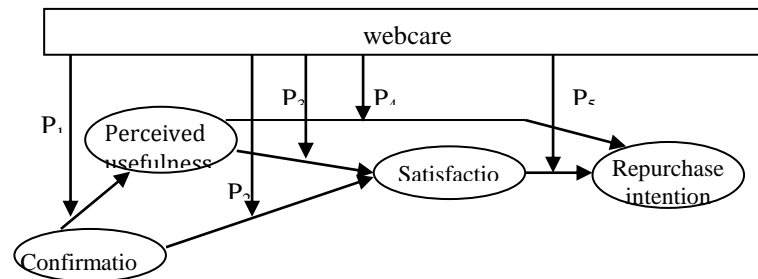


Figure 3. Research model

## METHODOLOGY

We used an experimental setting to examine the positive effect of webcare directed at positive continuance intention, and to investigate how webcare should be designed for a maximum impact. Participants, who were students the same university and in the same grade students, were randomly assigned to one of two groups which revealed no differences between the groups regarding initial brand perception. One group could see the pictures of a fictional positive user comment about the brand on a social media platform which has some feedback of the official company. The other group was not able to see any response from the official company.

Adapted from the study of Bhattacharjee (2001a), the scales of confirmation are classified into three aspects: objective, inferred, and perceived (Yi, 1990). These corresponding items are: “My experience with using Internet shopping mall for shopping was better than what I expected”, “The service level provided by Internet shopping mall was better than what I expected”, and “Overall, most of my expectations from using Internet shopping mall for shopping were confirmed”.

Items for measuring perceived usefulness are originated from four items of Davis et al.’s (1989) study. The former three items are selected as performance, productivity and effectiveness of Internet shopping mall for shopping; the fourth item is targeted at overall usefulness of Internet shopping mall for shopping.

Items for measuring satisfaction are adapted from the study of Oliver (1980), Spreng et al. (1996) and Bhattacharjee (2001b), which are originated from EDT. The reason why we didn’t use the prior satisfaction instruments in IS research is either because the scales are too long to conduct or did not capture the affections toward the system itself (Bhattacharjee, 2001a; 2001b).

The items of repurchase intention are taken from Bhattacharjee’s (2001a; 2001b) scales in which two of these items are adapted from behaviour intention scale of IS developed by Mathieson (1991). The third one was added for reliability improvement. Two former items are used to evaluate continuance intention of respondents for the Internet shopping in contrast with traditional channel. The third item is used to assess overall discontinuance intention.

Wherever possible, this study adopted the well-established valid instruments with minor changes in wording to fit the Internet shopping retention context. Each item was measured on 7-point Likert scales from 1 (strongly disagree) to 7 (strongly agree).

## CONCLUSIONS AND FUTURE DIRECTION

In this paper, we try to use the post-acceptance model of repurchase intention to explain how webcare effect consumers’ perceived usefulness, satisfaction and continuance intention. We contend that the development of right webcare strategy will cause consumers to shop online more frequently.

Extension of this work could move in two directions. First, this model needs to be verified with empirical data in order to assess the model and hypotheses. Second, we will use an experimental setting to set up a different situations that include the webcare or do not. One group will see pictures of a fictional positive user comment about the brand on a social media platform which has some feedback of the official company. The other group would not be able to see any response from the official company. Then they will be tested to examine the effect of the repurchase intention from webcare. Since alternative of webcare have their own underlying arguments and meanings, it would be beneficial that made this kinds of comparison for webcare practices.

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# ORGANIZATIONAL PREDICTORS OF WORKPLACE DEVIANCE IN PUBLIC UNIVERSITIES IN MALAYSIA

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## EXTENDED ABSTRACT

Deviance in the workplace is considered as one of the vital issues that influence on outcomes and productivity of employees. There are many reasons for workers to be treated inappropriately in the workplace like, lack of organizational support, organizational justice and commitment. The purpose of this paper is to develop a theoretical model to determinants of workplace deviant behavior. Accordingly, the goal of this study is to determine the degree of relationship that exists between workplace deviance and organizational-related factors, among employees of public universities in Malaysia. This study is based on reviews of past studies on workplace deviant behavior.

**Keywords:** *workplace deviance, organizational-related factors*

### Introduction

Deviance in the organization is one of the vital issues that impact on outcomes and productivity of the organization. There are many of reasons for workers to be treated inappropriately in the workplace, but this leads to increase cost and decrease efficiency. Many organizations recognize the impact of deviance on their outcomes and understand that minimizing workplace deviance is necessary for them to remain competitive in the market. The efficiency of an organization and maximum outcomes of employees in a workplace in such a competitive market requires some factors that impact the enhancement of the performance and job satisfaction of employees in the workplace. Many researches show that organizational justice influence on job satisfaction (McFarlin & Sweeney, 1992).

### Background of Problem

Workplace deviance behavior is pervasive and costly for today's organizations Bennett and Marasi (2015). One of the main reason of special attention to workplace deviance is extremely high cost that depend on this behaviors (Alias & Rasdi, 2015; Peterson, 2002). According to Appelbaum, Shapiro, and Molson (2006), approximately 95 percent of employees encounter deviance in their workplace and most of the time they reciprocate by deviating in the workplace. Further, (Bensimon, 1997) asserts that the cost of workplace violence is approximately \$4.2 billion annually in United States. Based on research of in University of Cincinnati 64% of businesses have been victims of employee theft also unscheduled absenteeism can cost as much as \$755 per employee yearly (Ruiter, 2014 ).

Malaysia higher education industry is currently one of the sectors that is facing some challenges due to reduce the foreign students, and reduce the budget from government. The ministry of higher education declare in 2015, by 2025 the budget of public universities in Malaysia will be gradually decrease to become self-governing. Some public universities around the worlds have challenge of reduce of budget from government (Park et al., 2012; Tarlo et al., 2008). According to Ministry of Higher education with the purpose of developing and sustain competitive, public universities in Malaysia must have strong strategy plans to attract international students, for implementing this plan require cooperation of all public universities, to enhance creativity and innovation to develop human capital to release the full potentials of their academic and nonacademic staff to minimize the workplace deviance.

### Social Exchange Theory

Social exchange theory is a social psychological perspective that describe motivation for behavior and attitudes exchanged among individuals such as involving and exchange with supervisors, colleagues, organizations and teams also interactions along with workplace relations (Shore et al., 2009). Regarding social exchange theory perspective , organizational staff are interested to interact workplace deviance behavior when they perceived shortage ethics in organizational, absence of support and injustice treatment from the organization (Alias, Ismail, & Abu Samah, 2013). Similarly for organizational ethical climate with reflects employees' experience on the organization as fulfilling its exchange obligations which eventually employees are more incline to engage in various negative behaviors (Chernyak-Hai & Tziner, 2014). Based on Brown and Trevino (2006), those employees with high quality of exchange relation with their organizational higher positions, are less

probable to involve in destructive behavior. Many researcher utilize the social exchange theory to elaborate issue of workplace deviant behavior and organizational-factors (Alias et al., 2013; Alias & Rasdi, 2015; Glomb & Liao, 2003; Mitchell & Ambrose, 2007).

### **Workplace Deviance**

Workplace deviance behavior consider as voluntary manner that violates representative organizational standards and so threatens against organization goals, its member or both (Robinson & Bennett, 1995). According to Robinson and Greenberg (1998), workplace deviance behavior is one concept of organizational behavior. Some researchers like Robinson and Bennett (1995) divided the deviance in to two groups. The first one, organizational deviance, is more concerned about direct behavior in organizations which consists of picking up the product or tolls, intentionally damage or disrupt the equipment in the organization, strong reaction to any unpleasant action deviance. The second one, interpersonal deviance, which is related to employee of an organization, comprises of verbal abuse, sexual harassment and jeopardizing the colleagues (Robinson & Bennett, 1995).

Workplace deviance covers various behavioral ranges of acts from major to minor behavior, abusive supervision and drug abuse (Tepper, Henle, Lambert, Giacalone, & Duffy, 2008). Subsequently, Bennett and Robinson (2000), distinction between organizational and interpersonal targets of deviance, some researchers have examined predictors in relation to a combination of organizational and interpersonal deviance, simply calling it Workplace deviance behavior (WDB).

It is proven that those employees who have negative feelings and emotions against the organization prone to deviant attitude such as employee withdrawal, tardiness, sabotage, dishonesty, dysfunctional and counterproductive behavior in the workplace (Robinson & Bennett, 1995). An employee is angry with his/her co-worker, who gained some rewards that she/he has a strong desire to obtain, can lead to deviance (Alias et al., 2013). Sometimes even some small matters in organizations such as a bigger room or even an extra table, can cause hateful deviance behavior among employees. The envious employee could operate some inappropriate behavior spitefully like talking negatively about the colleague to spoil his or her image, distorting others successes and positively explained his own accomplishments (Alias & Rasdi, 2015).

### **Organizational Ethical Climate**

Organizational ethical climate is an important element in organization which implicates an individual's behavior. The word 'ethics' stems from the word in Sanskrit 'Sydha' which means self-position, self-condition, habit, or custom (Fraedrich, 1993). Word ethics, means selections and arbitration about satisfactory standards of behavior that lead to the performance of both individuals and groups (Erundu, Sharland, & Okpara, 2004). Ethical means approbated typical rules in order to ensure personal and social wellbeing in organization (Anand, Ashforth, & Joshi, 2005). Cullen, Parboteeah, and Victor (2003) explained ethical behavior as the individual acting consistently with one's own values. (Fraedrich, 1993) take a constructionist approach and describe ethical behavior as that which is prescribed by the organization. In this approach, the organization is used as the basis for determining what is right and wrong and any deviance from organizational norms is considered unethical (Fraedrich, 1993). Others have relied upon differential association theory or social network analysis to examine ethical behavior.

In principled climate workplace, facing with ethical dilemma, group-based or organizational norms propose that in most of the times decisions made by decision makers rely on employees principals and rules which are various among persons (Cullen & Sackett, 2003). Regarding local levels, decisions made by individuals are in line with organizational standardized procedures and rules. In organizations that decision makers having cosmopolitan view, codes of ethics which are emerged from outside, significantly affect ethical decisions (Upchurch, 1998).

### **Perceived Organizational Support**

Perceived organizational support (POS) is defined as the degree of employees' belief to the value and care from organization to their contribution and wellbeing, as an instance, a high POS may be perceived when an employee believe, in case of any child-care problem or an honest shortcoming, the organization would accommodate or forgive him, respectively (Rhoades, Eisenberger, & Armeli, 2001). Previous researchers represented indications that exposed support in organizational has relationship with workplace deviant behavior (Berry, Carpenter, & Barratt, 2012). From the personnel vision, perceived organizational support refers to members' global beliefs concerning the extent to which the organization values their contributions and cares about their well-being. POS (perceived organizational support) should create a responsibility feeling members to care about the organization's prosperity and to support the organization to attain its goals (Rhoades & Eisenberger, 2002). Those employee who perceived organizational care they realize that they are valuable for their organization, consequently they interact to organizational support by abiding organizational rules and structures.

### **Organizational Trust**

Trust in organization is one of the organizational related factor judging the expectancy of members involvement in doing misbehave in work environment. To define trust regarding organizational literature, several efforts have been made. Based on the former effort on integrating the significant components of varying approaches to trust, it was proposed by Mayer, Davis, and Schoorman (1995) described as willing to be open to other parties while they are out of control or supervision. Trust can be divided into two subcategories: interpersonal trust and organizational trust (Bhattacharjee, 2002; Hardin, 2002; Lee & Jang, 2012). Tan and Tan (2000) suggested that trust in the leader and trust in organizations should be differentiated

because each type of trust has diverse antecedents and consequences, although they are not mutually exclusive. Tan and Tan argued that trust in a leader is the follower's willingness to become susceptible to the actions of his or her leader whose conduct and actions he or she is unable to control. Nyhan and Marlowe, (1997) defined trust as the level of confidence that a person has in another person's competence and his or her willingness to behave in a fair, ethical, and predictable manner.

### **Perceived Organizational Support and Workplace Deviant**

Perceived organizational support, is defined as the degree of employees' belief to the value and care from organization to their contribution and wellbeing (Rhoades et al., 2001). The positive relationship between efficiency of employees and POS was implied by Allen et al. (2003). Employees considered their organization supportive, when they are experiencing supportive supervisors, having right to making decisions, and organizational rewards are distributed fairly. Former study represented indications that exposed support in organizational has relationship with workplace deviance behavior (Berry et al., 2012). Those employee who perceived organizational care they realize that they are valuable for their organization. consequently, they interact to organizational support by abiding organizational rules and structures, alongside organizational justice, which indicates the association between perceived organizational support and work deviant behavior (Sady, Spitzmuller, & Witt, 2008; Thau, Aquino, & Poortvliet, 2007).

Based on social exchange theory, organizational staff are interested to interact workplace deviance behavior when encounter lack of support and injustice treatment from the organization (M. Alias, Rasdi, Ismail, & Samah, 2013). From the personal aspect, POS is the degree of employees' belief to the value and care from organization to their contribution and wellbeing (Rhoades & Eisenberger, 2002). According to Eder and Eisenberger (2008) POS increases employee's commitment in order to help organization achieving its aims, particularly in case responsibilities and organizational positions varying, and employees seek for organizational guidance and assistance.

Stamper and Masterson (2002) indicated that employees who do not feel supportive from their organization are more probable to act destructive in workplace. In other word unsatisfying POS increase negative feelings and moods regarding supports received by the organization, which leads to increase deviant act by employee. Additionally, POS was stated to have negative relationship with workplace deviance (Colbert, Mount, Harter, Witt, & Barrick, 2004), and supervisory rated deviance (Stamper & Masterson, 2002). Hence, with revision of the above literature and relying on social exchange theory perceived organizational support has impact on workplace deviance, therefore based on the previous discussion, the following hypothesis is developed:

H1: There is a negative relationship between perceived organizational support and workplace deviance.

### **Workplace Deviance and Organizational Trust**

One of the significant organizational-related factor, which judging the expectancy of members involvement in doing misbehave in the work environment is trust in organization. Organization trust mentions the level of employee's trust to the management of an organization at various stages of its chain of command, not essentially only top manager. Based on Liao, Joshi, and Chuang (2004), if an organization developed loyalty and trust among workforces, the employees tend to contribute more in workplace, to achieve goal of organization. On the other hand according to Aquino and Byron (2002) lack of trust in organization can lead to workplace deviance. It is followed by Thau et al. (2007) that found the negative relationship between organizational trust and deviance. With rely on social exchange theory, positive social exchange circle involves interaction, ethical practices, and communication. It should be noted that based on the reciprocity of norm, lack of trust in organization lead to pay back the unfavorable treatment from employees to the organization (Eisenberger et al., 2001).

Organization trust has been discussed as a determinant of workplace deviant (Alias, Rasdi, et al., 2013). It was the same result as Ozyilmaz (2010) discussion, he has been found organization trust as a determinant of subordinate's workplace intentions and behaviors. Therefore based on social exchange theory the below hypothesis is proposed:

H2: There is a negative relationship between organization trust and workplace deviance.

### **Organizational Ethical Climate and Workplace Deviance**

Understanding individual psychological processes has been debated as the most reasonable way to highlight unethical behavior in organizations. It is almost impossible to recognize all unethical manners in workplace due to shortage of rule to measure unethical behavior in organization (Sackett & DeVore, 2001). Based on Sacket and Devore (2001) Investigating the suitable evaluation measurements of unethical behavior in organizations is not simple The potency of ethical rules of manner is not yet to be decided, though this approach is well established to limit unethical organizational behaviors (Weeks & Nantel, 1992).

The problem of organizational unethical behavior is a serious issue, because majority of employees which act wrongly at job, are not necessarily possessing a bad characteristic (Tenbrunsel, Diekmann, Wade-Benzoni, & Bazerman, 2010). In other word, some organizational unethical behaviors or even deviance behavior are reported to be committed by employees with ethical type (Ghani, 2013). Is reported by some scholars that organizational climate is associated with employees' unethical/ethical behavior (Victor & Cullen, 1988).

Variation in organizational ethical climate ranges from organization to organization due to fact that ethical climate is composed of shared perceptions in employee with respect to their organizational ethical conditions (Victor & Cullen, 1988).



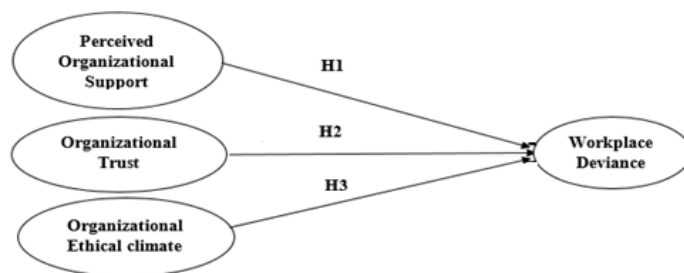
Organizational practices, expected behavior, procedures, and also the manner management consider verities of issues, all can be aspects that employees' perception can involve to. Therefore, any standardized procedure to reduce destructive behavior of employee, leads to promote ethical standards and reduce the workplace deviance (Shafer, 2015).

Former study declare the vital role of fairness on employees' behavior (Byrne, 2005; Henle, 2005; Jones & Martens, 2009). Some research also highlighted the importance of organizational ethical climate with reflects of employees' experience on the organization as fulfilling its exchange obligations which eventually employees are more incline to engage in some deviance behaviors (Chernyak-Hai & Tziner, 2014). Based on Alias et al. (2013) employees who perceive low ethical climate are more inclined to act negative behavior compare to those respondents who perceive higher. Social exchange theory highlights the positive social exchange circle involves interaction, ethical practices, and communication influence to inclined deviance. According to Alias and Roziah (2015), organizational ethical climate predicted workplace deviance. Likewise Andreoli and Lefkowitz's (2008) found the impact of ethical climate on WDB. Hence, based on literature and offer empirical support from the social exchange theory the below hypothesis is proposed:

H3: There is a negative relationship between organizational ethical climate and workplace deviance.

### Research Framework

As it is explained in above the relationship between the organizational related factors and workplace deviance illustrate in this framework based on previous study.



**Figure 1.1** Conceptual framework

### Conclusion

In this research strived to review the relevant studies pertaining to workplace deviant behavior and its predictors. Researchers have identified that empirical evidences available in understanding the organizational factors that influence this negative behavior are limited. We explored the five organizational related factors that predicted workplace deviance. A series of propositions to test the relationships were developed. Hence, this study provides a predictive framework, whereby the scholars and practitioners could examine the explanatory power of the framework to further explain support personnel engagement in deviant behavior.

Hopefully human resource managers has the competencies and skills to challenge the status quo and assist public universities in maintaining good governance practices specifically in minimizing deviant behavior. Workplace deviant behavior brings impacts to employees' relationship, the sharing of knowledge and ethical culture. This in turn affects performance and development of employees in the organization. By examining the nature of workplace deviant behavior and organizational predictors human resource managers can be in a better position to understand and practice appropriate policies and procedures to prevent or reduce the workplace deviant in public universities. Hence, this study offer for future researchers to look into other organizational predictors of workplace deviance and not only in public universities.

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# IDENTIFYING FACTORS OF EMPLOYER ATTRACTIVENESS TO WINNING THE WAR FOR TALENT IN INDONESIA E-COMMERCE

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## EXTENDED ABSTRACT

The War for Talent is the problem occurred when there is labor shortage while the high demand for talent arise. Nowadays, this issue is emerging in all Indonesia sector of industry including the industry which currently growing fast: e-commerce industry. This phenomenon forced the company to compete in attracting potential job applicant to get talented resources. In order to attract potential job applicant, the effective way is to apply employer branding strategy through employer attractiveness. This research aimed to identify the factor of employer attractiveness in Indonesia e-commerce industry in order to help e-commerce win the war for talent. The research methodology used in this study began with preliminary study to identify the factor of employer attractiveness then tested the result by questionnaire through online-distribution to the job seeker and analyzed by using pearson correlation test and multiple regression analysis. The findings showed compensation corporate image, passion, product and working environment are the factor of employer attractiveness which have positive correlation towards people's intention to apply job. Among all the variables, working environment has the highest positive influence and e-commerce company was suggested to build a good working environment inside the company.

**Keywords:** : employer branding, employer attractiveness, e-commerce, Indonesia.

## INTRODUCTION

Major corporate suffers in the labor shortage prediction while the high demand for talent arise due the growth of Indonesian industry in all area (Chhabra & Sharma, 2011; Fajar, 2011). This phenomenon is called *The War for Talent* which occurred simultaneously with the birth of information era. The competition is tight for both local and multinational companies, not excluding e-commerce (Tong & Waltermann, 2013). As for e-commerce industry, Indonesia has been predicted to becoming one of the largest in Asia in 2020 (Harsono, 2016). Furthermore, e-commerce not only seize the consumer's attention but also the job applicants'. The most searched job in start-up company is led by Tokopedia with the proportion 31.73% shown that job applicant now having intention to apply in e-commerce industry (jobplanet.com, 2016). Therefore, e-commerce industry should be able to attract the talented resources because 'employee hijacking' has become top issue among them (Rahman, 2016).

The possible solution to survive and winning *The War for Talent* is by using employer branding strategy. Employer branding is the image that company build towards job applicant's perspective (Armstrong, 2009). One of the component in employer branding is employer attractiveness. Employer attractiveness can be defined as the attributes consist of benefit which company offer to the potential job applicant (Berthon, Ewing, & Hah, 2005). The success of employer branding strategy has been proofed by several firm which makes them have unique competitive advantage in human resources competition (Moroko & Uncles, 2008). However, the study regarding employer branding strategy which put Indonesia as the object is still limited and most of them analyse the industry as general. Therefore, this research would like to explore the factor of employer attractiveness in employer branding strategy focuses on Indonesian e-commerce industry. The findings will be used by e-commerce to formulate strategy in order to winning the war for talent.

## LITERATURE REVIEW

- **Talent Management**

Attracting and recruiting best people to the organization considered as the importance goal of talent management (Armstrong, 2009). Talent management is the process of assuring the talented people to fulfill organization needs to achieve its business goals (Armstrong, 2009). Effective talent management become a core competence which distinguish the firm with other competitors especially when its talent could improve strategic execution and operational excellence (Ashton & Morton, 2005).

- **Employer Branding**

One of the strategy to winning the talent war is employer branding. Minchington (2006) has been defined employer branding is the way which makes the stakeholder (employee, etc) and other external enjoy working by building a good image in their perspective. In other words, employer branding can be explained as creation of company branding towards potential job applicant (Armstrong, 2009). The object of employer branding directed into two different segment: internal and external. The internal branding's objective is to initiate a workforce which is dedicated to the organizational goals and values (Backhaus & Tikoo, 2004). While the external branding was designed to engage larger population, specifically to create a firm that enables to win over best potential talent (Backhaus & Tikoo, 2004). To conclude, the employer attractiveness is as result for external branding while employer brand equity is from the internal branding.

- **Employer attractiveness**

Employer attractiveness as one of the function in employer branding has strong relation in achieving company's goal, specifically in attracting potential employee (Broek, 2015). Employer attractiveness has been defined as the benefit of working in a company given to their employee which can be seen by potential employee (Berthon, Ewing, Hah, 2005). Chhabra and Sharma (2011) discover seven organizational attributes: compensation, organization culture, career prospect and growth, job profile employee empowerment, brand name and training and development. While Berthon (2005) develop from the previous research into five dimension of attractiveness: interest value, social value, economic value, application value and development value.

- **Theoretical Framework and Hypotheses**

Preliminary study has been conducted and results five main factor of employer attractiveness which became job applicant's consideration before apply job in e-commerce. Furthermore, the findings was compared to previous research though the label name is different. There are corporate image, compensation, passion, product and working environment as the independent variables while the intention to apply as the dependent variable.

In order to answer the research question the researcher generated several hypotheses in accordance to the findings in previous study and preliminary study. The hypotheses are generated as below:

- H1a. Compensation has positive correlation on intention to apply job in e-commerce company
- H1b. Compensation has significant value on intention to apply job in e-commerce company
- H2a. Corporate Image has positive correlation in intention to apply job in e-commerce company
- H2b. Corporate Image has significant value in intention to apply job in e-commerce company
- H3a. Passion has positive correlation on intention to apply job in e-commerce company
- H3b. Passion has significant value on intention to apply job in e-commerce company
- H4a. Product has positive correlation on intention to apply job in e-commerce company
- H4b. Product has significant value on intention to apply job in e-commerce company
- H5a. Working Environment has positive correlation on intention to apply job in e-commerce company
- H5b. Working Environment has significant value on intention to apply job in e-commerce company

## **METHODOLOGY**

- **Data Collection**

This research used survey-based questionnaire to answer the research question. The hypotheses would be proven by asking several questions to the targeted sample from the population of job seeker. In advance, to determine the number of sample this research uses Slovin's theory and results sample size needed are 100 respondents. The researcher used questionnaire in order to compared each respond from the sample towards the same set of questions. To collect the data, this research will be using survey based on questionnaire—self-administered questionnaire. Self-administered questionnaire is the questionnaire which completed by the respondent itself (*Saunders, Lewis, & Thornhill, 2007*). The questionnaire will be used Likert Scale (1-7) to measure the effect of independent variables to dependent variables. Thus, it used Likert scale which implies how strongly agree or disagree a respondent with statement provided (*Saunders, Lewis, & Thornhill, 2007*). The questionnaire will be distributed to the sample through online distribution

- **Data Analysis**

In analyzing the data collected to answer the research question, Pearson and Multiple linear regression were used in this study. However, classic assumption test for making assumption of relationship between dependent and independent variables is required beforehand (Hair, et. al., 2006). The classic assumption included normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. Afterwards, Pearson correlation test used to found the relationship between independent and dependent variables. Furthermore, to find out how much the influence of each factor attractiveness this research used multiple linear regression. Multiple linear regression is the extended version of simple regression analysis which predict a metric dependent variable by multiple independent variable (*Zikmund, Babin, Carr, & Griffin, 2010*).

## FINDINGS AND ARGUMENT

There were 130 respondents from online-distribution questionnaire, however only 106 questionnaire considered as valid since fulfilled the requirement of having interest to apply job in e-commerce as the control variable of the questionnaire. The data was processed by using classic assumption test, pearson correlation test and multiple regression analysis. All the calculation was done by using SPSS 20.

The data had to be checked its validity and reliability beforehand. As for validity, this study used face validity, content validity and pearson product moment. Both face validity and content validity had been conducted by using pilot test to ensure the clearness without any ambiguity and compared the questionnaire with previous research. Then, the data collection is tested used pearson product moment and results the correlation coefficient greater than R table. Afterwards the reliability test was done by using cornbach's alpha to measure and the result showed value greater than 0.7. This means the data was valid and reliable.

Prior to pearson correlation test and multiple regression analysis, the data need to pass the classic assumption test. According to this research's result, the data was normally distributed, had no multicollinearity, no autocorrelation and no heterosdacity. In other words this data already passed the classic assumption test and can be proceedd to the next step.

**Table 12 Result of Pearson Correlation Test**

		Compensation	Corporate Image	Passion	Product	Working Environment	Intention to Apply
Pearson Correlation	Intention to Apply	0.212	0.274	0.31	0.321	0.429	1
Sig. (2-tailed)		0.029	0.005	0.001	0.001	0.000	-

Pearson correlation test used to determine the correlation between independent variables towards dependent variable. Based on table 1, each of the variable showed positive value and its significance value below 0.05. In other words, all the hypotheses provided were supported. This means compensation, corporate image, passion,

product and working environment have positive significance correlation towards people's intention to apply job in e-commerce.

After discovers the correlation between variables, multiple regression analysis was conducted in order to determine which variables has the highest influence.

**Table 13 Result of Multiple Regression Analysis**

Dependent variable	Independent Variable	ANOVA		Coefficients		
		F	Sig	Beta	Sig	R <sup>2</sup>
Intention to Apply	Compensation	5.983	0.00	-0.12	0.79	0.23
	Corporate image			0.03	0.369	
	Passion			0.081	0.089	
	Product			-0.007	0.843	
	Working Environment			0.424	0.001	

As can be seen in table 2, the R square value showed that 23% variance in intention to apply was explained by compensation, corporate image, passion, product, working environment and the rest was not explained in this research. Corporate image, Passion, and Working Environment showed positive value, indicate that they have positive influence towards people's intention to apply job. However, among those five factors of employer attractiveness, compensation and product showed negative value but not fulfilled the significance. This probably due some condition such as the higher the compensation is the higher will the workload, might lowering the intention to apply. Furthermore, working environment is the only one who has the significance value and highest value. This implies working environment has highest positive influence towards people's intention to apply job in e-commerce. Moreover, only working environment variable which can be generate to the population while the others only occurred in this study.

## CONCLUSIONS

The War for Talent currently emerging as a global talent war including in Indonesia. All kind of industry including e-commerce also has been enter this competition. Employer branding strategy along with the employer attractiveness will help company to attract potential job applicant. This research has contributed to fulfil the literature gap from previous research regarding employer branding by identifying factor of employer attractiveness focuses in e-commerce industry and Indonesian people as the object.

From preliminary study, this study found five main factor of employer attractiveness: compensation, corporate image, passion, product and working environment. Moreover, each of variable has positive significance correlation towards people's intention to apply job in Indonesia e-commerce industry. This study also found among those variables working environment showed significance positive influence towards intention to apply job. This finding indicated that people's intention to apply job is influenced by how good or how fun is the working environment inside the company.

This study's result could become e-commerce guidance in attracting potential job applicant. Thus, it can be useful for company to not only emphasize working environment in job advertising but also provide good and fun working environment inside the company to retain the best employee as their asset to improve company's performance and winning the war for talent.

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# AFFECTING FACTORS OF CELEBRITY ENDORSEMENT TOWARD PURCHASE INTENTION ON INSTAGRAM : FEMALE PURCHASER PERSPECTIVE

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## EXTENDED ABSTRACT

Using celebrity as the endorser has now become one of most used marketing strategy in the context of Instagram-based business. Yet, only a few empirical studies examined importance how endorser criteria affect the effectiveness of the endorsement, especially in the context of Instagram platform, based on Indonesian female perspective. In view of this, the objective of this paper is to make the theoretical and practical contribution regarding the selection of Celebgram endorser criteria and its influence toward purchase intention. The data collected from 400 female respondents by conducting Focused Group Discussion and Quantitative Analysis. Analyzed the collected data using Multi Linear Regression showed that two factors have significant positive impact on female purchase intention. These factors are Attractiveness and Social Proof. Attractiveness is empirically approved as the strongest factor affecting female purchase intention. Further analysis shows that Familiarity on Attractiveness factor has strong influence toward purchase intention

**Keywords:** : *endorsement, Instagram, purchase intention*

## INTRODUCTION

The trend of using social media emerges in today's era. It is shown by growing number Instagram users in Indonesia that has reached the number of 22 million, whereas 63% are women. As the number of Instagram users increased, the number of online business use this social media platform also increased. In order to drive sales and compete with other business, several marketing strategies conducted, included endorsement utilize celebrity Instagram (Celebgram). Endorsement, now, has become phenomenon that gain its popularity in Instagram context. For instance, a fashion blogger named Olivia Lazuardy with followers over 264.000 people, has been endorsed by a lot of brand, even high-end brand, and get revenue from it, with expectation that brand will get worthy return from this strategy.

As mentioned in many previous studies, a research by Cronin, J.M (2003) has shown that endorsement has effectiveness to increase purchase intention, specifically paying attention to the traits of celebrity endorser as the driver toward the behavior. Studies of the celebrity criteria selection have also been conducted by many practitioners and academics (product (e.g ; Kamins 1989; McCracken 1989 ; Ohanian 1990).

Hence, as substantive tool that commonly used in Indonesia online business, only few previous research that has been conducted to examine factors influenced endorsement in Instagram perceived by female user in Indonesia. In the middle of highly competitive Instagram-based business, it urges the necessity to understand deeper of the customer, especially what drives their buying intention. This objective of this paper is to reduce literature gap in context of understanding customer behavior through investigating the key factors that drive female purchase intention on Instagram context. The first step is conducting literature review, to explore variables have been empirically approved to affect purchase intention. Afterward, the qualitative method also conducted in order validate research measurement. Conducting literature review and qualitative research resulted in 4 factors that further would be analyzed through quantitative method. Those factors are Attractiveness, Credibility, Match-Up, and Social Proof, further would be tested toward Purchase Intention using distribution of questionnaire



## LITERATURE REVIEW

### Purchase Intention

Purchase intention as pinpointed by Chang, T.Z. and Wildt, A.R (1994) stated as measurement of customer's level to transform into purchase behavior, and as predictor index of purchase decision making. Furthermore, according to study by Day *et al* (1991) indicated that measuring purchase intention (intentional) could be considered more effective as it has better ability in capturing customer's way of thinking.

### Celebrity Factors Criteria for Endorsement

The selection of appropriate endorser resulting in construct of models and criteria for selection of celebrity endorsers (Ohanian, 1990; McCracken, 1989; Till and Busler, 2000) Therefore, using literature base, this study utilize the three models (source credibility, source attractiveness, product match-up hypothesis) that considered to affect selection process.

Source Credibility considered to be deemed if brand has ability (i.e. expertise) also trustworthiness to be consistent on delivering the promises has been made (McCracken, 1989). Pornpitakan (2004) also revealed that celebrity expertise, and trustworthiness, which is belong to Credibility factors had a positive effect on the purchase intention.

Source Attractiveness encompasses in physical attributes and emotional extension own by source that trigger the audience and considered appealing to them. This components impact toward advertising evaluation and behavioral changes, moreover it could affect other component, such as source credibility and liking toward endorser (Patzner, 1983). Likewise, as stated by Baker & Churchill (1977) the belief toward brand and purchase intentions of consumers can be influenced with the use of physically attractive celebrity endorsers

Match up or Product congruence. The match up or product congruence is considered to be a key in determine endorsement effectiveness as stated by Cronin, J.M (2003). Moreover, celebrity that match or congruent with the product lead to higher degree of purchase intentions than when they were incongruent.

## METHODOLOGY

### Qualitative method

Focus Group Discussion was conducted, involving 5 people as participant, act as an attempt in validating research measurement. All participants have been examined to meet the criteria set up-front : female; 18-34 years old; all of them have been using Instagram actively. The result then synthesized and used as variables in qualitative method. Primarily, the moderator asked whether the factors and variables found in Literature Review considered appropriate to measure the study along with any additional factor considered important. As for the result, variable of dependable and qualified were eliminated and factor of Social Proof has been added to be further tested toward Purchase Intention. The Social Proof factors contains two supporting variables, those are Number of Likes and Number of Followers.

In line with research objective, this research examines the four sets of hypotheses:

Hypothesis 1: Celebgram endorser perceived *Attractiveness* will positively influence the *Purchase Intention* of female on Instagram

Hypothesis 2: Celebgram endorser perceived *Credibility* will positively influence the *Purchase Intention* of female on Instagram

Hypothesis 3: Celebrity perceived *Match-Up* with the product will positively influence the *Purchase Intention* of female on Instagram

Hypothesis 4: Celebgram endorser *Social Proof* will positively influence the *Purchase Intention* of female on Instagram

### Quantitative research

Researcher construct questionnaire contains 4 factors and 15 variables for Celebgram endorser's criteria to be analyzed toward Purchase Intention. Questionnaire construction would consist respondent rank about how important each variable stated toward customer intention to shop in Instagram

### Measurement

To measure factors of Attractiveness, researcher use Physical Trait, Familiarity, Similarity, and Likeability (McCracken, 1989).

To measure factors of Credibility, researcher use and Experience, Knowledgeable, Skillful along with Honest, Reliable, Sincere (Van der Veen, R. and Song, H., 2010)

To measure factors of Match-Up, researcher use Image-Fit, Expert Fit, and Overall Fit (Till & Busler., 2000)

To measure factors of Social Proof, researcher use Number of Likes and Number of Followers (Focus Group Discussion, 2017)

### Data Collection and Analysis

Data collected from minimum 400 respondent, with criteria as female, 18-34 years old, and access Instagram daily. Data collection conducted through online survey in Bahasa Indonesia with 6-point Likert scale to rank the importance of each variable.

### Data Analysis

The questionnaire that has been distributed then analyzed using Microsoft Excel and SPSS. The quantitative data would be analyzed using multiple linear regression, in order to find out which factor and variable influence positively on purchase intention, related to this study.

## FINDINGS AND ARGUMENTS

Analysis of the data collection presented below

*Table 1. Multiple Linear Regression (Factors)*

Dependent Variable	Independent Variable	Coefficient		
		Beta	Sig.	R2
Purchase Intention	Attractiveness	0.382	0.000	0.371
	Credibility	-0.008	0.848	
	Match-Up	0.018	0.727	
	Social Proof	0.318	0.000	

Table 1 shows result of multiple linear regressions performed of factors affecting Purchase Intention. Attractiveness and Social Proof analyzed to have significant influence toward Purchase Intention, as proved by their sig. level numbers that are below 0.05, as the confidence level for this research is 5%. From the table 1, it can be inferred that Attractiveness has the biggest beta score (Beta=0.382, p=0.000). Followed by Social Proof. (Beta=0.318, p=0.000). This indicated that Attractiveness has biggest influence toward Purchase Intention. Additionally, table 1 also present the R square value of this research is 37.1%, which means those four factors influence about 37.1% of Purchase Intention. However, if looking deeper on each factor individually, as stated before, it can be inferred that not all factors are affecting purchase intention significantly. The other 63.1% come from other factors not included in this research.

Based on result as stated above, only influencing factors would be included in the model, the hypothesis concluded as followed:

**Hypothesis 1: Celebgram endorser perceived *Attractiveness* will positively influence the *Purchase Intention* of female on Instagram - SUPPORTED**

**Hypothesis 4: Celebgram endorser Social Proof will positively influence the *Purchase Intention* of female on Instagram - SUPPORTED**

## Model Summary

Figure 1 : Model Sum

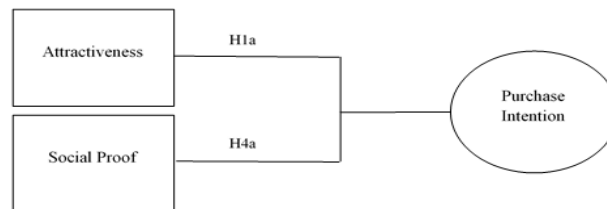


Figure 1: Model Summary

Figure 1 shows the summary of the regression analysis which presents the relationship between dependent and independent variables in framework with the significant variables. The framework summary would only display the variables with positive impact significant relationship with purchase intention. Therefore, H2 and H3 are not included in the framework summary, since factor of *Credibility* and *Match-Up* have insignificant relationship toward *Purchase Intention*.

Additionally, further regression performed to analyze of relationship of each variables contained in factors that has been proven to influence Purchase Intention. The result of the analysis is displayed in Table 2

Table 2: Multiple Linear regression (variables)

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	1.037	.234		4.428	.000	.577	1.498
ATTR_PHYS	.115	.044	.126	2.651	.008	.030	.201
ATTR_LIKE	.063	.041	.068	1.534	.126	-.018	.144
ATTR_FAMI	.230	.038	.279	6.071	.000	.156	.305
ATTR_SIMI	.078	.033	.098	2.395	.017	.014	.142
SCL_FOL	.074	.052	.091	1.436	.152	-.027	.175
SOC_LIKES	.178	.048	.229	3.668	.000	.083	.273

a. Dependent Variable: INTENTION

From all variables from Attractiveness and Social Proof that has been analyzed through first regression analysis, three variables has been found significantly impact Purchase Intention. Those are Physical Trait and Familiarity from Attractiveness factors and Number of Likes from Social Proof factors. With all factors found have significant values below than 0.05. Familiarity form Attractiveness factor considered has biggest impact toward purchase intention, as it has the biggest beta value (Beta=0.279), followed by Number of Likes from Social Proof (Beta=0.229).

## CONCLUSION

From the analysis, this study resulted that Indonesian, especially female purchaser on Instagram emphasize more on factors of Attractiveness of the Celebgram. This findings from previous literature review (Ohanian,1990) supported the result that Attractiveness of celebrity endorser would affect Purchase Intention

positively. Hence, there are some gaps provided in this research compared to previous literatures, especially in factor of Credibility and Match-Up. Even though numbers of researches have shown the criticalness of credibility in endorser criteria, further research showed that credibility might found not effective as the result of customer becomes skeptical since the celebrity seems to be appearing in the advertisement for the compensation he or she receives in return (Mowen and Brown, 1981). As in Instagram context, fee of endorsement has been common as the return compensation for the endorser.

The gap also occurs in match between products and endorser, which most of literatures stated to have significant impact toward intention to purchase. However, this study proved the other way, as Match-Up perceived not too important in endorsement on Instagram context. The study by Bhatt *et al.* (2013) also implied not all studies resulted in same importance of criteria, since it was caused by different perspective based on culture and target audience. Additional factor of Social Proof has also approved to be important in influencing Purchase Intention, as a result of this study, in context of social media, particularly Instagram. Stepwise, result from further regression analysis shows that along variables that have influence toward Purchase Intention, Familiarity of Celebgram endorser from factor of Attractiveness hold the most important role in determining Purchase Intention.

This study proposed model that has differences compared to the existing literature, but considered to be practical in Indonesia and Instagram context. Nowadays, people tend pay more attention to attractiveness of celebrity and social proof on Instagram, to make someone as role model that affected their intention to purchase. As perception of factors important is culture specific (Bhatt *et al.*, 2013), the differences supported by the notion of different culture and society, also context where this study being learned. However, this research contribute practical implications for marketers and Instagram business owners in Indonesia, suggested that the Attractiveness along with strong Social Proof required as major criteria considered to select appropriate celebrity endorser for female customer as in Instagram context.

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# ANALYZING THE EFFECT OF SERVICE RECOVERY QUALITY ELEMENTS TOWARD BRAND CREDIBILITY AND CUSTOMERS' BEHAVIORAL INTENTION

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## EXTENDED ABSTRACT

Recovery strategy is a major consideration for company in maintaining the customer. Moreover, brand credibility in service company continues to be a popular method to support customers' behavioral intention such as encouraging to has subscribe intention and giving positive word of mouth through owning more satisfaction. This study intends to analyze how the service recovery quality elements influence brand credibility and behavioral intention. The elements consist of compensation, recovery speed, apology, and attentiveness which were taken from preceding research. The reason that lies behind using brand credibility is its direct strong impact to the customer behavioral intention. This study will assess the service company at PT. Komunikasi Bersama with population spreading in DKI Jakarta and Bandung area. This study will use partial least squares equation modeling (PLS) to generate the result and recommendation for the service provider. The finding of this study may improve the understanding of consumer response to service company's effort to recover service failure in telecommunication industry.

**Keywords:** : Service recovery, brand credibility, behavioral intention

## INTRODUCTION

The importance of ICT connectivity to the future economic growth enlarges the market of PT Komunikasi Bersama, which is responsible in fulfilling the need of communication service in Indonesia such as internet. It is one of telecommunication provider in Indonesia which targeting to increase their subscriber's demand to get 20 million subscribers in 2020 through offering a high service quality. Quality of service becomes the major consideration for company who offers service product. According to (Sirikit, 2000), customers perceive service quality by comparing their expectation to the actual services experience, and they want their expectation to be met completely. Thus, it becomes a new obligation for company to understand their customer well to meet the customer expectation. However, many of their subscriber write and spread their review which consists of complaint due to service failure throughout the internet. Thus, the risks of having service failure should be fully concerned by company to avoid in creating disappointed customer and negative behavioural intention. In order to survive in the competitive era, PT Komunkasi Bersama is forced to give their best recovery effort and rebuild the customers' trust toward their product.

## LITERATURE REVIEW

In order to support the findings, there will be some theories from preceding research including service failure, service recovery, brand credibility, and behavioral intention as explained below.

- **Service Failure and Service Recovery**

Service recovery is action attempted by company as way to handle the service failure. According to Chou (2015), service recovery is defined as organization response to manage the service failure. An appropriate service recovery needs to be delivered because a successful service recovery could lead to customer retention (McCollough et al., 2000). However, some customers could not be satisfied with compensation provided by company and giving apology might not solve the issue (Park& Pak, 2010). It forced the company to clearly understand about what kind of company's effort influences customers' behavioral intention aligned with this research objective.

Some studies had been analyzed the service recovery quality factors. Park & Park (2016), defined service recovery quality factors consist of compensation, promptness, apology or explanation, and attentiveness. They insisted that promptness has positive influence to airline image.

While other research by Ekiz and Arasli (2007) divided service recovery quality elements into apology, explanation, correction, sincerity, and promptness. It found that apology and promptness have significant relationship with complainant satisfaction and compensation without apology had less effect, while convincing explanation is needed to handle the issue (Ekiz and Arasli, 2007). This study uses service recovery quality elements to access the overall satisfaction toward recovery effort by PT. Komunikasi Bersama which consists of compensation, recovery speed, apology, and attentiveness.

- **Brand Credibility**

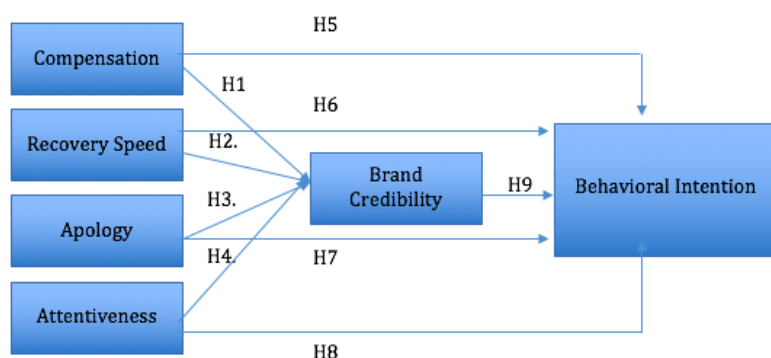
As many research which mostly focus on brand credibility on tangible product, this research will discuss about the brand credibility in service firm as a result of interaction between consumer and firm. According to (Baek & King, 2008), they use perceived quality, perceived risk, information cost, and perceived Value for money to explain the impact of brand credibility, while other research from (Alam, Arshad, & Shabbir, 2012) use trustworthiness and expertise to define brand credibility as their conceptual framework. In terms of relationship between brand credibility and behavioral intentions, preceding research by (Riscinto, 2008) found that brand credibility had positive effect to the purchase intention and WOM communication.

- **Behavioral Intention**

Behavioral intention of customer become an important issue for company to make the business sustainable since it affects how the company generate revenues and profitability. Behavioral intention is defined whether the customer wants to be remained and tolerance with defect from the company or not (CHIHUNG, 2004). In the relation of behavioral intention, several previous study shows that service failure and recovery influence how the customer stimulate the brand credibility, which include trust and perceived quality. Trustworthiness and perceived quality may not directly lead to customer loyalty but it induces the credibility of the brand to creates bigger customer relationship (Alam, Arshad, & Shabbir, 2012). Research by (CHIHUNG, 2004) divided behavioral intention into two parts, consist of word-of-mouth intention and revisit intention. In this study, behavioral intention will be divided into subscribe intention, word of mouth recommendation, and switching behavior

- **Theoretical Framework and Hypothesis**

Hypothesis is generated from relationship among variables in the conceptual framework. the hypothesis developments are explained below:



**Figure 1. Conceptual Framework**

First, the relationship of service recovery quality elements, as the independent variable, and brand credibility, as mediating variable. When customers had experienced the service failure, they requested for effective service recovery where this study uses four service quality elements consist of compensation, speed recovery, apology, and attentiveness to assess service recovery overall satisfaction adjusting from research by Park & Park (2016). According to research by Bourgoir, et.al (2016) represents there is a significance result between service recovery's overall satisfaction and brand credibility. As brand

credibility consists of trustworthiness and expertise (Erdem & Swait, 2004), customer satisfaction toward service recovery is likely to result in increasing brand trustworthiness. Consumer is more likely to believe that brand of service provider will able to continuously deliver the promise in the future (Bougoure et al, 2016). Thus, the hypothesis that proposed such as:

- H1. Compensation will have a positive effect on brand credibility*
- H2. Recovery Speed will have a positive effect on brand credibility*
- H3. Apology will have a positive effect on brand credibility*
- H4. Attentiveness will have a positive effect on brand credibility*

Then, the relationship between service recovery quality elements and behavioral intention. Research by Park & Park (2016) did not assessed the relationship between service recovery quality elements to behavioral intention. However, Othman et.al., (2013) found that service recovery strategy could affect in determining future behavioral intention. It is also strengthened with research by (Chueh, Wang, & Liao, 2014) who analyzed that service recovery shows significant correlation to relationship retention where other research often measures relationship retention as repurchase intention or customer behavioral intention (Akhter, 2010). Thus, the result of previous research is adapted to build the hypothesis to find out the relationship between service recovery quality elements to customers' behavioral intention.

- H5. Compensation will have positive influence on customers' behavioral intention.*
- H6. Recovery Speed will have positive influence on customers' behavioral intention*
- H7. Apology will have positive influence on customers' behavioral intention*
- H8. Attentiveness will have positive influence on customers' behavioral intention*

Last, the relationship between brand credibility as independent variable and behavioral intention as dependent variable. The future action effect of customers' perception toward brand credibility lead their behavioral intention whether to keep subscribing the product or spread a good word of mouth recommendation. It relates to previous studies by (Alam, Arshad, & Shabbir, 2012) which showed a positive relationship between brand credibility and customer loyalty. Moreover, Ghorban Z.S (2012) also found that brand credibility has positive relationship towards loyalty commitment. For this relationship, the hypothesis that the researcher proposed is:

- H9. Brand credibility positively affects the customer's behavioral intention*

## METHODOLOGY

### • Data Collection

Questionnaire will be distributed online to sample of representative group of populaton, which experienced to subscribe product from PT. Komunikasi Bersama in DKI Jakarta and Bandung Area. Number of sample uses sampling method by Marcoulides and Saunders (2006), which depends on the maximum number of arrows pointing at latent variable as stated in structural equation model. Then, the sample size for this study is 100 subscribers in DKI Jakarta and Bandung area who experienced a failure by PT. Komunikasi Bersama.

### • Research Measurement

The measurement items are adopted from preceding research. Service failure and service recovery is adopted from Park & Park (2016), while brand credibility and behavioral intention are adopted from Alam, Arshad, and Shabbir (2012).

### • Data Analysis

PLS analysis is used to analyse the hypothesis generated from this study by using SmartPLS application which consists of 1) explanation of target endogenous variable variance, 2) Inner model path coefficient sizes and significance 3) Outer model loadings and significance 4) Indicator reliability 5) Internal consistency reliability

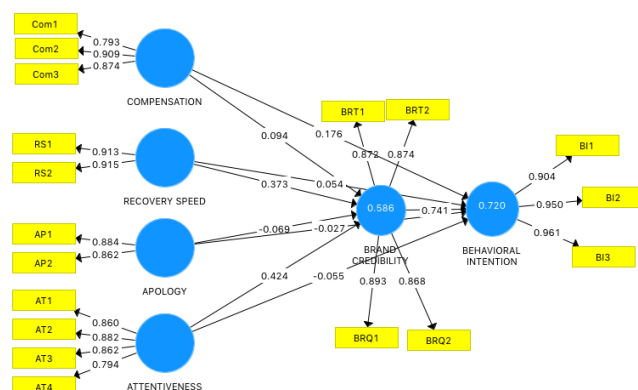


Figure 2. PLS Model

6) Convergent validity 7) Discriminant validity, and 8) Checking structural path significance in bootstrapping.

## FINDINGS AND ARGUMENT

There are nine hypotheses that were tested. Based on calculation, only H2 (Recovery speed to brand credibility), H4 (attentiveness to brand credibility), and H9 (brand credibility to behavioral intention) are accepted. Recovery speed and attentiveness has positive effect on brand credibility while brand credibility has positive effect on behavioral intention. A positive and significant correlation between recovery speed to brand credibility indicates the time needed for company to do service recovery affects brand credibility in the eyes of customers. It shows how efficient the service given by service provider. Customers might consider the speed because a delay represents inefficiency and influences consumer to think the possibility of having same problem occurred in the future, which might decrease their trust toward service provider (Folkes, 1984; Wirtz & Mattila; 2004).

Hypothesis	Structural Path	Path Coefficients	t-Values (bootstrap)	Result
H1	Compensation→ Brand Credibility	0.094	0.781	Rejected
H2	Recovery Speed→ Brand Credibility	0.373	3.826	Accepted
H3	Apology→ Brand Credibility	-0.069	0.788	Rejected
H4	Attentiveness→ Brand Credibility	0.424	3.634	Accepted
H5	Compensation→ Behavioral Intention	0.176	1.925	Rejected
H6	Recovery Speed → Behavioral Intention	0.054	0.637	Rejected
H7	Apology → Behavioral Intention	-0.027	0.356	Rejected
H8	Attentiveness → Behavioral Intention	-0.055	0.540	Rejected
H9	Brand Credibility → Behavioral Intention	0.741	10.269	Accepted

**Table 1. Hypothesis Testing Result**

Furthermore, the significance relationship between attentiveness and brand credibility imply that customers see respect, empathy, and willingness to listen as important thing when facing service failure. Attitude and behaviors of service provider's employees are very important in making effective service recovery, and two-thirds of customers' complaint occur due to their employee or service providers (Tax and Brown, 1998; Park & Park, 2016). Since employee represents a company as a whole when making relationship with customers, it can be concluded that employee attentiveness affects how customers perceive the brand quality and trustworthiness.

However, both recovery speed and attentiveness does not show a significant relationship toward behavioral intention. it makes H6(recovery speed to behavioral intention) and H7 (attentiveness to behavioral intention) are rejected. It means that service recovery quality elements do not have direct impact to behavioral intention.

In terms of relationship between brand credibility and behavioral intention, H9 supports the research by (Alam, Arshad, & Shabbir, 2012) which showed a positive relationship between brand credibility and customer loyalty. It makes brand credibility is important to be concerned by PT. Komunikasi Bersama since they are currently focus on gaining customer trust after experiencing service failure. How people perceived about brand credibility will directly affect to what the behavior they want to give for service provider. Moreover, there are no mediating effect since not all the independent and dependent variables show the significant result. It means that brand credibility is not a mediating variable.

However, other hypotheses such as H1(compensation to brand credibility), H3(apology to brand credibility), H5 (compensation to behavioral intention), and H8(apology to behavioral intention) is rejected because it does not fulfill the requirement for example t-score indicating below 1.96 and showing negative score for its path coefficient. It suggests that compensation cannot be considered as a substitute for good recovery process. Offering compensation might not be an added value or increasing customer satisfaction if the company already has well-implemented service recovery (Wirtz & Mattila, 2004). In regard to apology, it becomes the most efficient way to face angry customer (Park & Park, 2016). However, customers are demanding more than apology as service recovery effort. It is supported by Ekiz and Arasli (2007) who found that apology without compensation had less effect to customer satisfaction. It will be more powerful if apology is combined with immediate recovery rather than delayed recovery (Wirtz & Mattila, 2004). Finally, not all hypotheses are in line



with previous research. It indicates the theory implemented in previous research with different industry (airline service industry) are different with telecommunication industry.

## CONCLUSIONS

The purpose of this study is to analyze the relationship between service recovery to customers' behavioral intention. This theory could become company consideration to retain customer and also will fulfill the literature gap of service failure in telecommunication sector and brand credibility in service industry. In this study, we can conclude that the recovery speed and attentiveness has positive influence to brand credibility proved by its T-value which is greater than 1.96 and positive path coefficient value. Moreover, this study also found that there are positive relationship between brand credibility and behavioral intention. However, brand credibility could not be considered as mediating variable since all variables could not fulfill the requirement as stated in the previous chapter of mediating result. Based on finding result, it examines that recovery speed and attentiveness becomes important things to be considered by company in formulating recovery strategy especially in telecommunication sector. Company might focus to enhance their capability through increasing their recovery speed and enhance employee's ability in terms of attentiveness.

## FURTHER RESEARCH

Assessing brand credibility as main variable might be conducted to future research. Brand credibility could also be used in other research with different industry other than telecommunication industry. Thus, future research is expected to be able to fulfill the literature gap of brand credibility in service industry other than telecommunication industry. Moreover, finding new service quality elements beside compensation, recovery speed, apology, and attentiveness is also possibly to be done in the next study.

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## A PROPOSED ORGANIZATION DESIGN TO SUPPORT AN IPO TARGET (CASE OF PT. PUPUK KALTIM)

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### EXTENDED ABSTRACT

If an architect may state that an architecture is a reflection of value, organization structure possesses the same traits, an organization structure reflects the values of an organization. Hence, what would happen if an organization decide to change its status from private owned enterprise into a public enterprise? That is the case of PT. Pupuk Kaltim. An analysis from various aspect of PT. Pupuk Kaltim organization, its external and internal condition, linking it into its current strategy, and management aspiration will lead to an understanding of an organization structure design. Following the framework of Leading Organization Design, a set of idea is simulated, PT. Pupuk Kaltim in its current condition possess a potential, combined with its appetite for challenge, it lead to recommendations of organization structures. The case of PT. Pupuk Kaltim present a process which could be used as a benchmark in a similar study if an Indonesian organization decide to go public. While a study on Initial Public Offering (IPO) mainly focused in financial point of view, instead, this study offers a view from organization design, change management, and people management in adapting to an Initial Public Offering, after all it is people whom execute an IPO.

**Keywords:** *Change Management, Execution of Strategy, Fertilizer Industry, Initial Public Offering, Organization Design, Organization Restructuring.*

### INTRODUCTION

The Study of Proposed Organization Design to Support an IPO Target examine a scenario in a States Owned Enterprise of Indonesia, PT. Pupuk Kaltim a Fertilizer Manufacturer in Indonesia. The existence of PT. Pupuk Kaltim itself is a part of National Strategy of Food Self Sufficiency program, ensuring the supply chain of crop by securing a supply of fertilizer while contributing income to National Budget, the company suddenly need to adapt by undergone an IPO to ensure future existence. The scenario assumed in the study is the possibility of PT. Pupuk Kaltim going public as a means of adaptation while adapting to an Initial Public Offering (IPO) process, diversifying its business activity, adding new business initiatives, capability, and revenue generation.

This change is essential because the dynamic from a limited company of States Owned Enterprise will be different from a public company, steps required for PT. Pupuk Kaltim in managing people to adapt is simulated. The study discussed of what would be the outcome in the aspect of people management in the process of PT. Pupuk Kaltim IPO process, the proposed organization design to support an IPO. The study follows the step of administering change management and organization design steps of Leading Organization Design by Kate-Kesler and an Analytical Hierarchy Process (AHP). The framework of Kate-Kesler's Leading Organization Design will be much of help in guiding in the simulated process of change and designing the organization for the management team, while the AHP will assist the formulation of the decision process in handling important decision to be made in the organization design.

If an Indonesia States Owned Company reaction toward global business dynamic believed to pose a uniqueness in its culture, therefore an interviews and discussion becomes the means to dig the required data. While the later process of contrasting the interviews lead to the construction of variables in AHP method to decide the outcomes of design. The activity within the study leads to a conclusion where an organization design which heavily influenced by The Board of Director lead to an organization that given the most desired aspiration of the Board.

### LITERATURE REVIEW

*Organization Design as an Enabler of Performance*

The idea of aligning organization design with Corporate Strategy with organization design is mentioned by Kates, A & Jay Galbraith (2007) in the leading STAR Framework in organization design. The idea implies that different strategy will require different organization design, this is fundamental in acquiring the intended capability that formulated by the corporate strategy. Hence if an organization decide to adapt or altering its Strategy, as a means of adaptation it should adjust its organization accordingly

#### *Kate-Kesler's Leading Organization Design Framework*

what happen if an existing organization design is altered because of an alteration of strategy? Several things happen, taking into account the STAR Framework, if an organization design is a part of Structure, Process, People Practice and Reward System. When an organization design is altered to align with the latest corporate strategy, there will be new allocation of power and authority, it creates changes.

The framework of Leading Organization Design guides management in administering changes and adjusting or generating ideas of Organization Design based on Corporate Strategy. The execution of the framework is divided into five milestones, Business Case and Discovery, Strategic Grouping, Integration, Talent and Leadership, and Transition phase as the closing phase of the process cycle. The method in the framework of Leading Organization Design is mainly interviews or management discussion, or in the framework terms a *design charrette*.

#### *Analytical Hierarchy Process*

Analytical Hierarchy Process, developed by Thomas L. Saaty is a tool of decision making, executed by administering pairwise comparison of variables which could lead to a calculated decision. The process requires steps such as defining problem and knowledges, structuring the hierarchy in a top down manner, constructing pairwise matrices, and finally using a weight in priority to calculate the decision outcomes to conclude a decision making process.

## **METHODOLOGY**

#### *Data Collection*

The means of data collection used in these study is by the means of interviews and documented group discussion of general manager. This qualitative means is suggested in the framework of Leading Organization Design. There are one board of director interview session and a documentation of general manager brainstorming session. From these method, the study acquires an insight and data regarding the assumption and aspiration of the intended organization design.

#### *Board of Director Interviews and General Manager Brainstorming Session*

The Board of Director is the embodiment of leadership in PT. Pupuk Kaltim organization, where the strategy and decision is formulated and later communicated throughout the organization, hence in design, their aspiration becomes an input in the earlier phase of Kate-Kesler's Framework. The interview produces notes over the newly stated strategy, which heavily emphasis on the IPO process itself, future industry sustainability, increasing operating pace, talent and leader development, also to increasing employee morale to embrace IPO strategy.

## **FINDINGS AND ARGUMENT**

#### *Linkage from Vision – Mission – Target into Critical Success Factor*

The target of becoming an IPO ready for PT. Pupuk Kaltim understandably changes several aspects of its managerial. In terms of target and specifically the strategy, it is focused into delivering more revenue, ensure survivability, growth, and mitigating risk. The strategy of PT. Pupuk Kaltim could be translated into a critical success factor, which further affecting the decision of the general capabilities needs to be developed by the organization. By defining of the critical success factor itself, a design specific criteria, which is important in organization design, could be based upon. The figure below illustrate the process of how vision mission and target could be incarnated into design criteria.

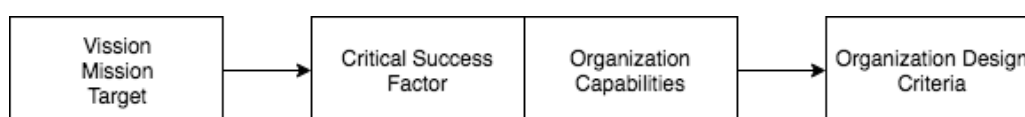


Figure 1. Linkage from Vision Mission Target into Critical Success Factor/ Org. Capabilities, and translated into a design criteria

*Design Criteria of PT. Pupuk Kaltim Organization Design*

PT. Pupuk Kaltim, the designated vision, mission, and target is a perceived future condition that intended by the organization, which is a World Class Fertilizer Company, Chemical Manufacture, and Agro Company. Hence for PT. Pupuk Kaltim the expected Critical Success Factor (CSF) – General Capability, could be derived from its target, listed in table 1:

Table 1. Translating target into Design Criteria

Future Target	Critical Success Factor – General Capability	Design Specific Criteria
<p><i>“A World Class Fertilizer, Chemical, and Agro Business Company”</i></p> <ol style="list-style-type: none"> <li>1. Revenue 36 T</li> <li>2. New revenue generator, from trading and applied research</li> <li>3. Global recognition</li> </ol>	1. Revenue	Profitable business unit and operation
	2. Market Penetration	Able to even reach directly into smallholder farmer and controlling the product delivery into costumer
	3. Strategic Trading Network	Customer dedicated, delivering solution and product specified, supported with marketing intelligent of the Market.
	4. Plant Reliability	Efficient, safe, and productive manufacturing practice, measurable by down time and global certificate
	5. Breakthrough Idea	Contributing toward the advancement of technology, and become a leader in Agro business Technology
	6. Efficient Operation	implementation of Information System to support Integrated operation, improving utility and management of resource and asset
	7. Aggressive expansion	Strong Growth and diverse business operation

*Gap Between Company Strategy and Current Organization Structures*

From the discussion of the industry environment through internal analysis, and relating it to the industry peers, the intended future organization and the current condition produce a concluded gap between the two condition. The gap between the company strategy and the current organization structure include: the product diversification, from mainly fertilizer commodity into strategic chemical commodity and Agriculture Solution (ie: Ammonium Nitrate, Crop Solution, etc), second, the shift of revenue generation from manufacturing into combined manufacturing, and chemical trading.

*Proposed Organization Design for PT. Pupuk Kaltim IPO*

With an assumption of subsidy and PSO revocation, in the era of IPO, PT. Pupuk Kaltim strategy theme is “Growth and Expansion through Trading, Product, Service, and Acquisition”, which implied the revenue generator of the company will be Trading, Product and Service Sales, and Acquisition. Contrasted with pre IPO condition of the organization, two business process will be an additional revenue generator, differs from pre IPO which only depends on Sales of Product. The condition lead to three proposed alternatives of organization design for PT. Pupuk Kaltim with each proposal explained as:

1. Diversified Operational Holding, an All Around Company, this design explained as an organization which President Director leading division composed of organization function. The organization structure will be span widely with full control from the president director, commanding the business initiatives.
2. An Addition of Functional Subsidiary, this design add business initiative as a subsidiary into the current organization. The organization design propose a public company which control 3 major subsidiaries from the newly initiated business initiatives. The expansion also span wide in the form of funded start ups that support company portfolio.
3. Transforming the organization into a specialized manufacturing unit. This design transform the current organization to function as a manufacturing unit only, proposing to abandon business activity beside plant operation.

Comparing the three design alternatives, it is decided to favor design option one and two, while option three is likely to be abandoned because by transforming into a specialized manufacturing unit greatly diminishing the

economic value and impact of the company. Hence considering option one and two, the process of AHP calculation may be executed, with the comparison matrices constructed into table 2.

*Table 2 Comparing the option of All-Round Company and An Addition of Functional Subsidiaries*

Criteria	All Round Company	An Addition of Functional Subsidiaries
Complexity	Relatively high in complexity	Carrying current operation
Control	Ease of Control	Subsidiary process from development into performance could take a while, because management is uninvolved with the operation
Valuation	High valuation because of collective Asset	Additional Revenue from Subsidiary is accounted increasing cash flow and also asset
Resistance	Relatively small change in structure aspect, thus probability of rejection is small	Almost little resistance
Risk	Prone to silo mentality	Mitigating risk into with subsidiary
Size	The huge size of the organization could lead to slow response without strong coordination Relatively high amount of manpower to be managed	Independent Response
Talent Development	Talent are able to pass cross business unit, ease talent development	Talent and leadership development rather hard to nurture because of indirect relation with owning company

And by administering the next process of AHP, a preference matrices to conclude the best design which fit the management aspiration and strategy is calculated into figure 2.

	Complexity	Control	Valuation	Resistance	Risk	Size	Talent Development	AHP	
Complexity	1	2	1/5	1	1	1	1/3	0.113	11.3%
Control	1/2	1	1	1	1	1	1/3	0.107	10.7%
Valuation	5	1	1	1	1	1/2	1/2	0.151	15.1%
Resistance	1	1	1	1	1	1/3	1	0.115	11.5%
Risk	1	1	1	1	1	1	1	0.132	13.2%
Size	1	1	2	3	1	1	1	0.181	18.1%
Talent Development	3	3	2	1	1	1	1	0.200	20.0%

*Figure 3.1. AHP preference Matrix of Organization traits*

## CONCLUSIONS

### *Design Recommendation for PT. Pupuk Kaltim*

The discussed organization design has concluded, to fulfil the executive aspiration and developing a structure that support the corporate strategy of growth, it is best to use function base, with management attention into specific business unit. By implementing the option of All Around Company in the future PT. Pupuk Kaltim need to be able to drive the mentioned business unit to perform as it intended, transforming into an operational Holding.

The resulting organization design mandated that PT. Pupuk Kaltim to reorganize its structure with just a minor tweak. The new design includes an addition of the business initiatives :

1. Redefine Commerce Directorate to function as Commerce unit, with its subordinate marketing unit, sales unit, trading, distribution, and shipping
2. Assigning additional unit into Production Directorate, Base Chemical Compartment and Agro Business unit.
3. An attachment of Finance Administration Compartment and Investor Relation unit to directly reporting to the President Director.

The proposed design lean to a design which fully to facilitate the Board of Director aspiration, this could be a sign of a leadership domination from the highest level of managerial. Albeit the domination, subordinates are able to participate in the design process by following the early process.

### *Utilization of Matrix and Strategic Team*

in addition to direct reporting in the relation in the organization chart, another means of coordination exist, in the form of Matrix Unit and Strategic Team. There will be a shared responsibility and power within the new organization, this also ideal to facilitate a million dollar project, a new revenue generator business initiatives.

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## **PROPOSED BUSINESS STRATEGY FOR CREATIVEPRENEURSHIP (STUDY CASE: MATOA)**

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### **EXTENDED ABSTRACT**

Matoa has been established since 2011 founded by Lucky Dana Aria, and it is being operated up until now. The product innovation created by Matoa is an eco-watch. It is called eco watch because the watch is made from the environmental-friendly material. The main material used to create the product is from wood material. In the beginning, Matoa is the first company that run the wood-watch industry. Today, Matoa have several competitors in Indonesia. Matoa face the problem when they try to sell the watch internationally. Some products have been sold at Matoa store partners at several countries but the sales did not meet the expectation. As the result, the financial problem comes up and also they could not promote the product effectively especially for international market. This research aims to find the alternative strategies that can help Matoa to generate income and promote the products effectively. Author collected data through literature reviews, direct interviews and observe potential target customers and competitors. The external and internal analysis are conducted in this research. In external analysis there are PEST model and Porter's 5 forces. In internal analysis there are business segmenting, targeting, and positioning, business model canvas, and marketing mix 4Ps. Then, the TOWS matrix analysis performed to get the best alternative strategies that can be applied to solve the problems. The result showed various alternative obtained. Those strategies will be arranged into one interrelated strategy that could be implemented as Matoa's business plan for next one year. The main result of this strategy is to reduce the number of countries that Matoa aims to sell the products, and adding new kind of product to gain more income.

**Keywords:** : entrepreneurship, creative industry, entrepreneurs; business strategy

### **INTRODUCTION**

In Indonesia, the opportunity to run a business is open widely. Indonesia's government gives full supports for those who want to start a business, especially in creative industry. Formerly, Indonesia has Ministry of Tourism and Creative Economy that concerns about tourism and creative industry development. Creative Economy Agency of Indonesia was established in early 2015 to give more attention to take care any related things about creative industry. Creative industry in Indonesia shows a significant contribution to Indonesia's economic growth. Creative Economy Agency of Indonesia has 16 subsectors development that was written on President Decree No 72 Year 2015; there are architecture, interior design, visual communication design, product design, film animation and video, photography, craft, culinary, music, mode, application and game developer, publishing, advertising, television and radio, performing art, and fine art.

Creativity should be related with entrepreneurship or business to increase the value and be accepted in the market. According to Oxford Dictionary, Creative defined as an adjective relating to or involving the use of the imagination or original ideas to create something. J. Schumpeter in his book, *The Theory of Economics Development*, suggested that an entrepreneur as innovator that creates profit opportunities by devising a new product, a new production process, or a new marketing strategy (Tuluze & Yurtkur, 2015). Using the definition of creative and entrepreneur above, it leads to the term of creativepreneurship which can be defined as a process to pursue the opportunities and create profit through creativity by transforming it into new valuable and usable products that may help to improve the lives of people and contribute to the national income (Hadiyati, 2010) Arts and innovation are also needed in the process of product designing, production, and marketing strategy to promote and offer the creativity to the market.

The object of this research is Matoa that applied environmental-friendly material into usable products that have financial value. The material that used for their products is wood, and they transform it into watch. This business concept will be called as creativepreneurship. Nowadays, many businesses are open to show and to sell creative products such as exhibition or art market, retail space, and e-commerce in Indonesia. In the recent years, there are several exhibition or art market were held which focused on creative products and activities to attract domestic or foreign people attention. That places would be very helpful for business especially in creative industry and can be used as suitable places to promote and sell their product and finally reach target customers effectively.

Matoa has been established since 2011, and it is being operated up until now. Matoa itself is founded by Lucky Dana Aria, one of the product innovation created by Matoa is an eco-watch. It is called eco watch because the watch is made

from the environmental-friendly material. The main material used to create the product is from wood material. And compared to other watches which are created by metal, the production of Matoa is much lower in terms of production cost. In the beginning, Matoa is the first company that run the wood-watch industry. Furthermore, they creation of Matoa is started from the trial and error during the first year, founder did some research about the innovation and the market preference for such a product. Seventy percent (70%) sale of the Matoa watch is mostly come from online order, especially through the website and other social media promotion. While twenty percent (20%) of the sales comes from exporting their product overseas, and the rest is through direct selling. Matoa has reached local and international market, in the local market the product is available in the big cities such as: Bandung, Jakarta, and Surabaya.

As a local Industry in Indonesia, Matoa faced some issues while they are try to reach the international market. Matoa in Indonesia maybe have reach growth phase but for they still at introduction phase in the international market. People's awareness to the brand and sales growth are still low. Current distribution channels of Matoa in other countries still not effective. The objective of this research are to find the right business strategy to fix the business issue and develop new ideal business model for Matoa's better future. This research will generate business strategy. The business strategy will describe directly as business strategy for Matoa without divide it into functional or operational level.

## METHODOLOGY

The main method used for this research is interviews with owner of Matoa and some of Matoa customer, also based on one-month observation. From the interview and observation, problem is identified and analyzed through literature review and problem solving activities. Literature review is conducted through text books that relate to the problem, while problem solving is conducted by generating solution to the problem. Then proposed solution are generated from the author's knowledge and internet exploration.

## FINDINGS AND ARGUMENT

### PEST Analysis

PEST analysis explains political, economic, social, and technology factors in macro environmental scope. It will describe about the current political conditions in Indonesia about creative economy, the economic conditions, social factors, and technology factors.

**Political:** In 2015, President of Indonesia form an agency that deals with policy making, coordination between Government bodies, guiding and supporting the creative sectors, called The Indonesia Agency for Creative Economy (Badan Ekonomi Kreatif – BEKRAF). Agency chief, Mr. Triawan Munaf said that, "Indonesia needs fresh strategic steps and professional and modern way of working in the field of creative economy to ensure that the country is no longer merely a target market due to its population and economic growth, but also hold a primary role domestically and in the global market".

**Economic:** The establishment of the ASEAN Economic Community (AEC) in 2015 is a major milestone in the regional economic integration agenda in ASEAN, offering opportunities in the form of a huge market of US\$2.6 trillion and over 622 million people. In 2014, AEC was collectively the third largest economy in Asia and the seventh largest in the world.

**Social:** Indonesia is a multiethnic country, with large and small groups forming geographical enclaves, therefore Indonesia is culturally rich. It is very important for every region to preserve their culture, especially when digital era come and foreign culture easily intervene ours. Moreover, the worst case, foreign country can easily steal our culture and claim it as theirs if we don't preserve our culture. Number of current working age and incoming workforce are large.

**Technology:** Rapid changes in technology, digital world, and internet affect marketing trend switching, from conventional marketing (offline) to digital marketing (online). Digital marketing now become prospective marketing strategies because potential customer start purchases product from the internet.

### Porter's 5 Forces

The industry environment has direct effect on the firm's strategic competitiveness. An industry's profit potential is a function of five forces of competition: the threats posed by new entrants, the power of suppliers, the power of buyers, product substitutes, and the intensity of rivalry among competitors. The five forces model of competition expands the arena for competitive analysis. (Hitt, 2011)

**Threat of New Entrants:** The threat of new entrants is in low level. To enter the market and have a business like matoa, they must have enough knowledge to transform a log of wood into watch. They also need to find the raw material that have good quality and also good machines are needed to develop the product. To run this business, it takes some money as capital, which amount is certainly not small.

**Bargaining Power of Buyers:** The bargaining power of buyer is at high level. Even if there are not so many product that similar to Matoa, but there are so many watch product out there. It is easy to switch to another watch who have better reputation for their brand and have already known globally with relatively same price with Matoa. There are also many replicas watch for branded watch with good quality that most Indonesian people prefer to buy.

**Bargaining Power of Suppliers:** The bargaining power of supplier is at medium level. The raw material that Matoa needed and a little bit difficult to find because of the quality is the wood. For now, Matoa buy the wood from



furniture business in Cirebon. For another material for the product such as the steel, needle, and other things are relatively easy to find because there are plenty of watch business in Bandung. Matoa should be more selective to choose suppliers with best materials and able to give the best result, also in a good price.

**Threat of Substitute Product:** The threat of substitute product is at high level. Nowadays, people can easily know the current time by looking at mobile phone. People wear watch is more to give them better style, better look. And choosing a watch to wear is not that easy because there are so many type of watch with so many variant of material and brand. Therefore, the chance people buy and wear Matoa is relatively low.

**Rivalry among Existing Competitors:** The rivalry among existing competitors is medium level. There are several brand that offer wood watch just like Matoa and their price is much lower than Matoa. The problem is their quality is not as good as Matoa. People easily recognize them by looking at the website and social media. But most of them did not give guarantee for their product and buyer will confused where to go if there is problem with their watch.

### Segmenting, Targeting, and Positioning

Matoa will focus on Bandung area for their offline store, and all Indonesia for their online store. Matoa will use some distribution channel to reach the customers outside Indonesia. Matoa choose Bandung area because Bandung is their home base of production. Their age around 18 to 40 years old and have profession as student, housewife, worker, and others. They are in middle up class with amount of spending around Rp5.000.000 to Rp10.000.000 per month. Their psychographic characteristics are people who love art and nature with cheerful appearance. For the positioning, Matoa was compared with their competitor and it will be offer product with exclusive design in affordable price.

### Business Life Cycle

Business Life Cycle refers to a sequences of stages of product progress, where each stages needs different marketing strategies. In the introduction stages, market growth rate is high while relative market share is low, therefore this stages is a question mark that have the potential to gain market share. In the growth stages, business have high market growth and high market share, therefore it is a star. In the mature stages, business usually become market leader and have mature market, market share is high while market growth is low, therefore it is a cash cow. After mature stages, business usually slowing down to decline stages, where the market share and market growth are both low. However, to maintain the business, company should have strategies for future growth, for example: product extension.

Based on the interview with the owner, Matoa have become market leader in wood watch industry. But in watch industry for all watch kinds, Matoa still have not lead the market and have a little market share in the industry. Matoa's market is still growing and also the market share.

### Marketing Mix 4P's

To develop a marketing strategy, company should determine their target market and marketing mix. Marketing mix defined as the set of tactical marketing tools includes product, price, place, and promotion that firm blends to produce the response it wants in target market (Kotler & Armstrong, 2012).

**Product:** Matoa is a brand that offers wood watch products with the touch of wood crafting design. Matoa produces usable products for daily life. For now, Matoa have several products and they name it Matoa Kaili, Matoa Tomia, Matoa Mori, Matoa Sunda, Matoa Alor, Matoa Moyo, Matoa Gili, Matoa Flores, Matoa Rote, Matoa Sumba, and also they launch the limited edition of Matoa Rote, Matoa Gili, Matoa Alor.

**Price:** As a growing business, Matoa sets the prices based on value price strategy for middle up class customer segment. Current prices of Matoa's wood watch start from Rp880.000 up to Rp1.280.000 for the regular watch, and Rp1.400.000 for the limited edition.

**Place:** Matoa's products places are their website, instagram, their own store, and creative or art market event. The founder manages Matoa's Instagram as an interesting place to sell and promote the products. Founder also manages a website [www.matoa-indonesia.com](http://www.matoa-indonesia.com) to promote and sell the product. Their own store also located in a strategic place in the middle of Bandung City near Dago.

**Promotion:** The promotion that Matoa has been done is participating in several art or creative market and also have agreement with The Goods Dept in Jakarta. Matoa also have several partner in other countries to sell the product. Matoa also get their promotion in Instagram and their website.

### Business Root Problem

The formulation to get business root problem in this research is using why-why method. It is a method of questioning the leads to the identification of the root causes of problem. A why-why conducted by asking "why?" in five times (Koripadu & Subbaiah, 2014).

Table 1. Why-Why Analysis

**Problem: Low sales growth on International Market**

1. Why? The awareness is still low
2. Why? We are lack of promotion
3. Why? We run out of capital and budget to send more
4. Why? We still have more stocks that have not been sold in partner store
5. Why? We defeated by other countries people minded that love to use their own product from their own country.

From the analysis above, the business issues of Matoa are interrelated. And the root cause problem are obtained because there are products that still have not been sold in partner store in several countries that gives negative impact to financial condition of Matoa. However, Matoa could not take the products back because the cost to send it back to Indonesia is so expensive and will bring Matoa into more loss. Instead of take all the products back, Matoa must find solution to get more capital. So, Matoa could develop and produce new products and do promotion intensively.

**Business Solution**

After arrange internal and external factors into SWOT analysis, the next step is matching all factors to become business alternative strategy. TOWS Matrix Analysis used to develop strategy with matching the internal (strengths and weaknesses) and external (opportunities and threats) factors. The alternative strategies as the result of TOWS Matrix analysis can be seen in table 2.

Table 2. TOWS Matrix Analysis

Internal Factors External Factors	Strengths	Weaknesses
	1. Unique product differentiation 2. Premium wood-watch	1. Durability is not yet tested 2. People perception about the material 3. Service centers is not reachable
<b>Opportunities</b> 1. Able to reach the young generation, especially in Indonesia 2. Not many wood-watch in watch market 3. Opportunity to growth in the international market	<b>SO Strategy</b> 1. Promote brand with tutorial how to keep the watch always in a good condition (S1, O1, O2) 2. Selective in choosing country for sell the products (S2, O3) 3. Give discount promo and support students event at campuses (O1, S2)	<b>WO Strategy</b> 1. Optimizing promotion and sales in existing e-commerce partner (W2, O1, O2, O3) 2. Develop research to make it more durable (W1, O2) 3. Give warranty for international buyer (O3, W3)
<b>Threats</b> 1. People still think that wood-watch is a cheap watch 2. Customer might compare the cost and benefits of the products 3. People in other countries mostly prefer to use products from their own country rather than imported products.	<b>ST Strategy</b> 1. Personal Branding (T2, T1, S2) 2. Develop new / current designs and products / services (S2, T3, T2)	<b>WT Strategy</b> 1. Cooperate with competitors to participate at next art / creative market or organize private event. (W2, W3, T1)

**Alternative Strategies Recommendation**

After develop TOWS Matrix Analysis and generate some alternative strategies, those strategies will be categorized into general strategy. The alternative strategy categorizing at Table 3 shows three categories of alternative strategies includes market penetration, product development, and market development.

Table 3. Alternative Strategy Categorizing

No.	Alternative Strategy	Category
1	Promote brand with tutorial how to keep the watch always in a good condition	Market Penetration
2	Give discount promo and support students event at campuses	
3	Personal Branding	
4	Optimizing promotion and sales in existing e-commerce partner	
5	Give warranty for international buyer	
6	Cooperate with competitors to participate at next art / creative market or organize private event	
7	Develop research to make it more durable	Product Development
8	Develop new / current designs and products / services	

9	Selective in choosing country for sell the products	Market Development
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With market penetration, Matoi can increase the market share from current products or new products and services with bigger marketing efforts such as create content of marketing and participate in creative market or exhibition. Product development would be done by improving or modifying current products and trying to develop new products or services. Market development can help Matoi to create awareness and push sales growth with minimizing the risk. The alternative strategies above are interrelated to give best result for business growth. Matoi will use those strategies as the guide to be success to enter the international market.

## CONCLUSIONS

As a growth business with medium resource of capital, founder finally found the right strategies to solve the current problems within this year. Matoi will focus on three categories of strategy from previous result which are interrelated to each other. Then, Matoi choose the major strategies from each three categories of alternative strategy, there are:

- Product Development: Matoi will focus to develop new product to extend their product line. The product is eyeglasses that made from wood just like their eco-watch.
- Market Penetration: Promote the brand and tell the tutorial for maintain the product, clean the product, and safe the product in a good place and condition, through their Instagram and website.
- Market Development: Matoi will be more selective choosing the countries to sell their product.

In conclusion Matoi should increase the capital by develop new products and increase the marketing efforts to offer it. Besides, Matoi also need to find new market places where target customers gather around. It is a risky situation to rely on only to produce and offering products, it is also risky to put and send many products to many countries before knowing more the market condition in the country. It would be better to offer more products and more selective in choosing the countries to sell to balance the business expense and revenue. The revenue from the new products could help to run the other alternative strategies. So, as a growth creativepreneurship, produce products with good value are not enough. Matoi need to offer other kind of products, collaborate with other business, personal branding, and promote the business intensively in creative way. Matoi also has to find new partner for e-commerce and offline store that more credible and active in promotion.

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# FACTORS AFFECTING STUDENT VISITING INTENTION TOWARD CAFE IN BANDUNG

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## EXTENDED ABSTRACT

By 2015, there are 653 cafés registered in Bandung, an increase of 51.2% of 2014, indicating that café is a highly demanded business in Bandung. According to preliminary research conducted towards café visitor, 83% of café visitors are college student doing their homework. Thus, this research is conducted to analyze various factor that increase college students visiting intention toward a cafe. After interview with 17 respondents and analyzing questionnaire from 151 respondents, it is shown that Product, People, and Physical Evidence variables correlate significantly to increase college student visiting intention toward café. Specifically, Food and Drink Choices, Drink Quality, Waiter and Barista Quality, Parking Lot Availability, and Internet Connection Quality.

**Keywords:** *Student, Cafe, Visiting Intention, Bandung, Market Research*

## INTRODUCTION

Tahun	Jumlah Cafe	Persentase Kenaikan
2011	191	2,68%
2012	196	2,61%
2013	235	19,89%
2014	432	49,8%
2015	653	51,2%

**Table 1.** Number of Registered Café in Bandung

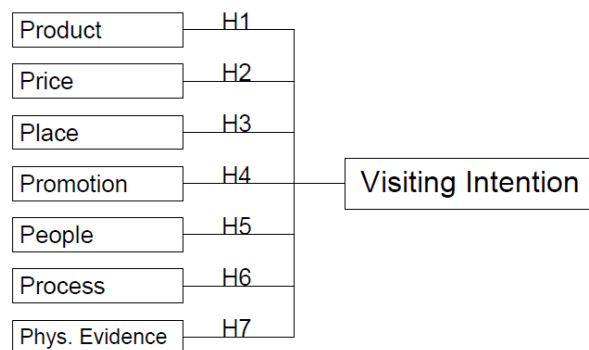
Source: Bandungkota.bps.go.id

On 2015, there are 653 cafes registered in Bandung. Table 1 shows the number of café in Bandung from 2011 to 2015, showing a significant increase from 2012 to 2015. With total visitors of 13.872.087 people, an average of 242 people visits a cafe every day, indicating that café is a highly demanded business in Bandung. With the still increasing number of cafe in Bandung, these cafes are faced with intense rivalry against each other.

This research is conducted to understand the necessity Point of Parity between cafe, and possibly to uncover the potential Point of Difference to attract their target market. Based on preliminary research, 83% of café visitors are college students doing their homework. Thus, this research is conducted to analyze various factor that increase college students visiting intention toward a cafe.

## LITERATURE REVIEW

Theoretical Framework used for this research is 7P Marketing Mix correlation toward visiting intention. According to Philip Kotler (2012), 7Ps of the marketing mix consists of Product, Price, Place, Promotion, People, Process, and Physical Evidence. Marketing mix is a conceptual framework which highlights the principal decisions that marketing manager's make in configuring their offerings to suit customer needs. The theoretical framework used for this research are shown in Figure 1.



**Figure 1.** Theoretical Framework

This research would analyze the effect of each 7P Marketing Mix variables toward customer visiting intention, thus making 7 hypotheses to be analyzed. These hypotheses are:

- H1: Product toward Customer Visiting Intention
  - o H1o: Product have no significant correlation toward Customer Visiting Intention
  - o H1a: Product have positive significant correlation toward Customer Visiting Intention
  - o H1b: Product have negative significant correlation toward Customer Visiting Intention
- H2: Price toward Customer Visiting Intention
  - o H2o: Price have no significant correlation toward Customer Visiting Intention
  - o H2a: Price have positive significant correlation toward Customer Visiting Intention
  - o H2b: Price have negative significant correlation toward Customer Visiting Intention
- H3: Place toward Customer Visiting Intention
  - o H3o: Place have no significant correlation toward Customer Visiting Intention
  - o H3a: Place have positive significant correlation toward Customer Visiting Intention
  - o H3b: Place have negative significant correlation toward Customer Visiting Intention
- H4: Promotion toward Customer Visiting Intention
  - o H4o: Promotion have no significant correlation toward Customer Visiting Intention
  - o H4a: Promotion have positive significant correlation toward Customer Visiting Intention
  - o H4b: Promotion have negative significant correlation toward Customer Visiting Intention
- H5: People toward Customer Visiting Intention
  - o H5o: People have no significant correlation toward Customer Visiting Intention
  - o H5a: People have positive significant correlation toward Customer Visiting Intention
  - o H5b: People have negative significant correlation toward Customer Visiting Intention
- H6: Process toward Customer Visiting Intention
  - o H6o: Process have no significant correlation toward Customer Visiting Intention
  - o H6a: Process have positive significant correlation toward Customer Visiting Intention
  - o H6b: Process have negative significant correlation toward Customer Visiting Intention
- H7: Physical Evidence (PE) toward Customer Visiting Intention
  - o H7o: PE have no significant correlation toward Customer Visiting Intention
  - o H7a: PE have positive significant correlation toward Customer Visiting Intention
  - o H7b: PE have negative significant correlation toward Customer Visiting Intention

## METHODS

To understand the factors affecting college student intention of visiting cafes, Mixed Methods Research is used. Mixed methods research includes the mixing of qualitative and quantitative data in a research study or set of related studies (Johnson & Christensen, 2014).

Qualitative Research using interview is used to explore operational variables from respondents that affect their visiting intention toward cafes. Researcher conducted interview with 17 respondents, all of them are college

students, aged 18 to 24 years old, and have visited a cafe at least once during the past week. Interview results are then classified into 7P Variables, resulting in 30 Operational Variables.

Quantitative Research using questionnaire is designed based on Operational Variables results of interview. The questionnaire used 7 points Likert Scale to determine the importance of each operational variable on customer intention to visit, with 1 being not important and 7 being very important. For dependent variable, visiting intention toward cafe is measured. Lastly, to screen the respondent, additional questions on age range, current occupation, and last visit to a cafe is asked.

Sampling method used in this research is convenient sampling. This method of sampling is used because the exact size and data of college student who visited a cafe at least once a week does not exist. With an average of 242 customers visiting one cafe every day, the sample size necessary for this research is 149 respondents, with 95% confidence level and 5% confidence interval. The respondents are spread to college students visiting three cafes in Bandung.

Quantitative data from questionnaire are then analyzed using Factor Analysis and Reliability Analysis. Valid and reliable operational variable then analyzed using Bivariate Correlation toward customer purchase intention. Operational Variable showing significant correlation are then analyzed using Multiple Linear Regression, to determine how much each variable affecting customer visiting intention to cafe. All data analysis is conducted using IBM SPSS 23.

## FINDINGS AND ARGUMENTS

Interview with 17 respondents resulting in 30 Operational Variables, divided into 7P Variables. The operational variables can be seen in Table 2.

Product	Drink Quality	Place	Music
	Food Quality		Lighting
	Drink Choices		Distance
	Food Choices		Ambience
	Drink Presentation	Physical Evidence	Cafe Size
	Food Presentation		Cafe Cleanliness
Price	Value for Price		Toilet Cleanliness
Promotion	Discount		Smoking Area
	Freebies		Parking Lot
	Bundling package		Internet Connection
	Membership Card		Electrical Socket
People	Barista		Interior Design
	Waiter		Air Conditioner
Process	Service Quality		Seating
	Service Speed		Table

Table 2. Operational Variables

Based on the operational variables, a questionnaire is developed to measure the importance of each factor and their visiting intention toward cafes. The questionnaires are then spread and filled by 151 respondents, and the result is analyzed. Using Factor Analysis and Reliability Analysis, all operational variables are Valid and Reliable with KMO score of 0.853 and Cronbach Alpha of 0.923

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.238	.825		2.714	.010
PRICE	.309	.185	.312	.890	.066
<b>PRODUCT</b>	<b>.605</b>	<b>.192</b>	<b>.734</b>	<b>1.837</b>	<b>.005</b>
PLACE	.143	.104	.182	.165	.442
<b>PEOPLE</b>	<b>.398</b>	<b>.211</b>	<b>.464</b>	<b>1.547</b>	<b>.047</b>
PROCESS	.310	.159	.396	.947	.058
PROMOTION	.183	.157	.234	.376	.250
<b>PHYSED</b>	<b>.670</b>	<b>.174</b>	<b>.786</b>	<b>2.386</b>	<b>.001</b>

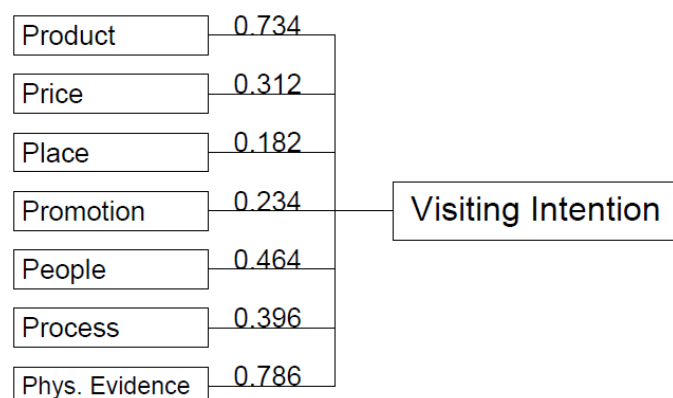
Table 3. Multiple Linear Regression Analysis

Multiple Regression Analysis shows that PRODUCT, PEOPLE, and PHYSED (Physical Evidence) correlate significantly (Sig. < 0.050) with customer visiting intention. The analysis resulted in 0.88 R-Squared score, showing that 88% of student visitor will conform to the result of this research. To further analyze the result, each of Operational Variables from significant variables are analyzed again using Multiple Linear Regression to check the significance of each Operational Variable toward their respective variables.

The results show that Food Choices, Drink Choices, and Drink Quality hold a significant correlation toward Product variable; Parking Lot Availability and Internet Connection hold a significant correlation toward Physical Evidence; and Barista and Waiter quality hold a significant correlation toward People variable.

## CONCLUSIONS

The theoretical framework analysis results are as follow:



Hypothesis	Dependent Variable	Independent Variable	Correlation	Result
1 A	PRODUCT	Visiting Intention	Positive Significant Correlation	ACCEPTED
2 O	PRICE	Visiting Intention	No significant Correlation	ACCEPTED
3 O	PLACE	Visiting Intention	No significant Correlation	ACCEPTED
4 O	PROMOTION	Visiting Intention	No significant Correlation	ACCEPTED
5 A	PEOPLE	Visiting Intention	Positive Significant Correlation	ACCEPTED

6	O	PROCESS	Visiting Intention	No significant Correlation	ACCEPTED
7	A	PHYS. EV	<b>Visiting Intention</b>	<b>Positive Significant Correlation</b>	<b>ACCEPTED</b>

**Table 4.** Theoretical Framework Result

In order to survive in high rivalry of cafe business in Bandung with students as their main target market, a cafe should focus on increasing Product, People, and Physical Evidence quality. Specifically, café owner should invest in increasing Food and Drink Choices, Drink Quality, Waiter and Barista Quality, Parking Lot Availability, and Internet Connection Quality.

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## PROPOSE BUSINESS STRATEGY FOR LOCAL BRAND ENTREPRENEURSHIP (STUDY CASE: KARTIKA SARI)

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### EXTENDED ABSTRACT

Kartika Sari is a business in souvenir industry located in Bandung. It is founded in 1974 by Ratnawati Purnomo, she founded Kartika Sari as a home industry. The famous snacks such as banana and cheese puff pastry (“pisang bollen”) became very popular amongst visitors of the city of Bandung. Kartika Sari face a serious problem when it comes to their competitors. As we already know that in Bandung, there are many souvenir shops that sell similar snack products as Kartika Sari, it is indeed a tight competition. As the result, Kartika Sari has to innovate their product several times. This research aims to find alternatives strategies that can help Kartika Sari to be better than the competitors and exceed not only their income, but also their brand image to the customers. Author collected data through literature reviews, interviews, observation of potential competitors and customers. The internal and external analysis are conducted in this research. Internal analysis will mention about business segmenting, targeting, and positioning, marketing mix 7Ps, and also TOWS matrix analysis to determine the best alternatives for Kartika Sari to face its problem. In external analysis, will mention about Porter’s five forces and PEST model. These strategies will arrange into several strategies that could be implemented by Kartika Sari for some time ahead. The result of this research will perhaps help Kartika Sari to exceed their income and brand image to overcome their competitors.

**Keywords:** entrepreneurship, local brand, business strategy, souvenir industry.

### INTRODUCTION

Nowadays, Indonesian government is seeking to improve the awareness of local brand among Indonesian citizens. The Indonesian Ministry of Industry is pushing for local brand that has potential global competitiveness including brands from food and beverages industry. The term of Local brand is from “Local” and “brand”. Based on Kotler and Keller (2007) taken from Alinegoro et.al (2014: 33), brand is a name, term or symbol or design or combination of all that is meant to identify a seller's goods or services to distinguish them from competing goods or services. Brand for company is their reputation, brand will determine the company’s position in the industry, because of that we can say that brand is a company’s most valuable asset. Local brand itself means, brands that are from inside the country or domestic products that are made from Indonesia.

On the other hand, entrepreneurship is a strong belief that exists within a person to change the world through ideas and innovation. This belief is then followed up with the courage to take risks to realize the idea and innovation through the organization that a person founded, ranging from building, maintaining, and developing it to produce real impact to the world. Based on Carson, David and Cromie, S (2008) taken from Hadiyati (2009: 185), entrepreneurship is a mixture of creativity, innovation, and truth at the expense of the hard work of forming and nurturing new ventures. Therefore, it leads to the term of local brand entrepreneurship. Local brand entrepreneurship can be defined as brand that originally from inside the country or in specific region inside the country that the owner of the brand believe that the brand could change the society through ideas and innovations and have the courage to take risks to achieve success.

The research is focusing on Kartika Sari. Kartika sari is widely known as a leading souvenir shops specialty in cakes and pastries in the city of Bandung, Indonesia. This business concept can be called as local brand entrepreneurship. Kartika Sari is a success local brand that came from a strong belief person who doesn’t afraid to take chances and risks. These days, many competitors are showing up to sell similar products as Kartika Sari’s product, especially their signature pastry “pisang bollen”. Also in the recent years, many new-comers that introduces other kinds of dessert other than their own version of pisang bollen.

Kartika Sari was founded in 1974 as a home industry and has transformed into “Kartika Sari” only after 1984. At first it was just a hobby of Mrs. Ratnawati Purnomo to bake cakes and pastries, and soon her creations were loved by so many people and finally she decided make her hobby into business, that’s where Kartika Sari was founded. Until now, Kartika Sari is still everyone’s favorite especially for the tourist that visit Bandung that bought Kartika Sari as souvenir from

the city of Bandung. As a local brand in Indonesia, Kartika Sari has issues on operating their business. One of the issue is that many competitors that keep popping up, whether they introduce their own pisang bollen or other kinds of desserts in the city of Bandung. The objective of this research is to help Kartika Sari on finding the right business strategy to overcome their issue. This research will generate business strategy, that will describe directly as business strategy for Kartika Sari without divide it into departments level.

## METHODOLOGY

The method that were used for this research is interviews with some of Kartika Sari's customer, also based on observation. From the interview and observation, problem is identified and analyzed through literature review and problem solving activities. Literature review is conducted through text books that can relate to the issue, while to solve the problem is conducted by giving solution to the problem. Then proposed solution are generated from the author's knowledge and internet exploration.

## Business Issue Exploration

### External Analysis

#### Porter's five forces

The Porter's five forces are threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitute products, and rivalry among competitors (Hitt et al., 2015: 52).

##### 1. Threat of new entrants

The threat of new entrants is in high level, because it is not hard to enter the food and beverages industry, especially in Bandung city. Competitors can easily imitate Kartika Sari's product even though there is slightly difference between them, because Kartika Sari didn't patent their products such as their famous pisang bollen product. Competitors can use Kartika Sari products freely as an excuse of inspiration for them to develop their products or even imitate Kartika Sari's product for their own good.

##### 2. Bargaining power of suppliers

The bargaining power of suppliers is high. Even though supplier's goods are critical to Kartika Sari marketplace success, Kartika Sari can easily change supplier if needed when the raw materials aren't the best quality as before. However, Kartika Sari need to find the best suppliers, because a high quality raw materials, produce high quality products that can increase income and also Kartika Sari's brand image.

##### 3. Bargaining power of buyers

The bargaining power of buyers is low. Customers are not in the powerful situation, they are willing to pay more if it's products from Kartika Sari, because the customers perceive that Kartika Sari is a high-quality souvenir shop that will produce high quality cakes and pastries too. Even though maybe Kartika Sari has slightly price increase on their products, customers also willing to pay for it.

##### 4. Threat of substitute products

The threat of substitute products is medium. Kartika Sari is a well-known souvenir shop among customers or tourists. Everyone have already been to Kartika Sari when they are in Bandung city. But these days, food souvenirs aren't just pisang bollen or any other cakes and pastries, there are also choux pastries, many kinds of chips such as Maicih, and others. Kartika Sari and competitors that are from the same field are quite threaten by the substitute.

##### 5. Rivalry among competitors

The rivalry among competitors is high. Even though Kartika Sari is a well-known brand among customers, but there are other great brands in the market right now. The competitors are producing almost the same products as Kartika Sari does. For example, the brand Mayasari also produce pisang bollen that is really similar as Kartika Sari's pisang bollen. They also have their own way to promote their products, by social media, billboards that offer discounts, even opening stores outside Bandung city. The fierce business competitions are forcing Kartika Sari to innovate their products.

### PEST Analysis

PEST (Political, Economic, Social, and Technology) Analysis will explains about the condition of politic, economic, social and technology in macro environment. The analysis will describe about political situation in Indonesia about local brand, economic conditions, social and technological factors.

##### 1. Political

Food and beverages industry has an important role in its contribution to Gross Domestic Product (GDP) of non-oil industry, where the role of food and beverages industry sub-sector is the largest compared to other sub-sectors which is 33.6 percent in the third quarter of 2016 (Kemenperdag, 2017). The Indonesian Ministry of Industry is pushing the birth of local brand that has potential global competitiveness including brands from food and beverages industry. This is the opportunity for Kartika Sari to extend their business in order to compete in global market.

##### 2. Economic

The economic condition in Indonesia in food and beverages sector quite good. The performance of food and beverages industry in Indonesia is growing rapidly. Growth rate in the third quarter of 2016 amounted to 9.82 percent or above industrial growth of 4.71 percent in the same period (Kemenperdag, 2017). Which was good for the industry especially the local brand segment. The increase growth came from the increase of Indonesian consumerism, which profitable for Kartika Sari to increase their sales and reach more wide customer.

### 3. Social

The millennials (society that was born in the 1980s until 2000s), we can say that they are in the productive age in the industry, which means that customers are widely among them. Millennial generation is a generation that has considerable attention to social aspects and expresses it in many ways, including brands. When a brand can provide the best value, customers will not only be loyal but also become a brand advocate (Marketeers, 2014). A successful brand is a brand can establish a good interaction and represent the values of the customer. Kartika Sari was established before most of the millennials, which make the society think that they are a trusted quality brand from generations.

### 4. Technology

Fast changing trends in technology is really effecting everyone. Technology has important role in our lives, especially smartphones and internet. Right now, Kartika Sari only has their online store. They don't have any social media which is very important nowadays to have one. It is a huge opportunity for Kartika Sari to evaluate the way they promote their products, not only offline but also promote it more online by social media.

## Internal Analysis

### Segmenting, Targeting, and Positioning

Kartika Sari is currently focusing in the Bandung area, where there are 9 outlets of Kartika Sari that has spread around Bandung. Almost every Kartika Sari's outlet is near attractions where there are many tourists. Bandung is where Kartika Sari was born and all of their production was held in Bandung. Kartika Sari's target are young adult, adult, even elderly (range age about 20 until 60 years old). The customers are in middle up to the high-class customers and their main target is tourist that are currently visiting Bandung at the moment. Their positioning is, Kartika Sari was compared with their competitors and also compare the quality and price between them.

### Business Model Canvas

Based on Osterwalder & Pigneur (2010), business model canvas is the rationale of how an organization creates, delivers, and captures value. There are nine basic building blocks:

#### 1. Customer segments

Their customer segment mostly domestic tourist that are from other than Bandung, such as from Jakarta, Tangerang, Semarang, Bali and others. The age range are from 20-60 years old, from any profession background that are currently visiting Bandung. The customers who are interested in the culinary, especially in cakes and pastries also sweets, and whom like legendary homemade baked goods products from Kartika Sari.

#### 2. Value propositions

Their value proposition is their legendary products using secret recipes and still taste the same from generation to generation. Their most famous and legendary product is pisang bollen. Kartika Sari also the pioneer of souvenir shop in Bandung that sell cakes and pastries and their strong brand image among customer, which make them trusted with their product quality.

#### 3. Channels

To reach more wide customers, Kartika Sari is using their direct as well as indirect channels to reach customers and interact with them. Their direct channel is through their website and their own online store that sell their product directly to customer (right now only available in Jakarta and its surrounding areas). Their indirect channel, Kartika Sari has their own stores that are spread throughout Bandung area, and Kartika Sari is partnering with big supermarkets to sell their long shelf-life products.

#### 4. Customer relationship

The relationship with customers happened when customers visit Kartika Sari stores and they get help from the store assistant to choose products and they guide them when they want pay for it. Also, Kartika Sari has online store to reach more wide customer (currently only available for Jakarta and its surrounding areas), and they also have call centers to help and assist customers when they have questions regarding the products or when they want to buy the products.

#### 5. Revenue streams

Kartika Sari's revenue came from the sales of their products, such as pisang bollen, bagelen, brownies, and others. The revenue mostly came from the sales they made in their stores that spread throughout Bandung area.

#### 6. Key resources

Kartika Sari has several key resources. First is physical resources, Kartika Sari has many physical assets such as Kartika Sari store that were spread throughout Bandung area. Kartika Sari also has high technology baking machines, such as ovens, mixers, and also vehicles for product distribution. Second is intellectual resources, Kartika Sari has a strong brand image to the customer because they are the first and the pioneer souvenir shop that

sell cakes and pastries in Bandung. The third resource is human resources. Kartika Sari needs people with high capabilities in baking and capable on designing new products.

**7. Key activities**

Key activities of Kartika Sari are production and distribution. They produce their product starting in the early morning with fresh ingredients. After production of cakes and pastries are complete, they distribute it to the branches in Bandung and for the long shelf-life product it is also distributed to branches and big supermarkets.

**8. Key partnerships**

Their partner suppliers are important; they supply raw materials to Kartika Sari in order for them to meet the demand of products from customers. Currently Kartika Sari is trying to spread their brand to reach more wide customer by cooperating with market leading retail outlets such as Hypermart and Alfamart. Also, Kartika Sari is currently cooperating with Indonesia's national carrier Garuda Indonesia.

**9. Cost structure**

Kartika Sari's cost structure came from cost of production and operational. Cost of production includes their use of direct raw materials, direct labor cost, overhead cost, and other cost incurred during the production. Operational cost is cost of distribution of products, utilities expense, and other cost incurred for operational activities.

### Marketing Mix 7P's

The marketing mix is a set of controllable marketing tools that an institution uses to produce the response it wants from its various target markets. Tangible products have traditionally used a 4Ps model, the services sector on the other hand uses a 7P approach in order to satisfy the needs of the service provider's customers: product, price, place, promotion, people, physical facilities and processes (Ivy, 2008).

**1. Product**

Kartika Sari offers high quality products with selected raw materials and only with the best bakers. Currently, Kartika Sari offers many kinds of cakes and pastries, such as the legendary pisang bollen, steam and oven brownies, bagelen, cheese sticks, almond cookies, and many kinds of traditional snacks.

**2. Place**

Kartika Sari has 9 branches that spread throughout Bandung area. These branches are to reach tourists that are currently visiting Bandung. Kartika Sari also already distribute their product to well-known retailers, such as Hypermart and Alfamart for their long shelf-life products such as bagelen, cheese sticks, almond cookies, and others. Kartika Sari also has online store, that sell the same product as the branches in Bandung. The online store only available for Jakarta and its surrounding areas.

**3. Price**

Kartika Sari sets a quite high price on their products, because their targets are middle up to high class customers, and also tourist that currently visiting Bandung at the moment. The price of large pisang bollen is Rp 61.500 for 10 pieces and the small pisang bollen is Rp 45.000. A box of almond cookies is Rp 50.000, bagelen is Rp 50.000. It is clear that Kartika Sari is targeting middle up to high class customers and tourists.

**4. Promotion**

Kartika Sari didn't promote and advertise their products anywhere. They only sell their product in their stores, and they don't have any promotion or discount for their products.

**5. People**

Kartika Sari was a home industry that Ratnawati Purnomo established. Right now, Kartika Sari was handled by her son, Andrew Purnomo as the President director of Kartika Sari. The employees are people who have been selected carefully to do the baking process in order to produce high quality cakes and pastries.

**6. Physical evidence**

Kartika Sari has 9 outlets that were spread throughout Bandung area, usually it is near attractions where there are many tourist visits. Kartika Sari also has an online store that sell the same products from the branches in Bandung, but currently only available for Jakarta and its surrounding areas at the moment.

**7. Processes**

Kartika Sari tries to give the best services and high quality products for the customers. But, currently Kartika Sari is still lack of time management and has low production capacity in services process. Kartika Sari branches always ran out of products especially pisang bollen in the end of the day. It would become a problem if Kartika Sari could not fix it soon. For products, Kartika Sari only using high quality raw materials to produce their products.

### Business Root Problem

Why-why method is a method of questioning the leads to the identification of the root causes of problem. A why-why conducted by asking "why?" in five times (Koripadu & Subbaiah, 2014).

Table 1. Why-Why Analysis

<b>Problem: Many competitors are emerging in the industry</b>	
6.	Why? Everyone can enter the industry freely
7.	Why? Strong competitors with new ideas and innovative products
8.	Why? Low production capacity
9.	Why? Lack of marketing expertise
10.	Why? Premium prices were set by Kartika Sari

From the table of Why-Why Analysis above, Kartika Sari's root problem are obtained because the food and beverages industry is very easy to enter by everyone, especially Kartika Sari's competitors. Competitors these days are producing more fresh products with brand new ideas and innovation. Not only because of that, but internally Kartika Sari is quite lacking in several issues, such as low product capacity, they always ran out of product in the end of the day. No marketing expertise, other than their website, they don't have other marketing efforts (no social media and no adverts) which is not good in these days that we already surrounded by technology especially smartphones. Kartika Sari also set a quite high price on their products.

### Business Solution TOWS Matrix

Table 3. TOWS Matrix

<div style="text-align: center;"> <b>Internal Factors</b>  <b>External Factors</b> </div>	<u><b>Strength</b></u>	<u><b>Weakness</b></u>
	1. Strong brand image 2. Strategic outlet locations 3. The pioneer of souvenir shop that sell cakes and pastry in Bandung city.	1. Premium Price 2. Low production capacity 3. Lack of marketing expertise
<u><b>Opportunity</b></u>	<u><b>SO Strategy</b></u>	<u><b>WO Strategy</b></u>
1. Opportunity to growth in the international markets 2. Untapped domestic markets	1. Expand to other cities in Indonesia first. (S1, O2) 2. Open international branch (S1,O1)	Open new branch other than in Bandung, produce more to meet the demand of Kartika Sari's products. (W2,O2)
<u><b>Threat</b></u>	<u><b>ST Strategy</b></u>	<u><b>WT Strategy</b></u>
1. The presence of circulating counterfeit in stores 2. Strong emerging competition from similar industry	1. Patent the original Kartika Sari products (S1,S3,T1,T2) 2. Give discount on products that will attract more customers. (S1,S2,T2)	1. Promote more with social media or adverts in magazines/newspapers. (W3,T1,T2) 2. Develop new product with low cost to reach more wide customers (W1,T1)

### Alternative Strategies Recommendation

After developing TOWS Matrix and its each strategy in it, we can generate some alternative strategies. There are three alternative strategy categories, they are market penetration, product development, and market development.

Table 4. Alternative Strategies Recommendation

No	Alternative Strategy	Category
1	Give discounts in products that will attract more customers	Market Penetration
2	Promote more with social media or adverts in magazines/newspapers	
3	Develop new product with low cost to reach more wide customers	Product Development
4	Expand to other cities in Indonesia first	Market Development
5	Open international branch	

## CONCLUSIONS

As the pioneer of Bandung souvenir shop that sell cakes and pastries, Kartika Sari has a strong image to the society. But as the time goes by, many competitors are emerging the market right now. Kartika Sari will have to choose the right strategy to compete and exist in this industry. From the alternative strategies, Kartika Sari can choose to focus on:

- **Market Penetration:** Kartika Sari will start to develop their strategy on promoting their products through media such as social media (Instagram, Twitter, Facebook), newspapers (Kompas and Media Indonesia), magazines, billboards in attraction areas and highways, and others. Because at the moment, Kartika Sari doesn't promote their products anywhere, and by giving potential customers information of Kartika Sari about their products, promotion or discounts, hope that Kartika Sari will increase their sales.
- **Product development:** at the moment, Kartika Sari products are in a very high price. They use high quality ingredients and in increases the production cost, which lead to high prices on their products. They can try to

produce low cost products, experiments on pastries with sponge cakes or brownies using economic ingredients for examples.

- **Market development:** Kartika Sari can start to expand to other cities in Indonesia other than Bandung. They can try to expand in Jakarta, Tangerang, Bekasi, and other surrounding areas. After they already expand to other cities in Indonesia, Kartika Sari can try to expand internationally, Malaysian store for example. Malaysian tourists were known to visit Bandung very often, which will interest them more if Kartika Sari open their first international branch in Malaysia, Kuala Lumpur for example.

Kartika Sari itself is a strong brand image to wide customers. To be the leader in the market, they need to make some improvements in their way on promoting their products and giving exciting promotions to customers is really good for the business, the customers it selves that make Kartika Sari as big as now.

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# FEMALE STUDENTS ON PERSONAL SAFETY AND REPORTING BEHAVIORS; A MARKET RESEARCH FOR AWARENESS CAMPAIGN

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## EXTENDED ABSTRACT

This research will cover issues regarding students' personal safety and reporting threatening behaviors in campus, in light of existing similar research conducted by Hoff (2015) regarding self-protective behavior and campus threat assessment using geographical gap as the literature gap to engage forward with in this research. The main purpose thereof, is to contribute the findings of this research for a more enhanced and spot on awareness campaign, through a better understanding of the target market. The research is conducted using undergraduate students of the Management program in SBM ITB as the population and 120 samples to represent the chosen population using stratified randomized sampling. The primary data is procured through an online questionnaire raising matters upon feeling of safety in campus, self-protective behaviors, reporting threatening behavior tendencies as well as campus police/security awareness and attitude. The findings are expected to support Hoff's hypothesis regarding distinctive needs of female students in terms of safety in campus and the most endorsed reasoning upon the motivation as well as the reluctance of reporting threatening behaviors.

**Keywords:** *Marketing research, female students safety, reporting behaviors, marketing, awareness campaign*

## INTRODUCTION

Several types of danger and threats highly associates women, very particularly, to be most exposed to and to be most likely a victim of due to the different needs of safety measures female students have (Hellmuth, 2016). A number of research has taken this issue deeper and assessed the degree of danger affecting women specifically to the campus setting. The justification behind this concern is the very nature of campus setting, which is known to pertain a large area, remote or not, that has both indoor and outdoor spaces enabling penetrators to easily roam around the campus without being given suspicion as to his/her presence (Drysdale et al., 2010 in Cubbage, 2015). The nature of concerns towards campuses was proven when targeted violence, assaults and multiple forms of harassment took place, notably in US and Australia. Sexual harassment is one of the exhibits which is supported by a research conducted in the US showing that 19% of women will be exposed to chances of an attempted or a completed sexual assault during their college or university years. However due to differing environmental variables that applies respectively in countries all over the world, it is wise to confirm the application in this case for Indonesia. The author found out cases of seven of her peers who experienced threatening behaviors in campus however, the cases were kept in the dark and stayed unreported up until now. As reviewed by Hoff (2015) whose research covered the issue of reporting crime tendencies in campus setting, it was found from her undergraduate students samples that the most endorsed action when a potentially threatening behavior arises is to consult a peer and not to report with one third acknowledging awareness of an incident concerning threatening behaviors (female respondents being the majority). *The research objective* therefore is to study the current state of safety from SBM ITB Management program students and their tendency in reporting threatening behaviors in campus. Using a quantitative analysis method, the output of the research will answer the following research question "How do female and male students of SBM ITB differ in their perception of safety and their reporting behavior tendency?" and "How do female students differ in their tendency of reporting threatening behaviors?" under five preconceived hypotheses. The result of this research will be used to prototype an awareness campaign to raise the issue of safety in campus that is scarcely addressed and mitigate future potential safety issues occurrence.

## LITERATURE REVIEW

### Women Safety Perception

Women on average were found to have bigger tendency to report fear of most crime forms victimizations in comparison to men, in campus sites (Fisher & May, 2009; Lane et al., 2009 in Pritchard 2015), which gave outlet that women were more likely to engage in self-protective behaviors than men (Jennings et al., 2007). This self-protective application was found to be adequately parallel to increasing level of fear or threats they had towards sexual assault or violence based victimization. However this notion did not exclude men for being into self-protective behaviors too, though in a different context of urgency (Woolnough, 2009). Women regarded sexual assault as their number one concern in campus to which a research has found an average of 22% experiencing sexual assault victimizations. For men however, they perceived physical assault in general as their main concern on campus sites (Hoff, 2015).

### Campus Safety

In the western part of the world, most notably in the US, safety policies are taken very seriously especially in university campuses. Many assaults and targeted violence have taken place in campuses, which thereupon has raised thoughts of prior researchers regarding the complex setting of campuses in general (Rasmussen & Johnson, 2008; Scalora et al., 2010; Sulkowski & Lazarus, 2011). Depicting the uniqueness of its physical environment, campuses are known to have both indoor and outdoor spaces in commonly large areas, some widespread some a little more contiguous, to which are easily penetrable from outside campus area enabling anyone to freely roam around (Drysdale et al., 2010). Educational, residential as well as recreational functions of campuses play a role in supporting the complexity of its social dynamics (Hoff, 2015).

### Reporting Crime Tendencies

Any form of campus safety and threat assessment aims to be able of responding to future and potential conditions or individual before any threatening occurrence happen. Hence providing faster and greater reactions when faced with particular symptoms of any threatening occurrences (Hoff, 2015) which according to Cabbage (2009) should be about first and foremost being aware of any threatening situations and being willing to engage in its mitigation. The most ideal engagement in this safety issue is to report to security teams who are capable of effectively disrupting the likely occurrence of violence. Hollister et al. (2015) proved his hypothesis that incidents involving an unknown victim is related with a lower willingness for an individual to report upon it. One of the most endorsed reasoning is that it may link to personal matters and they basically did not want to be “nosy”. Students therefore was concluded have similar reaction, and was perceived through this research that reporting will be likely done in very critical situations and therefore stop it, as opposed to mitigate it.

### Self-Protective Behavior

Self-protective behavior has been defined generally as means of precautions regarding one's safety for the purpose of lessening one's risk of victimization (Hoff, 2009). Women who have been the subjects of self-protective behaviors were found to pertain higher level of reported fear upon crime victimization in comparison to men (Fisher & May, 2009; Lane et al., 2009), which therefore leads to higher susceptibility in self-protective behavior engagement, naturally. Higher perceived level of fear of sexual crimes or physical victimization judged as violent play roles in heightening the engagement too (Woolnough, 2009). However, the case is paradoxical where women engage in self-protective behaviors due to fears but the engagement itself does not ultimately reduce their fear hence resulting with self-protective behaviors that do not guarantee a lower level of fear (Lane et al. 2009).

### Literature Gap

Up until now, researches regarding this topic have been generally dispersed in the context of its focus. Women as part of this research's subject are not always excluded and given specific focus regarding what they thought about their safety, specifically in campus setting. Cabbage (2009) came up with a set of suggestion to improve a western Australian University, but did not focus specifically on the distinct needs of safety for women as found by Woolnough's research (2009). Another literature gap that is yet to be bridged, is the fact that existing studies covering this topic have been conducted mostly in first world countries located in a widely differing environmental setting. With more advanced safety standards and better-established facilities, outcomes of the same research questions and objective will inevitably differ.

## METHODS

This research first begins with the collection and review of secondary data, from literatures that includes researches as well papers regarding the same realm of topic. From the basis procured, this research begins expanding on its own and moves onto quantitative analysis to collect primary data from questionnaires. The



population of this research is students currently enrolling in Management Program of SBM ITB with a total of 597 students from three different years of class (graduation year 2017, 2018 and 2019).

Using a 95% confidence level with a margin of error of 5%, the ideal number of sample is 234 respondents and to ensure the representativeness of the population, the sampling method chosen is stratified random sampling. The author gathered 597 data of the entire population, and randomized the batch per year and per tutorial class. From the randomizing, an average of 16 students are picked per tutorials and are given the questionnaires to fill. The total respondents in the end reached about 238 students, which exclude another 20 randomly picked students for the pilot test of the questionnaire. The research will test five hypotheses divided within two research questions, which is elaborated in the table below.

Table 1 - Research Question 1: Hypothesis breakdown

H	Hypotheses	Variable	Measurement	Technique
1	Female students are more likely to engage in self-protective behaviors than male students (Hoff, 2015)	Self-Protective Behavior	Using a 5-point Likert Scale; 1 = Never, 2 = Seldom, 3 = Occasionally, 4 = Often, 5 = Almost always.	Two sample test, T-Test to compare the accumulated score of female students and male students
2	Female students feel less safe than male students within campus setting (Hoff, 2015)	Level of Safety	4-point Likert scale: 1 = In no areas, 2 = In few areas, 3 = In most areas, 4 = In all areas.	Two sample test, T-Test to compare the accumulated score of female students and male students
3	Female students are more likely to report pre-incident behaviors than male students (Hoff 2015)	Reporting Tendency	Yes or No question	Two sample test, Chi-Square to compare response of female and male students

Table 2 - Research Question 2: Hypothesis breakdown

H	Hypotheses	Variable	Measurement	Technique
4	Female students from outside Bandung are more likely to report threatening behaviors than female students from Bandung	Reporting Tendency	Yes or No question	Two sample test, Chi-Square to compare the response of female students from outside Bandung and from Bandung
5	First year female students are more likely to report threatening behaviors than second and third year female students.	Reporting Tendency	Yes or No question	Two sample test, Chi-Square to compare the response of female students in first year, second year and third year

## FINDINGS AND ARGUMENT

The first hypothesis formulated is the assumption that SBM ITB female students are more likely to engage in self-protective behaviors than SBM ITB male students. The result found was that there is indeed a significant difference between female and male students in terms of engagement in self-protective behaviors with a significance level of .000 (below .005). Female students procured a cumulated mean score of 46.4926 while male students procured 41.7941, which is lower and signals a higher engagement for female students than for male students. They also endorsed differently with female students scoring the highest on average in locking the doors when alone at night (4.6397) and male students scoring the highest on average in locking the doors when gone. The output of this hypothesis testing is consistent with previous researches covering topics upon campus safety including Hoff's research.

The second hypothesis formulated assumes that SBM ITB female students feel less safe than male students within campus setting. The output affirmed the hypothesis with a significance level of .001 (below .005), which indicates that there is indeed a significant difference between SBM ITB female and male students regarding feeling of safety in campus. Female students procured a cumulated mean score of 5.5294 while male students

procured a mean score of 6.0196, which is higher. The affirmation of this hypothesis is consistent with previous researches, which cover this topic, one of which is Hoff's (2015).

The third hypothesis formulated assumes that SBM ITB female students are more likely to report threatening behavior than male students. The output negated the hypothesis by showing a significance level of 0.257, much higher than the maximum significance level of .005. This level of significance means that there is no significant difference between female students and male students in terms of reporting threatening behavior. The result showed that out of the 238 respondents, only 2 reported to authorities where which 1 is a female student and the other is a male student. The proportion of students who witnessed or experienced threatening behaviors in campus was however very different, with 25 female students testifying to have witnessed or experienced threatening behavior in campus and only 6 male students who did. The author suggests that a bigger sample or a bigger population of students would have given a different output of this hypothesis testing.

The fourth hypothesis formulated assumes that female SBM ITB students from outside Bandung are more likely to report threatening behavior in campus than female SBM ITB students from Bandung. The results of this research rejected the hypothesis with a significance level of .783, which is much higher than .005 the maximum level of significance. This means that there is no significant difference between female SBM ITB students from outside Bandung (including those from Java, outside Java and overseas) and female SBM ITB students from Bandung in terms of reporting threatening behaviors in campus. Only one female SBM ITB students out of the 25 respondents who witnessed or experienced threatening behaviors, reported the threatening behavior to authorities and the respondent originated from outside Bandung within Java. Because only one respondent reported out of its gender based batch, it makes sense that this hypothesis is rejected because there is no comparison to analyse from. Therefore the author suggests that a different output may be extracted within a bigger and different population of university students.

The fifth hypothesis formulated assumes that first year female SBM ITB students are more likely to report than second and third year and beyond SBM ITB female students. This hypothesis again was not supported with enough respondents who both witnessed or experienced threatening behavior and actually reported the case, which hence resulted with a significance level of .331. Because the significance level is above .005, it therefore means that there is no significant difference between female students enrolling her first year with female students enrolling in her second, third year and beyond in terms of reporting threatening behavior. The only respondent who endorsed reporting the threatening behavior is in her second year, however this does not signify enough to affirm the hypothesis. The author again suggests that the hypothesis testing may provide a much different output if applied in a different and bigger population.

## CONCLUSION

The result of this research suggests that findings of previous research upon campus safety notably for female students do apply the same in an Indonesian campus, as discussed in the previous data analysis. Female students are found to be more sensitive to threatening behaviors and therefore portray a statistically proven higher level of fear and a lower feeling of safety in comparison to male students. This links to their higher level of engagement in self-protective behavior as well, which in this research was statistically proven. However it is also proven statistically that there is a high level of reluctance when it comes to reporting threatening behavior to authorities that resulted to the incapability of this research to assess further the reporting behavior with limited data procured.

Henceforth, these results can conclude that a future plan of designing an awareness campaign in campus should take into account that, female students are more concerned about their safety and self-protective behaviors and that there is a general negligence towards the activity of reporting threatening behavior in campus. The author suggests that the awareness campaign to be associated with parties from the faculty and campus to launch a newer and more updated safety regulations, alongside with certain cues of behaviors to which reporting becomes mandatory. It is highly suggested also to include contents that socialize students upon the procedure and the channels to which they are capable of providing reports regarding threatening behaviors. With over 31 students of the same program reporting having witnessed or experienced threatening behaviour in campus but only 2 reported, provides a current view of the safety that currently is neglected.

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# DESIGNING PERFORMANCE MANAGEMENT SYSTEM TO IMPROVE THE PERFORMANCE APPRAISAL AND EMPLOYEE SATISFACTION OF TWO HANDS FULL COFFEE SHOP

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## EXTENDED ABSTRACT

Coffee shop industries has grown accordingly with the expansion of middle class population, marking the second biggest growth in agricultural services. Two Hands Full (THF), as a coffee shop that is expanding their business, face a problem in the performance appraisal system. The performance appraisal, according to owner's and employees' point of view is still lack of structure, comprehensiveness and objectivity. This can be a problem because the result of the performance appraisal is used for another HR processes. In order to solve the appraisal problem, more steps needed to be taken that just creating performance appraisal form. The effective performance appraisal takes performance planning and defining the job which is a part of performance management. In short, improving performance management system is needed to solve the problem. Therefore, this research focuses on improving performance management system to solve the appraisal problem and increase employee satisfaction. The research methodology is a problem solving of Two Hands Full's performance management system problem by reviewing the existing system and improving the system by creating effective performance management cycle and performance appraisal tools.

**Keywords:** : *performance management, performance appraisal, objectivity, satisfaction*

## INTRODUCTION

Indonesian lifestyle has been changing over the past few years. It was driven by the rising of incomes, leads to expansion of the middle class population. The middle class population is growing from 37% in 2004 to 56.7% in 2013, creating bigger demand for lifestyle such as western food, imported brands and spending time socializing outside their house (USDA Foreign Agricultural Service, 2016). These new lifestyle of the middle-classes are in line with the growth of business that supporting these lifestyle. One of the businesses that grow accordingly with the lifestyle is coffee shop. Coffee shop has grown for 7.5% in the period of 2015-2016, the second biggest number of growth among other businesses of agricultural services (USDA Foreign Agricultural Service, 2016).

Two Hands Full (THF) is one of the coffee shops that is growing in Bandung. They came into the business on 11<sup>th</sup> of December 2013 at Jalan Sukajadi no 206 under the name of CV. Kopi Dua Tangan Penuh. Two hands Full moved to the current location, Sukajadi 198A Bandung on 10<sup>th</sup> of October 2015. Then they opened a branch in Cieumbeuleuit 107 on 1<sup>st</sup> of May 2016 as the expansion of their business.

In the expansion of the business, there is problem in performance appraisal identified. In the owner point of view, the current performance appraisal system is not structured and comprehensive to effectively appraise good and bad performance. There is also no documentation of the current performance appraisal and only owner's judgment is used. The employees' point of view on the performance appraisal also shows dissatisfaction (55%) , mainly because the current performance appraisal is not structured (not routine [55%] and not done based on task and responsibility [60%]), and not objective [60%]. This can be a problem since employee satisfaction on appraisal is important in motivational aspect (Newman, Gerhart & Milkovich, 2017).

From the symptoms, the problem can be identified as the performance appraisal. However, to make the process of comparing actual performance and employee's duties or key performance index to be effective, it requires an action of defining the job where supervisor set performance standards and method of appraisal that are agreed by the employees (Dessler, 2015). The effective performance appraisal is more than filling out performance appraisal form. Therefore, the core problem of this research is the performance management system. The objective of this research is to review the current performance management system and do improvement in order to solve appraisal problem and increase employee satisfaction. .

## LITERATURE REVIEW

HRM is defined as series of activities that help to manage people within employer-employee relationship which coordinating human resource and the organization (Stone, 1995). Dessler (2015) explained that HRM is important if an organization doesn't want to make personnel mistakes and if one wants to improve overall performance and profits. Key processes of HRM are human resource planning, job and work design, staffing, training and development, performance review and appraisal, reward and compensation, representation and protection and also organization improvement (French, 1994).

Performance management is defined as process of appraising and managing employee's performance continuously by doing identification, measurement, and development of individual's and teams' performance while aligning the performance with organization's goal (Dessler, 2015). Performance management is a cycle that consist of performance planning, ongoing feedback, employee input, performance evaluation, and performance review (Pulakos, 2004).

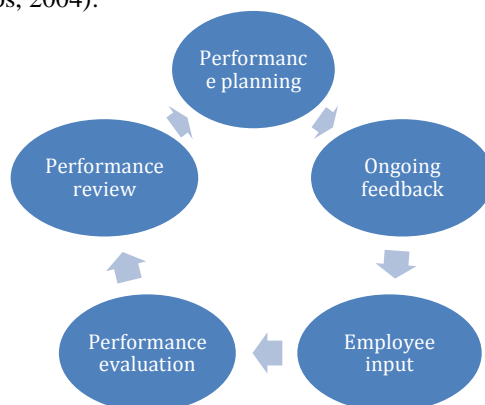


Figure 23 Performance Management

- Performance planning is reviewing result and behavioral expectations (Pulakos, 2004).
- Dessler (2015) stated that the process of giving ongoing feedback through the progress toward goals can be given face-to-face or computerized.
- According to Pulakos (2004), input from employee could take form such as asking employees to provide self-ratings on performance or asking employees to prepare statements of their most deserving or beneficial accomplishments.
- Performance evaluation is also known as formal employee appraisal which means a formal and systematic process that comparing expected individual standards and real performance (Venclová, Salková & Kolácková, 2013). Performance evaluation in this research refer to result and behaviour evaluation.
- Performance review is recapitulation and discussion time of what has occurred throughout the rating period such as employee's ratings, narratives and rationale of their performance evaluation (Pulakos, 2004).

According to Dessler (2015), what performance dimension to measure and techniques should be used in the measurement are the basic questions in designing the actual appraisal tool. Set of performance standards or dimension such as performance expectation and critical aspects of performance are determined from job analysis (Buchner, 2008). For the technique to use, Graphic rating scale is the most widely used quantitative

rating technique which are simple, scientific objective, reinforce consistency, reinforce reliability of assessor, and also ensure content validity (Shields et al., 2016),. Graphic rating scale consists of lists of performance dimensions and a range of performance values (such as from below expectations to role model or unsatisfactory to outstanding or numeral scale) for each dimension (Dessler, 2015). Therefore, Graphic Rating Scale will be as the techniques for measurement.

The result from performance appraisal is used for other HR process. Performance appraisal is useful for career planning because performance appraisal identifies strength and weaknesses of every individual (Dessler, 2015). By examining the performance gap using performance appraisal, manager will be able to assess the suitable training needed or development (remedial steps) to eliminate the gap (Dessler, 2015). According to Shields et al. (2016), performance appraisal is also useful for compensation in determining person-based base pay.

## METHODOLOGY

In conducting this research, the researcher will take several steps to solve the problem identified in Two Hands Full. The first process is preliminary study which was done through an interview with the owner and questionnaire for the employees. The interview method is chosen to gain more insights about the problem with cleared description about the issue which are not a satisfaction for the owner. To understand the overall employee's point of view, preliminary questionnaire regarding the performance appraisal was distributed.

Based on the preliminary study using interview and questionnaire, the problem can be identified. The problem identified in this study is the performance management system in THF. The current performance management system is not effective enough to provide comprehensive, structured, and objective appraisal nor create employee satisfaction. However, the appraisal problem can only be solved by improving the overall performance management system. Therefore, the research objective is to review and make improvement of the current performance management system.

Literature review was done after identifying problem by reviewing theories in textbook, journals, publication and internet related with human resource management, performance management, performance appraisal tools and relationship with other HR activities.

After reviewing the literature, job analysis is design in order to provide creterion in the performance appraisal from. Since THF does not own documented job analysis, the job analysis must be created from the job description and also job specification. The job analysis is improved by adding performance indicator on the job description, working condition, and also job specification. Before moving on to the next step, every job analysis for all the job in THF created must be approved.

The next step is to review the current performance management system. The review will be done using interview and also observation of how the performance management system is done in THF. This step will be useful in answering the research question. This step is also necessary since it can provide a complete picture of how performance management system is done and what aspects needed to be improved.

Before creating the performance appraisal form, performance management system is also need to be created. It is because the component of job appraisal is taken from performance planning. In the performance planning, the behavior criterion is defined and discussed with the owner. The performance management system is discussed and created in Swimlane SOP method. The performance management system is created is SOP to ensure that the process will be followed accordingly by everyone in the coffee shop. The swimlane method is chosen to ensure that everyone knows their portion in every steps of performance management cycle. Before moving on to the nxt tep, spproval of this system should be done.

After creating job analysis and performance management system, performance appraisal form is created. It is created by taking performance indicator from job analysis as the result criterion and generating behavior criterion from company value. The performance appraisal form is created using the Grpahic Rating Scale Method. The job level for the performance appraisal system created is only for staff and supervisor level (cook

helper, cook (1), CDP, Souschef, junior barista and senior barista). The managers (headchef and headbar) will only contributed as appraiser and not the ones being appraised. Approval from is made to validate the system.

The next step will be analyzing the result of the job analysis, improved performance management system and performance appraisal form. This step still be comparing the current and the improved system, including the weakness of the current system and how the new system may improve in a manner to solve the problem.

The final step is to create conclusion and recommendation. This step will explain about the conclusion of this research which results have been validated and also the recommendation that can be applied to improve the performance management system.

## FINDINGS AND ARGUMENTS

The result of this research are the improved job analysis, performance management system and appraisal tools. The improved job analysis consist of Job ID, Summary of the job description, task and performance indicator, authorities, and work relationship. For the job specification, education, experience, and other specification for the job are added. The working condition of the job is also added and explained, including the discomfort level and risk accident. The improved job analysis is created for all employees and validated by the owner. After validating the improved job analysis, it is compared with the existing system in THF. Since THF did not have documented job analysis, the improved system makes THF able to save time in briefing to new employee and designing other HR processes. Moreover, the improved system will help to increase objectivity of performance appraisal because it can be used in the criterion of Performance appraisal form.

Before improvement for performance management system is designed, review of the existing system was done. The existing system is not clear, structured, routine (done only in times of need), and in a one-way top-down manner. After reviewing, the improved performance management system is created in Swim-lane method of SOP (Figure 2), involve every parties in THF, and done routinely for twice a year. Detail of each processes is explain to ensure understanding of every parties. Comparing with the existing system, the improved performance management system is better-structured and clearer. The improved system are able to provide a performance plan that includes behaviour and result expectation, performance appraisal system that is more objective, routine, and comprehensive, yet at the same time ease the process of managing performance because each process is explained step by step.

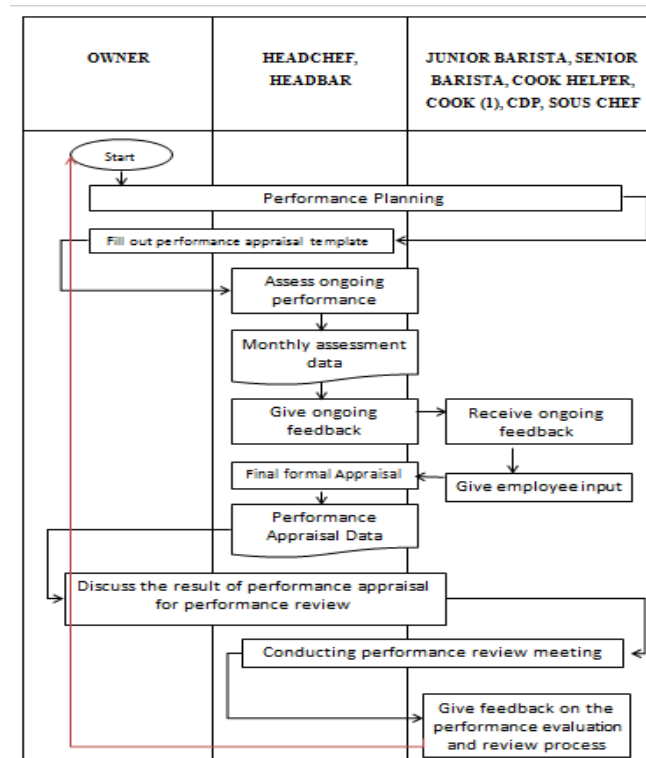


Figure 24 Improved Performance Management System in

The improved performance appraisal tool is created using Graphic Rating Scale. The criterions appraised are result and behavior criterions. The result criterions are generated from the performance indicator in job analysis while the behavioral criterion is generated from company value. In order to ease the process of everyday assessment, day-to-day monthly assessment for every job is also created. The authority of the improved appraisal is head-bar's and head-chef while the existing system was owner's. After improvement is made and validated, the improved system is compared and analyzed with the existing system. The improved performance appraisal tools will help facilitate better, more structured, and more objective performance appraisal system. Moreover, the change of authority will also help increase objectivity because the head-chef and head-bar understand about the division condition in better detail than the owner (because head-chef and head-bar are involved in the activities of each division everyday)

## CONCLUSIONS

The result of improved job analysis, performance management, and performance appraisal system is compared with the existing system to show how the new system can solve the problem of appraisal in THF. The analysis shows that the improved job analysis can save time and increase objectivity compared to existing system. The improved performance management system using the SOP is also compared with the existing system, which shows that the improved system is better structured, clearer, and able to solve the appraisal problem in THF. the improvement done by create performance appraisal tools in Graphic Rating Scale that assess behavior and result also help to solve the appraisal problem in THF. in short, the combination of improvement in the three aspects help to solve the appraisal problem, thus, increase employee satisfaction.

It is important to do try-out of the improved system on both division for more than one period because there might be some adjustment and improvement needed to be made in the future. These try-out processes are necessary in order to make sure the system fits the company well in the long term. Training for the assessors (head-chef and head-bar) should also be done to ensure the ability and reliability of the new assessor is adequate to do the performance appraisal.

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# INCREASING EMPLOYEE MOTIVATION OF ABC CAFE THROUGH IMPROVEMENT OF PERFORMANCE MANAGEMENT SYSTEM

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## EXTENDED ABSTRACT

Development in business is a good things because by developing it means that business still alive. However, development also lead to some changing and sometimes management is not ready for the change. To make business sustain while developing, internal team or management need to prepare and ready for following the development. Usually small business start with simple system sometimes they do not use systematic ways to run the business. When small business start developing, owner or management can be unaware of the situation that they must must run business in systemtic ways. This situation can lead into big problems in the future. Like happened in one cafe in Bandung. This is small cafe that open since 2011 and start developing. The symptom of problem start when there is decreasing of employees motivation. Because there is no different treatment for employees that give their best performance with employees that does not. The root cause of this problem is because there is no performance management system. So this research aim to designing performance management system.

**Keywords:** *Performance management system, performance appraisal system, cafe*

## INTRODUCTION

Restaurant and cafe that catagorized in culinary industry has significant and important role in tourism (Ardabili, Rasouli, Daryani, Molaie, & Sharegi, 2011). Culinary industry can be attractiveness for tourist like in Bandung. One of Bandung attractiveness is culinary indusrtly (Hariyanto, 2012). This opportunity is not wasted by entrepreneur. Based on Badan Pusat Statistik (2015) Bandung has more than 600 cafes and restaurants. One of cafe in Bandung is ABC cafe. ABC cafe served dessert as main menu. ABC cafe opened in 2011 as small business and now ABC cafe keep developing. However this development is not followed by management readiness. Based on preliminary research, there is decreasing of employees' performance. This is happened because employees does not give their best performance. Employees not try to do their best when doing their task because they felt unsatisfy with management treatment. This feeling happened because management difficult to indentify employees that has good performance with employees that has bad performance. Therefore there is no differences between employees when they give their best performance with when they does not give their best performance. Management find difficulties to differentiate employees performance since management does not have performance management system yet. Although all this time ABC Cafe ever did performance management activities, however that is not systematic and also there is no standard even guideline for doing the activities. Therefore, based on problem identification, this research aims to design performance management system in ABC Cafe. There are two question that researcher need to answer for this research. The first question is about ABC Cafe current performance management system. The second question is what can be revise from ABC current performance management system. After reviewing ABC current performance management system, researcher can know which part that need to be revise. The revision can help ABC Cafe to improve their current performance. The scope of this research is ABC cafe, so the recommendation may only applicable for ABC cafe.

## LITERATURE REVIEW

### 1. Human Capital Management

"Human capital is concerned with obtaining, analyzing and reporting on data that inform the direction of value-adding people management, strategic, investment and operational decisions at corporate level

and at the level of frontline management.” (Armstrong & Taylor, 2014 : p. 68). In human capital management, organization treat the employees as an asset.

According to Dessler (2014) human capital management have contribution in improving profits and performance in organization through people. By choosing the right people for the right job, motivating, appraising and developing them can help organization to achieve their target. In this global competition, organization can use employees competency as competitive advantages. People are unique creature that are different each others so it will be harder for rival to imitate employees competency than imitate technology.

## 2. Performance Management

Performance management is “The continuous process of identifying, measuring, and developing the performance of individuals and teams and aligning their performance with the organization’s goals.” (Dessler, 2014 : p.287). In identifying process, organization see employees behavior toward their assignment. After that organization will measure the employee’s performance whether they already achieving target or not. The measurement result will become organization benchmark to develop their employees. Organization will know the strength and weakness of their employees and organization can make development strategies from that. Performance management also can be tools to know type of development that employees need.

According to Pulakos (2004) performance management process have five basic elements. Which are performance planning, ongoing feedback, employee input, performance evaluation and also performance review. In performance planning element, organization will set the objectives and also the goals. Which later will be use as organization standard when appraise and evaluating the employees. While doing performance planning process, organization need to discussed and give feedback to their employees. By having some discussion with employees, organization can get input from their employees. There are several positive impact from employees input. Such as employees feel more engage to organization and employees can set their own goals based on their capacity. Performance evaluation, organization will evaluate employees performance. This is step where performance appraisal is. There are two aspect that organization evaluate; employees’ behavior and result of their performance. The last is performance review, based on Pulakos (2004) if organization always gives feedback regularly, organization will not bother in performance review session, because they only need to recap the data. This process is cyclical process so it will return to performance planning again.

## 3. Performance Appraisal

Performance appraisal is only a small part of performance management system. Organization used performance appraisal to make sure their employees already did their job in organization standart or not. According to Mondy (2013), performance appraisal is really important for organization because it can gives organization an information that can be related to organization strategic plan. Organization can make strategic plan by using performance appraisal result. Performance appraisal result can be use as reference to doing recruitment and selection, training and development, compensation system and many other human resource activities.

Performance appraisal process divided into five steps; identify performance appraisal goals, establish performance criterias, examine work performed, appraise performance and discuss performance appraisal result. Performance appraisal can be conducted by several method such as graphic rating scale, behavioral anchored rating scale (BARS), ranking method and many others.

## 4. Job Analysis

“Job analysis is the procedure through which you determine the duties of the company’s position and the characteristics of the people to hire for them” (Dessler, 2014 : p.121). Job analysis is one of element in human capital management that needed in order to make performance management system.

Job analysis is divided into two parts; job description and job specification. According to Mader-Clark (2013) job description is sketch of job duties and requirement. By reading job description, people can understand the activities that employees need to do, process of working and working condition. Job specification is list of job requirement such as knowledge, abilities and skills that needed to perform some job (Dessler, 2014). The translation of job description is job specification in terms of qualification. By reading job specification, people can understand what kind of employees that needed in that position.

## **METHODOLOGY**

This research is conducted by using qualitative approach. This research is adopting action research for problem solving. Since this research describe, interpret and also explain about ABC Cafe current condition in the same time this research also revised ABC current performance management system. The revision is aims for improving ABC current performance management. The participant of this research are owner and employees. Owner become the main source of information because owner the one who know best about ABC’s condition. Employees also contribute in this research because this main objective is about employees performance.

There are several steps in conducted this research; preliminary research, problem identification, literature review, job analysis, designing performance appraisal system and designing performance management system. The first step of this research is preliminary research. Preliminary research is conducted in two ways, interview and using questionnaire. Owner and representative employee are interviewed to knows problem that happened in ABC cafe. After that using questionnaire to all employees to validate the interview result. From interviewed owner and representative employees founded that ABC Cafe has decreasing of employees performance. questionnaire is used to know about employees satisfaction about performance management. Questionnaire is distribute to all employees since ABC Cafe is small cafe that has few employees.

The result of preliminary research is source for problem identification. After problem identification, researcher did literature review. Literature review can be helpful since by reviewing literature can give many insight and useful information. Literature review was done by reviewing book, journal, publication and government information that are taken in online and offline. After reviewing some literature, the next step is making job analysis. According to Dessler (2014) there are two part in job analysis; job description and job specification. Job description is explained about task and responsibility of each position. Job specification explained about competencies that needed for each position. Competencies that used for this research is Spencer competency dictionary. However, ABC cafe just have job description and not yet have job specification. So, researcher need to make an improvement for current job analysis. Job analysis is important for doing the next step, performance appraisal. Performance indicator that part of job analysis is need to make target for performance appraisal. Designing performance appraisal means providing performance appraisal method that will be use, templates for appraise employees and how to run performance appraisal. The last step is designing performance management process. In this step, it is more focus on how to run performance management system since design of performance appraisal is already made. The aims of this step is to know whose in charge to run this system, when this system need to do and how to run this system.

## **FINDINGS AND ARGUMENT**

Based on preliminary research, ABC cafe does not have performance management system. The performance appraisal only conducted by the owner occasionally. There is no specific time when performance appraisal conducted. To do performance appraisal, the owner does not have guidance or standard. If the owner think that there is employee that has not really good performance, the owner will clarify to another employee what happened to that employee. However the other employee opinion can be bias. Performance appraisal that owner did also did not have any impact to another human resource activity.

Additionally, in ABC cafe there is no punishment to the employees if they do not perform well. The only punishment that applied in ABC cafe is when they arrive late. If the employees come late their salary will be cut off. However, the punishment is not really strict. As long as employees can give good reason to owner, their salary will not be cut off. For reward, ABC cafe still does not have reward system. Although the owner ever give the reward, but it is only few times and there is no standardize it is all based owner wants. This situation will make employees who have good performance feel unfair and could lower employees motivation. Based on the survey to employees, 57% of employees are not satisfy with performance management system in ABC cafe. In the survey, researcher also asked the reason why the employees feel that way. Most of them said the reason why they unsatisf with management because of the system that not clearly stated from management.

According to ABC's problem, so this research is aim to designing performance management system. Having a system is needed for business especially for those who are developing. System is helping business to keep sustain in developing stages. To make performance management system it will need job analysis in order to make target that can be assess in performance appraisal.

Currently ABC cafe has job description that only consist of task. So researcher need to improve job analysis. Job analysis is divided into two parts; job description and job specification. Job description is consist task that employees need to do, performance indicator and also authorities. Performance indicator also used in performance appraisal to make target. Job specification is describe competencies that are needed in that position. For core competencies, managerial competencies and functional competencies are using Spencer and Spencer Competencies Dictionary. For working condition is adjusting with ABC cafe condition. Below are picture that shown improved job analysis.

### Job Analysis

Job Analysis							
Job Title	Ice Cream Attendants	Number of Personnel	6	Core Competencies	Competencies	Level	Description
Job Class	Staff	Reports to	Supervisor		Customer Service Orientation	5	Acts to make things better
Job Division	Flooring Department	Supervise	-		Concern for Order	3	Double check their own jobs
					Team Work	4	Ask for self input
					Organizational Awareness	3	Understand organization's climate and culture
Job Summary	Responsible to serve customers by processing customers order. Ice cream attendants responsible in scooping ice cream-toppings and frozen yoghurt, making ice cream bagels			Managerial Competencies	Impact and Influence	0	Not Applicable
					Developing Others	0	Not Applicable
					Team Leadership	0	Not Applicable
					Initiative	0	Not Applicable
Task	<ol style="list-style-type: none"> <li>1. Serving ice cream based on order</li> <li>2. Serving frozen yoghurt based on order</li> <li>3. Serving bagels based on order</li> <li>4. Packaged order</li> <li>5. Clean area around workplace</li> </ol>			Functional Competencies	Relationship Building	0	Not Applicable
					Directiveness	0	Not Applicable
					Flexibility	0	Always follow the procedures
					Self Confidence	2	States confidence in own ability
Performance Indicator	<ol style="list-style-type: none"> <li>1. Number of customers that does not get the right product as they order in terms of products that they get, size (medium or big) and toppings</li> <li>2. Number of defect packaging</li> <li>3. Workplace cleanness</li> </ol>			Hard Competencies	Analytical Thinking	0	Not Available
					Interpersonal Understanding	1	Understands either emotion or content
					Information Seeking	1	Ask questions
					Self Control	2	Control emotion
Authorities	-			Working Environment	Conceptual Thinking	0	Not using abstract concept
					Expertise	2	Basic skill
					Organizational Commitment	1	Active effort
					Educational Background	-	Minimum graduated from high school
					Experience	-	No specific criteria
					Risk Accident	Low	Work have little risk injuries
					Comfort Level	Medium	Work in comfortable place but sometimes exposure with disagreeable elements

Figure 1: Job Analysis

Performance appraisal is one part of performance management. In performance appraisal, organization examine employees performance and evaluate it. Performance appraisal can be input for organization to developing employees, reward and punishment system and also for compensation system. This research provided performance appraisal form for . For appraising will be use graphic rating scale method. This method is the most suitable method for ABC cafe because this method is the simplest method. Using simplest method become suitable to ABC cafe condition since ABC cafe is a small business that only has 9 employees. Performance appraisal will be conduct once in 6 months. This number is adjusting ABC cafe condition where all flooring department employees are part time employees. In average flooring department employees work minimum 6 months until 2 years. So 6 months for appraise employees become the most suitable number since it is not too often and all employees can have performance appraisal. For performance management, this research used Pulakos model and applied in standard operating procedure.

### Performance Appraisal Form

Performance Indicator	Target	Result			Description
		Need Improvement	Satisfactory	Excellent	
Kitchen and flooring employees are doing their job based on standard operating procedures	Minimum ... employees/ month				
Number of clashed schedule	Maximum ... /month				
Attendance list report is accept by owner	Attendance list report is accepted no more than ... days				
Number of complaint and problems in cafe that related to the customers that already solved	Maximum ... /month				
Number of products that out of stock	Maximum ... /day				

### Standard Operating Procedure Performance Management

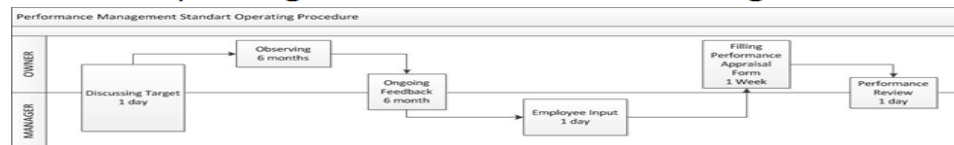


Figure 2: Performance Appraisal Form & SOP Performance Management

## CONCLUSIONS

Employees performance is really matter for business especially when in business process employees need to face to face with customers. Customers can see whether the performance is good or bad and it can be customers' consideration to come back again or not. In , owner see there is decreasing of employees motivation. However there is no prove to this judgment since the owner never doing performance appraisal formally. Based on preliminary research, the reason why employees performance become decreasing is because employees does not give their best as before. This happened because employees feel unsatisfy with management treatment since there is no different treatment for employees that give their best performance with who did not. The root cause of this problem is because does not have performance management system. Since there is no system, management can give bias judgement. Standardization is really important to treat employees fairly. Recommendation for is to standardize and make system to performance management. designing performance management system can increasing employees motivation and employees performance in ABC cafe.

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# THE PREFERENCE ANALYSIS OF COFFEE SHOPS AND IT'S CONSUMERS TOWARDS COFFEE BEANS IN JAKARTA

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## EXTENDED ABSTRACT

Coffee is like celebrity, it considered as the most consumed beverage in the world and make it as second largest commodity after petroleum. The trend of consuming coffee is increasing by years. This trend believed to be the main cause of huge growth of coffee shops these days. Jakarta is statistically holds the title as the city with the biggest number of coffee shop in Indonesia. Due to the existence of liked and disliked coffee shop, understanding consumer preference towards coffee is crucial. This is an exploratory research that will conduct semi-structured interview to the person that understand the nitty gritty of coffee in the selected coffee shop itself as the source. Qualitative research methodology is used in this research due to gain new information and identify alternative improvement actions. In the first part, economic growth that affected coffee consumption growth also make it as a lifestyle trends are presented. In the sequence, the more detailed information about interview results regarding preferable coffee-kind are reviewed, sample were taken from each category. Based on these findings data, it was concluded that Arabica coffee plays important roles in the industry and all the operational data could help coffee shops perform better.

**Keywords:** coffee, trend, Jakarta, consumer preference, arabica coffee

## INTRODUCTION

### Problem Statement

According to Sirinun Maieiam (2009), coffee consumption increased so significantly and become the most famous drink exist in this world. Due to the great growth, coffee shop businesses become so popular and valuable. Due to it's growth, there is a room to improve coffee shops service and at the end increase coffee consumption higher which also leads to higher value of the businesses. From the prior study, can be concluded that it is important to find out what makes coffee shops are chosen to be the most favorite third place of consumers and to develop advanced understanding of what coffee that consumers prefer over another available options. By knowing this preferences of coffee, this research could help coffee shops to improve their sales and gain bigger profit. This research will also help the coffee farmers to focus their cultivation on coffee bean which has highest popularity among it's connoisseur. It is such a necessary study due to the existing competitive market in the industry and the market condition is always changing over time. Coffee shops growing so well in Jakarta, however they need to understand further about consumer preferences in consuming their coffee products and able to perform better than before to consumers which leads to improvement of their business.

### Research Objective

1. To identify coffee shop's preference regarding coffee beans and the way they manage it
2. To identify the preference of consumers related to coffee beans
3. To find out how far the coffee shop has met the consumers preference regarding coffee beans

It is crucial due to willingness to increase consumer's satisfaction in enjoying coffee this modern days which leads to higher profit of coffee shops and increase effectiveness of farmers' plantation process.

### Research Scope

1. This is a mixed method research and only explore consumer and coffee shop preference towards coffee
2. Coffee shops that will be cooperated by being respondents in this research are coffee shops that operate their businesses in Jakarta area

## LITERATURE REVIEW

### Consumer Preference

Keller (2000) stated that what lies in consumers' minds are the brand's power, their minds contain different things, depends on consumer's experiences about the brand over time. Consumer preference is included in what consumer thinks in their mind. The word "prefer" indicates a certain ranking in consumer's mind. Paper from University of South Indiana's website with no author and date defined consumer preference as individual taste, as measured by utility towards specific goods or services. Consumers are allowed to rank those specific goods or services based on performance that provided by the firms. We can simply say, consumer preferences are what consumers want or desire. It is important that preferences are not dependent with consumer's income and prices. Consumer's capability to buy goods or services can not represent what consumers like to have or not ("Consumer Preference", n.d.). For example, one consumer likes to have *Starbucks* coffee on hand but only capable to buy *Good Day* bottled coffee financially.

### Coffee Preference of Consumers

According to report from National Coffee Association USA (2016), preference trends in consuming coffee have been changed over the years. They reported the increase of espresso-based coffee drinkers. Furthermore, in enjoying their coffee, most of these millennials would love to choose specialty coffee over regular coffee. In this term, regular coffee is often associated with low beans quality, lack of sustainability and transparency in their production process. While, specialty coffee means the beans would always be well prepared, freshly roasted and properly brewed. Also, specialty coffee should has grading score minimum 80 points of 100 points scale. More than just better in term of taste, specialty coffee is also healthier to consume, evidenced by the study. Specialty coffee usually contains little to no defects (Warrior Coffee, 2014).

Data from National Coffee Association USA (2017), shows that in 2017, the number of out-of-home coffee connoisseurs reached a high of 46%. It signify how culture of drinking coffee changed a lot and influenced by Millennials way of life. This is the reason why author should research about what consumers like over another choices and how shops handle those consumer's preference, also how they manage it.

### Coffee History in Indonesia

According to Kopi Trading Company (2015), the journey of coffee in Indonesia started in the end of 1600s. The coffee culture brought by The Dutch Maritime Empire, they established the coffee plantation in Java Island, especially in Batavia (now Jakarta). The Dutches started this culture since coffee boomed European culture that day. They were doing hundred ways in order to take control over the world's coffee trade, tried to defeat Turkey. Then, they made it. Indonesia became the biggest player in the industry until Brazil seized the power in the middle of the 19th century. This is why Java is become famous vocabulary in coffee dictionary. In the end of 1800s, a disease attacked coffee plants in Indonesia, named rust disease. This plague attacked almost all Arabica trees in all over Indonesia area, which was mostly in Java area. Since then, The Dutch decided to change all Arabica beans to be Robusta crops and the situation is still happening until right now. Most of farmers plant Robusta beans due to the ease of maintenance and stronger in facing any disease (Ignatius Krishnan, n.d.).

## METHODOLOGY (Mixed Research Method)

### Qualitative Approach

In this case, the author chose to apply qualitative research methodology. According to Marie Conroy (2010), qualitative approach is allowed researcher to gain deeper informations and able to adjust with respondent's personal experience. In order to gather all data needed to complete the research, the author will conduct semi-structured interviews to the chosen coffee shops and the respondent should be the manager or owner or at the very least a person that understand the nitty gritty of coffee in the coffee shop itself. According to D. Cohen and B. Crabtree (2006), semi-structured interview is best used when researcher will have no more than one chance to meet the respondent and need reliable and comparable qualitative data. The semi-structured interview will be conducted by asking the respondent some list of open-ended questions to answer the research question. This research is to understand the preference of coffee from coffee shops point of view by gaining informations from the real sales data of several respondent.

### Quantitative Approach

In this case, quantitative research methodology is used to capture the general condition of consumer's preference towards coffee. According to Creswell (1994), quantitative research method is a type of research that trying to explain a phenomena by collecting numerical data that will be analyzed using mathematically or statistically based methods. This approach objective is the author need to see if there is a match or mismatch

between the preference of consumers and coffee shops. To gather the data needed, the author spread simple, short and close-ended questionnaires to 434 respondents in Jakarta. Questionnaire is used since considered as relatively low cost to do and fast remembering the author has limited time. The condition is respondent should domiciled in Jakarta and have visited coffee shop in Jakarta. There are no other demographic restrictions. This approach is used to get the whole capture of consumer's preference towards coffee.

#### **Population, Sampling and Selection**

Due to mixed method approach use and the difficulty in listing all the population, researcher considered this research to use non-probability sampling method. In specific, purposive sampling method is used in this research. Purposive sampling method is one method that allows researcher to intentionally choose their subject of research as long as it will represent clear predetermined conditions (Mark Luborsky and Robert Rubinstein, 1995). According to Robert Yin (2011), the objective of using purposive sampling method is to have sample that will offer the most relevant data based on researcher's topic of study. It is preferable to choose sample member in a deliberate manner as this purposive sampling method. Researcher made predetermined condition based on observation and own judgment, that all coffee shops in Jakarta can be classified as shown in the figure 6 below. In order to avoid subjectivity in choosing sample, researcher will explain how this classification can be created. For the sample, researcher will sort all of the population and divide them into four categories. First, corporate-high rated, corporate-low rated, then indie-high rated, last is indie-low rated.

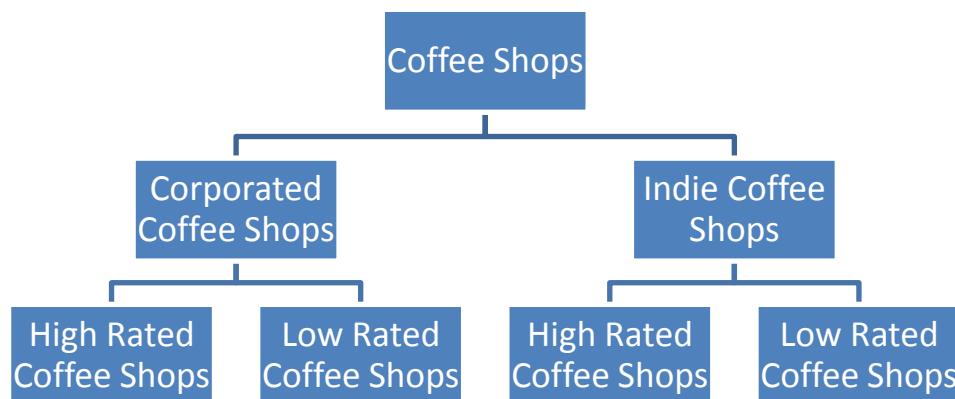


Figure 1. Coffee Shops Classification

## **FINDINGS AND ARGUMENTS**

### **Respondents**

All respondents chosen in this research are capable enough to answer all author's questions in the interview process. Since, they understand and having deep knowledge about the topic because they are the person in charge for this case. Most of them are managers, supervisors, roasters and/ or head barista.

### **Findings and Arguments**

Findings from this research have two sources, qualitative and quantitative data. Those different method will explain the findings from both different point of view.

#### **Qualitative (Interview) Findings**

The author gained information that all coffee shops sell arabica coffee only with different kinds of Arabica such as Gayo, Ethiopia and Kenya, but different with others respondent Stomping Ground also sells Robusta Coffee. In amount, they stock approximately 15kg-25kg coffees per month for 80.000 until 100.000 rupiahs per kg depends on the coffee grades. From business process sight, except Starbucks, all of the coffee shops have no special division to take care of their coffee buying process. Most of it done by their roaster, baristas or any workers there. But, in short, all of the person in charge have the similar characteristics such as very open, friendly, adaptable and the knowledge about coffee is no doubt. These people are also worked on some quality controls and the quality control did by keeping the roasted coffee beans from its enemies such as wind and hot. All of them uses one way valve technology on their coffee packaging. This researcher asked them about factors that important for them in considering which coffee supplier will be chosen and they have similar answers, the factors are about farmer's culture, logistics and honesty also openness about the coffee information itself.



For the supplier details, all of the respondents are being reluctant in giving detailed information about their supplier and this researcher be understanding. They only told the general area, for example, Indonesian coffee supplied from Jakarta, Sumatera, Sulawesi, Bali and Java. Then, for foreign coffee supplied from Latin America, Europe and Asia Pacific. For the roasting process, since the machine is expensive, so not all of the respondents were owning roastery machine. Only respondent Delico has no roastery machine, so it might be costly to roast their coffee bean or buy the roasted one. All respondents faced similar problem with supplier, usually lateness and inconsistent coffee quality. In sales detail, respondents similarly encountered problems like supplying coffee inaccurately, so it is common in running out of coffee. Sometimes, also only a few of buyers or consumers. In Delico case, they also face problem like inconsistent taste of coffee. So, it needs quality control and some standardization such as the use of flavor lock, the awareness toward roasting date and "best before" date. In addition, sales price in store is decided by the manager or office.

About selling growth details, this related to the relationship with the supplier as time goes by. Are they being loyal to them with contract or just one time transaction without any clear contract. The result shows only Starbucks that shows good relationship with their supplier, they made one clear contract, gave beneficial CSR program to them and bought the coffee in premium price, which the price set by the Fair Trade Organization while other coffee shops still not manage their suppliers as well as Starbucks.

#### **Quantitative (Questionnaire) Findings**

The method used to understand the coffee preference of consumers and the questionnaire result from 410 valid respondents shows that consumers (which dominated by men, 55.1%) like to go to coffee shops (89.9%) and buy their coffee over the other drinks (90.3%), but they are still being reluctant to buy the coffee beans (64.7%). Survey also shows that consumers prefer Arabica coffee (61.3%) than Robusta coffee especially which comes from Indonesia and consume it in form of Latte (45.9%). Since, one of the respondent said that Indonesian people still being so hard to consume black coffee, they prefer milk-based coffee. The most popular coffee bean, based on survey, is Toraja Kalosi with medium level of roasting. Even there are a lot of respondents have no preference in choosing coffee beans used in their drinks.

## **CONCLUSIONS**

To conclude, coffee market in Indonesia still full of good potent. In line with researcher's objective which to understand consumers' and coffee shops' coffee preference, with this research the goal is obtained already, all informations lead to Arabica Coffee and mostly comes from Latin America (Ethiopia, Guatemala and Kenya) and Asia Pacific (Indonesia, Timor Leste and Papua Nugini). In terms of changes that could be made by coffee shops are strategy with supplier, it is preferable to do transactions with clear and fair contract. Stocking strategy could be changed to focus in Arabica coffee since it is the market favourites. To keep their taste consistent, they can build good relationship with supplier and own roaster machine, so they can control the quality and control preference regarding coffee roasting level, whether it is light, medium or dark. Since the researcher asked some operational questions, hopefully readers will get some new insights and learnings from these respondent's mistakes in order avoid the same problem happened and build or perform much better coffee shops in the future.

#### **Findings Implications**

The outcomes of this research will served field data about coffee shop's beans preference and daily management, also consumers' preference toward coffee beans. After knowing the relationship and actual condition, these data potentially to be used as evaluation material for the coffee shops and coffee farmers itself. Moreover, the results of this research can help the players in coffee industry to generate better strategy and benefit all parties with more consumers-based strategy. All of the strategy should designed for the actual target market in the field.

#### **Future Research**

Author provides several recommendations to be considered in the future related research:

1. Due to limited questionnaire distributions to author's friends and relatives, the respondents are mostly a college student and private employees in Jakarta. So, further exploration can be done in other and more diverse sample to find if it shows any differences.
2. Due to limited time, author can only take three respondents per category and not from every part of Jakarta city. So, it would be very good if taking a wider sample and representing the entire population.

3. Conduct the research that will represent data from farmers point of view. So, it will balance the result and comes from wider perspective.

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# GUIDELINES AND FRAMEWORK TO IMPLEMENTATION OF AMBIENT ADVERTISING IN BANDUNG FOR BUSINESS PRACTITIONERS

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## EXTENDED ABSTRACT

It is undeniable that conventional marketing communications techniques are experiencing a decline in effectiveness due to the increasing advertising clutter. People are exposed to thousands of advertisements every day whether it is broadcast media advertising, internet advertising, or out-of-home advertising. As for out-of-home advertising: the clutter is especially evident in Indonesia's biggest cities as billboards and banners have been used too extensively, bringing with them problems such visual pollution, harmful driver distraction, and the one advertisers fear the most: audience inconsideration. Ambient advertising is an alternative that can act as solution to problems mentioned above both directly and indirectly. It is one of the young concepts in marketing that has not been widely adopted in Indonesia. This research is an attempt to assemble a comprehensive guidelines and recommendations for business practitioners to implement ambient advertisements. Bandung is chosen as the research location to facilitate data gathering as well as to better focus the research. This research is tailor-made to Bandung and is not to be generalized for Indonesia as every region has its own unique situation. Implementation for ambient advertising in Indonesia is subject to future researching that this research does not cover.

**Keywords:** *ambient, advertising, marketing, method, guerilla, innovative.*

## INTRODUCTION

Ambient advertising is a term that describes advertisements being placed on unusual items or unusual places advertisements are not normally seen (Lum, 2012). This kind of advertising draws more attention than other visual advertisements. The word 'ambient' itself means relating to immediate surroundings of something as well as creating certain reaction or mood. This word shares root with 'ambience' which means the character and atmosphere of a place (Oxford Dictionary). An ambient advertisement by etymological approach can be defined as *a method of advertising that enables an advertisement to interact with its surroundings making it more impactful as audience feel as they are being in the same realm with the advertisement* as opposed to traditional advertisements that are limited by the dimensions of space it is able to utilize. Ambient advertising offers: cheaper implementation cost despite probability of same to higher initial creative process cost, thus cost-efficient and cost-effective; surprise elements and extra cognitive effort expense, thus higher audience engagement theoretically enabling it to stand out in the advertising clutter. Not only that, ambient advertising can at the same time be the solution to several problems found in Bandung presented in findings and argument. Substantial adoption of ambient advertising is expected to be able to eradicate these problems.

It is however unfortunate that ambient advertising is not yet substantially adopted in Bandung. The objective of this research is to provide a set of guidelines and framework for business practitioners in hope of catalyzing substantial adoptions of ambient advertising, especially in Bandung. It is expected that the product of this research would fill the absence introductory guidelines that promote implementation of ambient advertising. This research explored negative impacts of the out-of-home advertisements currently being implemented in Bandung, effectiveness of ambient advertising, as well as ambient advertising's opportunities and possible positive impacts; all of which were sourced from both observation and existing literature review. The research validates the above by qualitatively surveying real audience. The next step is to interview advertising professionals on the creative process and other details that business practitioners need to know in order to implement ambient advertisements. The main results included a set of comprehensive guidelines containing suggestions, concluded public preference, creative process, rough estimation of required budget, and so forth.

## LITERATURE REVIEW

There are several definitions of ambient advertising including those of Luxton and Drummond's, Bainbridge & Curtis', Lee Yuen & Dacko's, Lum's, and Jurca's. All four definitions mentioned above from literature incorporate phrases

and words “being the first”, “have not been seen before”, “alternative to classic advertising”, “unconventional”, and “unusual” which all indicate characteristic of novelty. Novelty is not timeless; the first is impossible to recreate, an alternative will be replaced by newer alternatives, the unconventional will be the conventional, the unusual will become usual through repetition and time.

However, the etymologically derived definition is the one that is being used in this research *a method of advertising that enables an advertisement to interact with its surroundings making it more impactful as audience feel as they are being in the same realm with the advertisement* as opposed to traditional advertisements that are limited by the media. This definition does not oppose previous definitions found in other literatures although it does create some imaginable and less-abstract limits.

The next in line in literature review after the definitions are the tools used to present the final results of the research. The results were divided in two parts: set of guidelines and the framework. The set of guidelines contain advertisement audience opinions and preferences, things to do and to avoid in advertising, and other recommendations which do not include technical steps and actions. As for the framework, it is in fact Shostack’s service blueprint that is integrated with Amabile’s collective creative process. Below are the brief explanations to both components of the framework:

Service blueprint is a method to visually present and map specific actions done by parties involved in a service production and consumption. The service blueprint maps all actions done in a service in classifications as following: actions done by clients, actions done by contact-employees in the time of contact with clients (on stage), actions done by contact-employees in times other than the contact time (backstage), and actions done by non-contact employees (support processes).

Creative process in this research’s context explains the creative process in the advertising creation. Numerous literatures present the creative process in a chain of four or five steps. The creative process used in this paper is the one formulated by Amabile in 1996 specifically for collective work creative process. This creative process was derived from Wallas’ original creative process and consisted of the followings: Problem or Task Presentation, Preparation, Response Generation, Response Validation, and Outcome.

The collected data were first processed into service blueprint and the blueprint were integrated into the five stages of creative process.

## METHODOLOGY

The method used is the exploratory qualitative method. The data were gathered from three sources: observation, documents, and interviews. The interviews are the main source of data gathered for this research. The interview data were gathered from two groups: the advertising audience and the advertising professionals. The first group is the public which is the advertisement audience whose work does not directly relate to advertising. The advertisement audience are segmented into two age groups which are student-age (17-30) adults and working-age (over 30) adults. Adults are chosen to facilitate data gathering because of their cooperativeness to answer and to understand the topic clearly. The second group consists of professionals who work in advertising (in this case people working in the agency, not the entity who wishes to be advertised)

### **Structured interviews with advertisement audience**

The interviews with advertisement audience were structured interviews which means that the interviewees are given a set of questions that does not necessarily develop further. The interviewees were 15 people from different generations and background.

The questions asked to respondents included the following main topics: characteristics of out-of-home advertisements currently being implemented in Bandung; problems encountered with the out-of-home advertisements currently being implemented in Bandung; and opinions on ambient advertising.

### **Semi-structured interviews with advertising professionals**

The interviews with advertising professionals were semi-structured interviews which means that the interviewees are given a set of questions that can develop further and discussions can happen. There were 3 interviewees for these interviews. These interviewees consist of two employees from two international advertising agency in their Jakarta headquarters and a fresh graduate of visual communication design degree with internship experience in another international advertising agency in Jakarta headquarters. All three had lived in Bandung so they understand the situation of the targeted city.

The followings were the main topics: required factors in creating ambient advertisement, common problems faced in the work, discussion of the current situation and trends of ambient advertising, and discussions on location.

The results were presented in two separate results which were the set of guidelines and the framework. The separation of the results was done in order to have a more understandable result that is easier to follow by the business practitioners.

### **Set of guidelines**

All the collected data are summarized into a set of guidelines containing bold points and optional points to be followed. The boldness of a recommendation point found in the guidelines are determined by its mention frequency in the interview results and emphasis frequency previous studies / research. This set of guidelines contain advertisement audience opinions and preferences, things to do and to avoid in advertising, and other recommendations which do not include technical steps and actions. The steps and actions are presented in the framework. The set of guidelines is presented in points. Additionally, suggestions for policies and regulations to be improved are also presented along with the guidelines in separate section.

### Framework

The framework as previously explained were presented in service blueprint that is integrated with creative process.

## FINDINGS AND ARGUMENTS

### Observed data and data from documents (studies and literature)

One of the problems Bandung is facing from the extensive utilization of billboards and banners which is visual pollution can be evidently seen in Figure 1 presented below. Figure 1 contains 11 readable printed media that act either as advertisements or place indicator. At least 4 of them (no. 1, 2, 4, 6) are created and placed by professionals and are meant to be more permanently installed than the rest. Yet the ones who place them did not take the trees and the utility poles and cables into considerations when installing the media. No. 11 is a public service advertisement from the local police unaesthetically tied to the utility poles.



**Figure 1. Example of crowded point**

Reference: Irfansyah, F., 2017

On the other hand, Bandung is notably more ready for ambient advertisements seeing its ongoing improvements in many aspects, including public facilities and parks. These improvements have properties similar to ambient advertisements such as integrating with the surroundings. However, these improvements do not have commercial purposes. As a city, Bandung is more ready for ambient advertising because the improvements done in Bandung would progress in harmony with installations of ambient advertisements. Governments however would have to be strict and watchful in approving proposed ambient media. Below is one of the usage of ambient media in Bandung without commercial purposes.

This kind of visual distraction slows down drivers where they actually have to stop. Similar methods can be utilized to create ambient advertisements. For example, an ambient advertisement can also utilize an ordinary zebra cross as FedEx did when advertising office products by installation of giant bottle of correction fluid. These kinds of advertisements do cause visual distraction; but in this case the distraction is beneficial because drivers are supposed to slow down when they approach pedestrian crossings.



**Figure 2. Ambient media example using ordinary zebra cross**

Reference: Brien, Shannon in CentMagazine.co.uk, 2015

Ambient advertisements are tailor-made to its environment instead of mass-produced. Ambient advertisements are not created for repeat usage in many places, thus there is the probability of costing more initially in the creative process. However, ambient campaigns still use only a small proportion of most advertising budgets due to its cheaper implementation cost if compared to mass printing, mass broadcast, newspaper / magazine ads, etc. Therefore, the issue of its effectiveness is not on top priority (Shankar & Horton, 1999).

To conclude, ambient advertising offers: cheaper implementation cost despite probability of same to higher initial creative process cost, thus cost-efficient and cost-effective; surprise elements and extra cognitive effort expense, thus higher audience engagement theoretically enabling it to stand out in the advertising clutter.

### Interview Data

#### 1. Characteristics of out-of-home advertisements currently being implemented in Bandung

Based on the observations, collected news, and interview results; it can be concluded that out-of-home advertisements currently being implemented in Bandung has the characteristics of:

### *Various in types and legalities*

The advertisements are various in types ranging from products, services, all the way to advertisements about social and religious issues. Along with it the advertisements are also found to be varying in their legalities. Some of them are completely illegal, in the middle are the legal advertisements published after extortion, and the rest are completely legal.

### *Having the tendency of being ineffective and dull*

The audience interviewed were seem to be unamused with the advertisements. While in overall 86.67% audience expressed the advertisements to be ineffective, almost half (46.67%) of them stated that the advertisements fail to draw their attention with the same percentage stating dependability of their attention to the advertisements.

### *Problematic to driving safety and contribute to visual pollution*

The interviewees have the tendency to consider the advertisements to be minor problems both to driving safety and aesthetics of the city.

#### 2. Problems encountered with the out-of-home advertisements currently being implemented in Bandung

Based on solely the interview, the followings are problems that the audience identify from out-of-home advertisements currently being implemented in Bandung harm to driving safety, contributing to visual pollution, loss for advertisers, loss for government, and possibility of causing disputes over space especially for illegal advertisements.

#### 3. Policies and regulations to be improved

The policies and regulations improvement suggestions mentioned by both the advertisement audience and the advertising professionals were about disciplining illegals as well as better regulations of advertisement in terms of areal limitation. The audience had unique concern about city's aesthetics whilst the agencies had concerns about bureaucracies. Specifically regarding ambient advertisement, the government should make regulations on it and perhaps list some public space for advertising rent.

#### 4. How one can implement ambient advertising in Bandung

Implementation of ambient advertising could be done both independently or through advertising agency. Insight about audience, places, ideas, and agencies had been specified in the last part of Chapter 4 in details. One could even mimic the work process of advertising agency. To put simply, ambient advertisement requires the same work flow with other advertisement as following: **Brand Review / Need Identification** → **Idea generation** → **Ideas (key visuals, tone and manner)** → **Idea filtering and validation** → **Concept Development from Ideas** → **Concept validation** → **Chosen concept** → **Implementation**. The differences are the extra efforts (answers to point 4. Factors for creating and setting up ambient advertisements) and earlier location planning. For ambient advertisement, location should be planned since the concept development. This was based on the framework results. Access full paper for the complete framework.

### *Guidelines*

#### **About audience**

1. Ambient advertisements are best targeted to the younger audience of generation Z.
2. It is fine to be experimental with generation Z, but careful approach is necessary before advertising to generation ≥ X.
3. The interviewees view ambient advertisements as either intriguing (33.33%) or causing cognitive expense (66.67%) which leads to greater impact and memorization.
4. Design and placement are crucial. Ambient advertisement does not automatically become safer and more beautiful; but it has more potential than the rest of out-of-home advertisements.
5. First, make the audience notice. Message processing can only happen after the audience notice.
6. 73.33% of interviewed audience prefer interaction over intrigue. Incorporate optional interactive elements in the ambient advertisements so that people who do not wish to interact can also enjoy the advertisements.
7. Be tidy and dispersed. One of the biggest reason of audience disliking to current advertisement is the clutter.
8. Try triggering viral marketing yourself by documenting a neat video of your ambient advertisement and showing what it does then have it shared by your marketing force. Coca-Cola often does this.

#### **About places**

9. Experiment with new places, but avoid places that are proven ineffective unless an ambient advertisement fits the ineffective places. It is never pretty to nail a flyer on trees, but Lux advertisement (Figure 4.3) is an example that trees can be beautified by ambient advertisement.
10. Do look for opportunities to partner with government or sponsor its programs in order to gain opportunities to advertise in public space.
11. Contact private venues such as mall for easier permissions. However, connections and links are still crucial in order to use spaces that are not designed for advertisements.
12. Protect your ambient advertisements from vandalism. Malls and private venues are the safest options possible.

#### **About ideas**

13. Use the following idea sources as starters: tangible aspect(s) of the advertising subject, effect(s) or function(s) of the advertising subject, and / or message(s) from the tagline incorporated into tangibles
14. Experiment with benefits. Clever uses of ambient advertisements can be very beneficial and has more purpose than beautifying.

15. For new business practitioners, try to independently make small scale ambient advertisements as additional decoration when participating in bazaar or expos. Advertising agencies are helpful and worthwhile for bigger projects. An effort as small as stickers of traces directing people to your booth in an expo might even be helpful

#### About agencies

16. Many advertising agencies in Jakarta have experiences in creating ambient advertisements. Some of them include: Havas, JWT, Saatchi & Saatchi, Publicis, Ogilvy & Mather, Lowe, DM Pratama, Y&R, and Fortune. There is probably even more. Approaching them is worthwhile if the company's budget fits.
17. Agencies can offer lower prices if they have agenda to win awards. Hunt for these information by approaching the agencies' internals. Not only cheaper, these advertisements are guaranteed to be originals as non-originals have small chance to win awards.
18. If you decide to have your products advertised by agencies with ambient media, be honest and informative to them about the products.
19. Do not change your representative to the agency.
20. Do not send people who are not your decision maker.

#### CONCLUSIONS

Having seen the problems of Bandung caused by conventional print advertisements, Bandung's readiness to adopt ambient advertising, as well as the internal advantages of ambient advertising; it can be concluded that ambient advertising deserves to have a chance to be implemented in Bandung as it can potentially be a better alternative in getting audience's attention as well as simultaneously be an alternative that does not necessarily cause the problems as conventional print advertisements do.

This research acted both as guidelines and introduction to ambient advertising for business practitioners in hope that ambient advertising would be adopted by more businesses in the future, especially those advertising in Bandung. It is expected that this research would also be able to be a reference for future researches about ambient advertising implementation in Indonesia as this research is tailor-made to Bandung and is not to be generalized for Indonesia.

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## HIJABERS: PREFERENCE ON CHOOSING MUSLIM FASHION CLOTHING PROFILE

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### EXTENDED ABSTRACT

Muslim fashion is one of the sector in Indonesia that is growing fast and consumed by most of Indonesia muslim women in various cities. Growing demand of muslim fashion is followed by growing number of muslim fashion industry. However, consumers start to crave constant changes of their preferences of muslim clothing. Preference arise from their action to achieve their needs and adjusting it to their wants. The segmentation of muslim women will help muslim fashion industry to identify each segments according to their preferences. Preferences of muslim women on choosing fashion can be identified by studying relation between demographic aspects, such as age, education, income, and domicile with physical, identity, lifestyle (PIL) model and level of religiosity of each consumers. Domicile is one of important aspect to get the most effective segmentation of the consumers. The segmentation can identify level of each physical, identity, lifestyle, and religiosity attributes and can be used to have a better understanding on Indonesia muslim woman market so muslim fashion industry can generate better marketing strategy to reach their consumers.

**Keywords:** : muslim fashion, market segmentation, preferences, religiosity, hijabers

### INTRODUCTION

Indonesia's muslim fashion industry currently being the limelight of world's fashion industry. The establishment of this industry supported by the emerging of Hijabers Community Indonesia by Jenahara Nasution and other muslim designers in 2010. Since then, many fashion events and bazaar held with Hijaber theme. Muslim fashion is growing to become Indonesia's most potential market inside the country and as export commodities. Based on Organization of Islamic Conference 2015 data in export news from Indonesia Ministry of Trade, the value of export for muslim fashion is around US\$7,18 billion, placing Indonesia in third place after Bangladesh and Turkey (Ministry of Trade, 2015). This opportunity creates an ambition for Indonesia to be the capital city of Muslim Fashion Industry by 2020. According to Directorate General of Small and Medium Industry, Euis Saedah, it might be tricky for Indonesia if one of its supported system such as small-medium enterprises cannot fully function due to one of its marketing challenges (Ministry of Trade, 2015). Based on this opportunity and weaknesses to achieve the title of muslim fashion capital, Indonesia's muslim fashion industry have to prepare for the increasing number of demand and competition in the future. Knowing the preferences of consumers in this industry could help companies to start profiling Indonesia's muslim women market to strive and dominate the industry.

Mostly consumers have different needs and wants which created a preferences of their own. Clothing as the object of this research might create a different meaning to consumers. Some might see this clothing as a fashion or identity that might changing periodically through certain groups whose unconsciously decide it, according to Hurlock in Markeviciute et al (2011). Abdullah (2015) have other viewpoint where he explained that fashion is a medium to express behavior of the people. Rocha et al (2005) proposed three core variables which could provide a better-targeted fashion and clothing consumption preference called physical, identity, and lifestyle (PIL) model. This framework support the industry to well-measure and profiling its customer. However, measuring Indonesia's muslim fashion industry had to pay attention to the wide variety of a possible segments. In Indonesia, muslim is the majority but it is not an Islamic state, this factor could influence the preference of choosing their clothing based on their religiosity level. Shreim (2009) and Mokhlis (2006) using Religious Commitment Inventory (RCI-10) to measure the impact of each consumers Islamic religiosity to their shopping behaviour. To measure the religiosity, they used two indicators which is interpersonal religiosity and intrapersonal religiosity that will be applied in this research.

A validity and reliability test is used to check whether the data are good or not to be utilized for this research. Segmenting the consumers based on their shopping behaviour is done by using cluster analysis to identify homogenous groups of buyer in two big cities in Indonesia, Jakarta and Bandung. Online questionnaire are distributed through social media to muslim women who wear hijab with age between 15-34 years old.

A different demographic aspect could affected the shopping behaviour profile of the consumers. This research will provide concise profile of Indonesia's muslim women (hijaber) preference on choosing muslim fashion clothing that influence by



each consumer's demographic aspect. As Indonesia is the home to one of the largest muslim population in the world with a wide variety of ethnic background. It is increase the chance to have a wide variety of segmentation in Indonesia's muslim fashion industry.

## LITERATURE REVIEW

### *Consumer preference on fashion clothing*

Based on Kotler and Armstrong (2014), in evaluating alternatives to determine a decision, consumer have to process infomation from their knowledge. Preference is the power or ability to choose one thing over another with the anticipation that the choice will result in greater satisfaction, greater capability or improved performance. Consumers preference arise from their action to achieve their needs and adjusting it to their wants.

Based on Rocha et al (2005) there are three core variables that he proposed called PIL (Physical, Identity, Lifestyle) Model to evaluate fashion consumer's need based on their preferences. This model as explained if figure 1 has been developed in order to be considered while choosing segmented fashion strategies. First is physical variable describing the important aspects of clothing material to suits the environmental condition. This variable measures on the comfortness, type of fabric, and its functionality which influenced by the consumer's age. Second, identity variable describes the image that the customer want to be perceived. This variable is not influenced by consumer's age as they had established this along the way. Third, lifestyle variable describing the consumer's status in social life and environment affected the way consumers represented themselves in the community. From previous research, Rocha found that the older consumers are more concern on physical variable rather than identity and lifestyle. According to Nam et al (2007), the reason might emerge due to unavailability of fashionable yet comfortable product in the market. This resesarch suggested the development of fashion product for mature consumer.

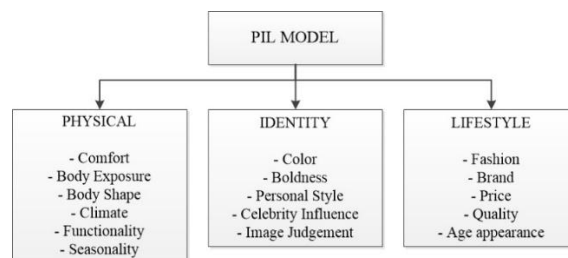


Figure 4. Modified PIL Model by Rocha, Hammond, Hawkins (2005)

### *Islamic Religiosity*

Religion has been one of cultural variable that could help marketers to determine consumers shopping behavior. Religion is a set of beliefs and values act as a guide to behave in daily life. Delener (1994) and Delener (1990) in Bachelda et al (2014) explain that religiosity is a level of which beliefs and values held by each individual to be practice in daily basis. As a factor that influences consumer's attitude inside the cultural factor. Muslim women have to adjust their religiosity and desires to be a fashionable women. Farrag & Hassan (2015) explained that companies in countries with Muslim as majority has been considered women that are religious and also conscious to the growth of fashion.

Shreim (2009) using Religious Commitment Inventory (RCI-10) to measure the impact of each consumers islamic religiosity which divided into two attributtes, interpersonal religiosity and intrapersonal religiosity. Interpersonal religiosity describes the level of how each individual communicating themselves to their beliefs and intrapersonal religiosity describes the level of relationship between each individual to their religious community. Shreim researching on the impact of islamic religiosity into their sport clothing behavior. This research found that the consumers who exhibit higher level of religiosity tend to be more concern on physical variable rather than lifestyle. Only consumers with lower level of religiosity and have higher income, concern on lifestyle attributes such as price, brand, and fashion. Based on this, the need of those religious and fashion-conscious muslim women need to be fulfilled by the fashion industry as it also gives an advantage to the company to increase their market size and touch the muslim women market.

### *Demographic*

#### *Conceptual Framework*

From previous research, each customers have diferrent profile depends on their preference in physical, identity, and lifestyle attributes, level of Islamic religiosity, and demographic aspects from each individual. Muslim women with different level of religiosity have difference preference toward shopping buying behavior where muslim women with higher religiosity tend to be more concern with physical attributes, while lower level religiosity of muslim women put more attention on physical and lifestyle attributes. Age, income, domicile, and education factors have influences toward the customer shopping behavior. Based on the previous studies and literature review, researcher conceptual framework can be seen from figure 2.

Beside religiosity, background consumer characteristics, such as age, income, education and domicile is explained by demographic used in profiling of Muslim women buying behavior. Age variable has been used by marketer to understand behavior of the consumer and segmented it into groups of customer. Age is discussed by Rocha et al (2005) and Bachelda et al (2013) as older women tend to look for physical attributes in their buying preference. Income based on Shreim (2009) and Mokhlis (2006) shown that consumers with higher income have a significance effect on lifestyle attributes. Bachelda et al (2013) explained that higher education background lead to better consideration of physical attributes. Domicile area of consumers also contributes in different profile on consumer preferences depends on their physical and social environment based on Vignali & Vignali (2009). Conceptual framework developed by the researcher in figure 2 tests some hypotheses based on assumption from previous studies and literature reviews.

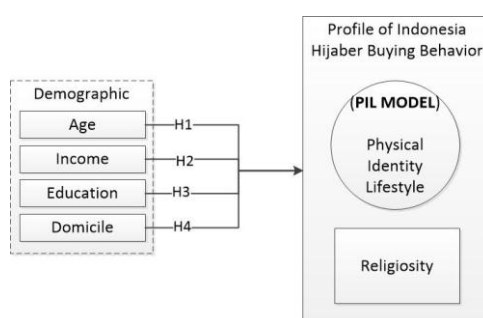


Figure 2. Conceptual Framework

H1: Muslim women with different range of age differ in their profile of muslim fashion buying behavior and level of religiosity

H2: Muslim women with different range of income differ in their profile of muslim fashion buying behavior and level of religiosity

H3: Muslim women with different education background differ in their profile of muslim fashion buying behavior and level of religiosity

H4: Muslim women with different domicile are differ in their profile of muslim fashion buying behavior and level of religiosity

## METHODOLOGY

The research study is a segmentation analysis of muslim women market in Indonesia based on their preference on choosing muslim fashion clothing, level of religiosity, and demographic aspects. The research aims to reveal Indonesia's muslim women customer profile. The study began with observation phase, including reading news and social media observation. The problem come from the physical, identity, and lifestyle attributes of fashion clothing that can affect their preference on choosing muslim fashion clothing. The result of observation and literature review is used to understand the problems in consideration of Indonesia muslim women preference on choosing muslim fashion clothing. The theory and literature are becoming secondary data that combined with result of observation to found the variable to measure the problem. The previous research is adopted to develop research framework and questionnaire for the survey to respondents. From the conceptual framework, we can identify the dependent and independent variables within the model. To evaluate the consumer's preference and buying behavior, researcher used religiosity, physical, identity, and lifestyle aspect as dependent variables. These variables influenced by demographic aspects, which are age, income, education and domicile as independent variables. Demographic aspects is used in profiling each group of Muslim women with different preference and buying behavior.

The survey was conducted by distributing questionnaire with online form for 400 people who are muslim women wearing hijab with convenience sampling consist of the variables that is stated inside physical, identity, lifestyle, and religiosity factors that can influence preference. The targeted population of this research is muslim women who lived in Bandung and Jakarta, aged from 15-34 years old. The study uses convenience sampling by selecting the respondents by the provisions of a specific sample of the population so that it can be easily reached or obtained for the researcher. There are two scaling method used to measure the variable of the study. Demographic aspects is measured by using multiple choice with each choice explain different range of the variable between respondents. Physical, identity, lifestyle, and religiosity variable is measured by 5 point Likert scales to investigate level of agreement with 1 = strongly disagree and 5 = strongly agree. Validity and reliability tests have been conducted before processing the data. The data then processed using software SPSS with cluster analysis method and used to see the descriptive result from the respondent. The study gathered a total of 403 respondents which have valid and reliable data however only 27 from 33 variables have been qualified to use as a factor to segment the respondents.

## FINDINGS

From the analysis using Two Step Cluster Analysis by combining demographic, religiosity and PIL model resulted in poor cluster quality. In order to produce more reliable clustering, researcher tried each demographic aspect with religiosity and

PIL model. There are four clustering results generated from each demographic aspect, which are income, age, education, and domicile with each has cluster quality of 0.3, 0.4, 0.3, and 0.5. From 4 demographic variable, the highest cluster quality is by using domicile variable with the value of 0.5, therefore the most effective segmentation is based on domicile.

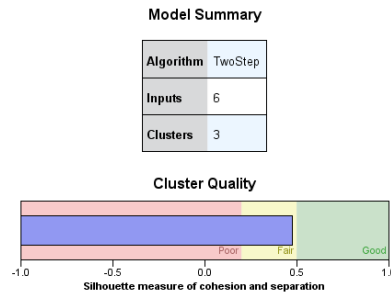


Figure 5. Cluster Quality

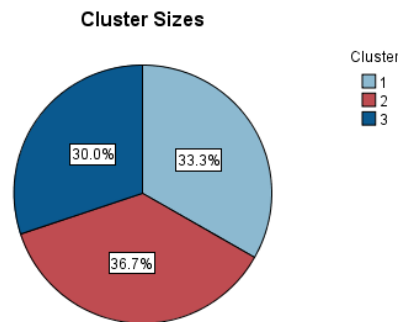


Figure 6. Cluster sizes

Table 14. Cluster Profile

	Cluster 1	Cluster 2	Cluster 3
Domicile	Bandung	Jakarta	Bandung
Intrapersonal Religiosity	high	moderate	moderate
Interpersonal Religiosity	high	high	moderate
Physical	high	high	moderate
Identity	moderate	moderate	moderate
Lifestyle	moderate	moderate	moderate

From the variable of domicile, religiosity, and PIL model it produces 3 clusters. The first cluster with 134 respondents (33.3%) and domicile in Bandung. The member of the first cluster have a high level of religiosity. Based on the questionnaire, the respondents answer hold high the value of Islamic religious teaches and used them in daily activities decision making process as they are really influenced by the teaches. They also answered that they are actively participating in local religious group or mosque such as giving advice in their decision making and fund raising activities. For physical variables, the respondents of this cluster give answers that are concern with the comfortness of their clothing and make them preferred to wear clothing made of cotton. They preferred to use clothes according to Islamic rules which covers the whole body and did not make any silhoutte or syar'i. For identity variable, the respondents did not really answer their favorite color to choose their clothing and they did not really confident with their own personal style. They are also answered that they would not to be the center of attention and not really imitating their idolized celebrity style. For lifestyle, the respondent answered that they did not really concern of having a branded product and paying attention to the latest fashion trend in Indonesia. Also, they answered that they are willing to indulge themselves once in a while with branded clothing.

For the second cluster with 148 respondents (36.7%) and domicile in Jakarta. The member of this cluster have moderate intrapersonal religiosity and high level of interpersonal religiosity. Their physical variable also high which shown their preference on comfortable and syar'i clothing based on their answer on the spesific question. For identity variable, they

answered that they are not really considering themselves for having a personal style and not following their idolized celebrity style. In their lifestyle variables they seem to come from middle class women. They did not always seek a high-end product because they believed there might be other factor that could give them a high quality of product beside paying the company a huge amount of money.

For the third cluster with 121 respondents (30%) and domicile in Bandung. The member of this cluster have moderate level of religiosity. This aspect explained from the result of the answer that they hold the value of islam religious teaches but not applied to the fullest in their daily activities. They also did not actively participate in local religious activities such as decision making and fund raising activities. For physical variable they found it okay to wear a clothes with any type of fabrics and not really into syar'i clothing. For identity variable, they did not really concern to showing or representing their own personal style which shaped their identity. Their daily lifestyle also did not extravagant. As they did not into buying high-end or branded product. They see quality as something that not only be measured by high price but also other factors.

## CONCLUSIONS

The study examined the customer profile of Indonesia Muslim woman based on demographic, religiosity, and PIL model. The study test hypotheses applied with two-step clustering analysis method. Result gathered from the analysis stated that first, the first cluster have domicile in Bandung, with high level of religiosity and physical and moderate level of identity and lifestyle. Second cluster have domicile in Jakarta, with moderate to high level of religiosity, high level of physical, and moderate level of identity and lifestyle. Third cluster have domicile in Bandung, with moderate level of religiosity, physical, identity, and lifestyle.

From the result, we can conclude that segmentations on Indonesia Muslim Women based on their domicile produce three segments. Despite their domicile, Indonesia Muslim Women who possess high level of religiosity tend to be more concern with their physical forms of their clothing, which means following rule in Islam (Syar'i clothes). From those muslim women with lower level of religiosity do not have any preferences either on physical, identity, or lifestyle attributes. This kind of women understand the concept of Islam, but they have more modern style and not really prefer to wear Syar'i clothes when choosing their own clothes. These findings give better understanding on Indonesia Muslim Women's market, especially in Jakarta and Bandung where Muslim fashion is growing fast. Muslim fashion company can use these segmentations as a guidance for create effective marketing strategy to which they can provide their product to correct consumers.

The limitations of this study lies in not evenly distributed according to the range of the demographic aspect. The study mostly consists of muslim women between 20-24 years old, income with a range between Rp1 million until Rp4.9 million, the latest education is senior high school, and currently live in Bandung. For further research, the respondents of this study should be evenly distributed to find more reliable segmentation with a good cluster quality and also expanding the region of the study, not only in Jakarta and Bandung area. This could increase the understanding on Indonesia muslim women market whole fully.

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# TOWARD A GENDER-BALANCED ORGANIZATION: EXPLORING THE MASCULINITY AND FEMININITY EMBEDDED IN AN INDONESIAN STATE-OWNED COMPANY

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## EXTENDED ABSTRACT

Organization that is gender-biased on the inside is incapable of producing gender-equitable outcomes, which often hold back those with gender disadvantage to grow in the organization. Understanding whether and how an organization is “gendered” should be seen from its deep structure that underlies the systemic factors that set the way of working in the organization. Given the low number of women present in the executive position in PT. Telekomunikasi Indonesia, arguably indicating a masculine organization, the researchers aim to understand how gendered the organization is by exploring the masculinity and femininity of the organization seen through three lenses: the core (expected) behaviors, working environment, and performance appraisal. Using a mix of qualitative and quantitative methods, the researchers used *in-depth interview* to explore employees’ interpretation toward the organization’s core behaviors, *observation* to understand the working environment, and *survey* to assess the gender traits embedded in the performance appraisal indicators. Based on the overall analysis across three related aspects of the organization examined, PT. MUSIA is shown to be a masculine-inclined organization. The outcome of this research is a proposal for improvement in its core behaviors, working environment, and performance appraisal to have a more gender-balanced system for the organization.

**Keywords:** *gendered organization, masculinity, femininity, core behaviors, working environment, performance appraisal*

## INTRODUCTION

Improving people’s lives in a gender-equitable way has become an issue arising in the world’s societies. Nuket Kardam, a woman trying to promote women empowerment, was the first to point out the importance of understanding a gendered nature of organization and its broader institutional environment (Rao et al., 2000). Until now, the working, entrepreneurial, corporate, and professional world is still closely linked to men. Most people spend most of their days working in an organization almost dominated by men, with powerful positions are mostly occupied by men also (Sorenson, 1984). As a contributing fact, when we look up to several keywords in Google image such as work, entrepreneur, leader, professional, among others, we will see pictures dominated by men, groups of men with the men in the front side and the woman or women behind, or even men-only pictures.

In a book called *Gender at Work: Organizational Change for Equality*, Rao et al. (2000) call for a gender-balanced organization. An organization that is gender-biased on the inside is incapable of producing gender-equitable outcomes. To arrive at a gender-balanced organization, it is not only about treating men and women equally despite the gender stereotypes. An organization has to pay attention to its deep structure where it underlies the way of working in the organization. A deep structure of the organization is a set of culture, values, practices, which form the ‘normal’ way of working in the organization. Therefore, the ‘normal’ way is usually applied in the core process of the organization, such as decision-making, power allocation, time requirement to work, reward and punishment, and measure of success. For example, a stereotype of working in a field that makes it difficult for women to be married is created because the ideal worker is defined as someone who is willing to travel great distance even at the expense of a family life.

Gender in organization is not only about men and women but also how an organization is masculine and feminine. A masculine organization with its strong displays of masculinity often hurt and hold women or those that tend to have more feminine traits (be they women or men) to grow more than men or those with more

masculine traits, and it is applied vice versa for the feminine organization (Ely et al., 2003). There are a number of ways of seeing organizations as gendered, from the organization's bureaucracy, male or female domination, or how they are ideologically and symbolically described, etc. (Britton, 2000). It is argued that to say an organization is gendered implies that the organization has been defined, conceptualized, and structured in a distinction of masculinity and femininity; To the extent that gender characteristics are differentially valued and evaluated, gender inequality will result in the organization (Acker, 1990).

Giving the attention to the issue, it is discovered that there is still very limited research regarding gender in organization in Indonesia. Moreover, it is also found that there has been no a study about gender equality from the perspective of the systemic aspects of a gendered organization in Indonesia yet. Based on this absence, it is important to conduct a study on gender in Indonesia, more specifically about the systemic aspects of gender in an Indonesian organization and the way the organization members respond to the situation in the organization.

PT. MUSIA, as a state-owned company in Indonesia, employs thousands of Indonesian citizens, both men and women. In order to manage them to meet the management's expected behaviors, PT. MUSIA created three core behaviors in 2012. For the purpose of this paper, they are labeled here as ABC, DEF, and GHI<sup>9</sup>. By emphasizing these core behaviors as the behavioral standards in the organization, PT. MUSIA expects to shape their employees' behavior during the work completion time. The organization believes that practicing these core behaviors in their work could lead the employee to be a winning individual and resulted in their best performance for the company. The core behaviors are not only created as guidance for the employees but also embodied in the employee annual scoring or performance appraisal system. In other words, the core behaviors are used as a base for the performance appraisal indicators. The results from the employee assessment will be used for considering job promotion, rotation, training and orientation, performance feedback, which affect one's career path and growth in the organization. Relevant to the current research, as of 2017, there is interestingly no woman placed in the current board of directors of PT. MUSIA. Moreover, in Malang area, it is found that among the existing employees only one woman was appointed in the managerial position (as of 2016). This initial observation prompted the researchers to study more deeply about gender in PT. MUSIA, especially the systemic elements related to gender in the organization.

In this study, the researchers want to examine how deep the masculinity and femininity embedded in PT. MUSIA, Malang Branch Office, is based on its systemic aspects: the core behaviors of the organization (i.e. employee behaviors expected by the organization) as interpreted by its male and female employees, the working environment, and the gender traits of its performance appraisal indicators. Knowing and understanding the gender of PT. MUSIA could help the organization to design a gender-balanced system for their employees to have an equal chance to grow.

## LITERATURE REVIEW

Generally, there are four ways or frames of looking at gender in organization (Ely et al., 2003). This research is based on the assumption emphasized in the fourth frame, which explains that gender in organization is about the characteristics of the underlying systemic factors of the organization. This system defines the way of work in the organization. From this perspective, an organization can be considered to be a masculine system or feminine system. Olian et al. (1998) conclude that gender has a small to moderate impact on performance appraisal. Women tend to receive higher ratings on feminine indicators than do men and vice versa; in masculine indicators, men tend to receive higher ratings than do women (Davison and Burke, 2000).

In conceptualizing masculinity and femininity in this research, the masculinity dimension framework by Hofstede (2001) is used. Even though it is used in the context of society, it can be argued that the general notion about the traits associated with masculinity and femininity themselves are still applicable at various levels of analysis. Masculinity embodies a set of traits emphasizing ambition, achievement, and acquisition of wealth, and differentiated gender roles. It stands for a society in which gender roles are clearly distinct between the masculine and feminine. While femininity embodies a set of traits stressing caring and nurturing behaviors, sexuality equality, and more fluid gender roles. It stands for a society in which gender roles overlap. It can be argued that the same notion of masculinity and femininity can be applied to the context of organizations where organizations can be thought of as leaning toward more masculine or more feminine traits. Further, masculinity and femininity can be treated both as a continuum and a category.

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<sup>9</sup> These pseudo names or labels are used instead of the real names to protect the identity of the organization.

## METHODOLOGY

This research used mixed, qualitative-quantitative, methods. For the qualitative methods, in-depth interview and observation were used to collect the data. In-depth interview was used to record employees' experience in interpreting the organization's core behaviors. The data from the interview was analyzed using semi open-coding to generate ideas related to the core behaviors based on the employees' interpretation (both male and female employees). There were a total of 40 employees interviewed, with XXX men and XXX women. They were sampled across units in the branch office (i.e. marketing division, sales wholesale service, finance, human resource, etc.) Further, observation was conducted to understand the level of masculinity and femininity displayed in the working environment. It was conducted during a period of 3 weeks.

The quantitative method used was survey. It was used to identify the degree of masculinity or femininity displayed in performance appraisal indicators. The survey was distributed to two types of raters: organizational behavior experts and college students. Both raters assessed the degree of masculinity and femininity of each indicator of the performance appraisal was performed; college student raters assessed either the degree of masculinity or the degree of femininity of the indicators. Ratings provided by organizational behavior experts were analyzed by identifying the Fleiss' kappa to indicate inter-rater agreement while ratings provided by college students were analyzed using statistical t-test to identify whether there is significant difference in the degree of masculinity and femininity of each indicator of the performance appraisal.

The qualitative and quantitative data analyses combined would yield an understanding of the gender (i.e. the degree of masculinity and femininity) of PT. MUSIA based on three related aspects of the organization (i.e. core behaviors, working environment, and performance appraisal).

## PRELIMINARY FINDINGS

Preliminary analyses of the data gathered from in-depth interviews, observations, and surveys reveal a heavy tendency of PT. MUSIA to display masculine traits. The traits are reflected in all data categories: interpretation of the core behaviors by both male and female employees, observation of the working environment, and assessment of the performance appraisal. From the employees' interpretation toward the core behaviors, the working environment, it is also heavily structured around masculine traits, with only one particular instance where feminine traits are displayed. Lastly, the performance appraisal also show a tendency toward having more masculine-inclined indicators. Overall, based on the analyses of the organization's systemic aspects, it can be concluded that PT. MUSIA is a masculine-inclined organization.

## CONCLUSIONS

This research aimed to understand the masculinity and femininity embedded in PT. MUSIA from its systemic factors (i.e. core expected behaviors, working environment, and performance appraisal). This research is important because of the need to have a more gender-balanced organization. The results indicate that, based on those three related aspects, PT. MUSIA is a masculine-inclined organization, potentially generating gender imbalanced outcomes for employees inside the organization. The fact that there is no woman in the board of directors of the organization may reflect a systemic gender-biased organization.

Understanding the outcome of this research would significantly benefit the organization and give awareness about the issues associated with having a gender-biased organization. The authors believe that organizations should start evaluating the gender issues within themselves and provide a more gender-balanced system to explore the best out of their talents for both men and women. Hence, men and women in the organization will have an equal chance to grow.

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# THE IMPACT OF LEAN MANAGEMENT ON EMPLOYEE SATISFACTION AND COST SAVING IN HEALTHCARE INDUSTRY

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## EXTENDED ABSTRACT

*Healthcare industry faced challenges such as rapid changing environment, increased of customers' expectation and cost pressure. Lean in healthcare usually is targeted to remove duplicate processes, reduce patient waiting time, reduce length of patient admitted, simplified and standardization of work process, removal of unnecessary recordings and reduce medical errors. Thus, lean implementation contributes in cost saving to remove waste activities and employees may also work more happily with the simplified workflow. Previous studies in Malaysia healthcare industry were focused more on successful factors of lean implementation however empirical studies investigating on the relationships between lean management, employee satisfaction and cost saving is still lacking. Moreover, several scholars proposed that lean management is interconnected and can beneficial to organization in term of employee satisfaction and better cost performance in cost saving. This conceptual paper attempts to examine the role of lean management on employee satisfaction and cost saving.*

**Keywords:** : Lean management; cost saving; employee satisfaction; healthcare industry

## INTRODUCTION

Lean management (LM) provides prominent outcome to create a feasible work flow for employees to improve continuously not only in customer focus but in high quality services which later contribute to higher customers satisfaction and less unnecessary cost incurred in operation (Dun et.al, 2016).

LM was a manufacturing philosophy originated from Toyota Motor Corporation in Japan to enhance mass production of products, standardization, just in time and quality control during limited resources in 1930's (Drotz & Poksinska, 2014). LM was successfully implemented in manufacturing industry to eliminate non-value added resources to end customers. Thus by introducing LM in healthcare, it leads to standardization of high quality performance which produces higher efficiencies, employee satisfaction, greater customer satisfaction and higher profit. Moreover, healthcare sector has similarities as manufacturing sector where workers from both industries are dealing with complicated processes to deliver products or service care to end consumer. Therefore, lean management has been adapted from manufacturing sector to healthcare service sector to overcome challenges such as increase of operation cost (McIntosh et. al, 2013; Kadarova & Demecko, 2015). Rapid changes in healthcare sector involved costly spending on diagnostic tools and require frequent update technology, which incurred extra operational cost. However, due to the uniqueness of this industry, quality standards could not be compromised. Issues such as increased of operational cost, rapid changing operation environment, accessible of healthcare information by public, complicated rules and regulation by policy maker and compete of market share among competitor had put healthcare provider into salient phase (Shazali et al, 2013). Habidin et. al (2014) proposed that lean management in healthcare enhance cost saving by focused on produced cheaper price of materials and just in time inventory. The effectiveness of implementation in healthcare service able to remove unnecessary waste or non-value added process and resulting better financial performance where lower the operation cost for organization.

In this respect, Malaysia government has included healthcare as part of Economic Transformed Programme (ETP) and estimated that the private healthcare itself can generate more than RM50 billion of gross national income, and also been estimated to provide more than 181,000 new job opportunities in hospital, lab, manufacturing sector and rehabilitation centre by 2020 (Chua, 2010). Additionally, ETP is able to improve healthcare quality in Malaysia where more equipment, expertises, specialists can reduce patient waiting time, diagnostic result turnaround time and improve treatment qualities. Besides that, medical tourism is an area which able to promise a huge amount of earning to Malaysia. Thus, government promoting medical tourist access to health service, choice of treatments in hospital, and stay for recovery period or doing some medical check-up while coming to Malaysia for holiday. Healthcare tourism contribute income RM203.6 million from 2001 to 2006, from January to march 2007 there are 77,009 foreigner patients are seeking treatment in Malaysia (Tourism

Malaysia, 2007). In 2011, healthcare tourism was delivered RM509.8 million of revenue and estimated to reach RM1.57 billion of income in 2016 (Ronnie, 2013). In 2020, government targeted to reach 1 million healthcare travellers and contribute RM27.8 billion to annual gross income (Salleh et al., 2015).

In order to support Malaysia's vision, sets of lean management, processes and cultures are necessary for private healthcare to remain competitive and effective globally. Wastes were eliminated from processes and services that provided to end consumers are more value added. Thus, greater employees and customer's satisfaction can be achieved with higher profit generated. Lean management in healthcare industry is necessary to ensure patient getting right treatment without delay in any diagnosis procedures because every minute is vital and life is costly for each healthcare provider. Previous studies were focused on the outcome or benefits on lean intervention and most of the studies were solely focus on the employee satisfaction related with customer satisfaction. There is little known of study on lean management that linked between employee satisfaction, and cost saving (Shazali et al, 2013). In addition, lean management studies are new in Malaysia especially in healthcare setting. Thus, this paper aims to fulfil the previous research gap by examining the relationship of lean management on cost saving in healthcare service in Malaysia. Employee satisfaction as one of the predictors that beneficial from lean management to enhance cost savings in operation is also examined.

## OVERVIEW OF LEAN MANAGEMENT

Lean management is an evolution concept originated from Toyota Production System (TPS), which initially plan to increase the efficiency of quality operational management processes after World War II (Jylha & Junnila, 2013; Gupta & Sharma, 2015). However, this process was not practice in a single time but is continuous quality improvement and dynamic in order to face the challenge of environmental change leading to limitation in financial, manpower and raw materials (El-Namrouty & Abu Shaaban, 2013). Creation of lean thinking process also based on reduction on *muda* (waste) in operation and using *kaizen* (continuous) concept to ensure organization remains competitive in industry (Radnor, 2009). Thus, with implementation of *kaizen* concept, production cost and process time can be reduced, productivities has increased, customer needs were concentrated, improving delivered services and resulting customer satisfaction (Barraza et. al, 2009; Jylha & Junnila, 2013). Combination of lean thinking with commercial management is blend of business model in strategy planning (procurement, contracting) and operational process (cost planning, cash flow) to achieve maximum return (Narayanamurthy & Gurumurthy, 2015; Zimina & Pasquire, 2011). Therefore, lean management is useful in understand customer needs, identify current operation flow, amendment base on maximization on productivity and minimization of waste to achieve quality improvement continuously. So, that is more important to adapt lean thinking into organizational culture and set as philosophy in business model rather than only taking lean as a tool for improvement.

## DEVELOPMENT OF LEAN MANAGEMENT IN HEALTHCARE INDUSTRY

Healthcare service is important because it is deal with well being of community. Pressures from budget and customer concerned regarding healthcare quality has inspired the implementation of lean management in healthcare industry whereby it is a method to improve quality and safety into service delivered (Terry et al, 2014). Lean thinking focused on removing waste from processing flow and putting priority in adding value in patient's perspective. Lean in healthcare means development of organization culture to apply scientific method to continuously designing; performing, monitoring and improving current work process resulting better valuable service for patients and community (Toussaint & Berry, 2013). Lean management system has been chosen as an improvement tool due to its success in automobile manufacturing industry that is Toyota. Lean is an improvement tool for cultural transformation and it is a long journey for organization to participate rather than as a project with finish line. Lean always requires new skills, new studies, and correct attitude to seek for improvement in daily work regardless position of employees in an organization.

In 1970s, lean process was firstly introduced to service industry because of the huge economic contribution from service sector to worldwide GDP (Bowen & Youngdahl, 1998). Healthcare industry been categorized as one of the social and personal service sector that beneficial to nation and country in both economy and social welfare (DosLeite & Viera, 2015). Gupta & Sharma (2015) proposed that from 1980s, lean implementation in healthcare sector was a sub-service sector that been studied most by researchers and this continuous improvement in methodology, integration of tools and staff empowerment made lean adaptable in healthcare setting. Besides that, Toussaint & Berry (2013) concluded that lean able to transform healthcare organization into better track for quality improvement with 6 dynamic principles which included i) attitude to seek for continuous improvement; ii) value creation on delivered service; iii) unity and integration of process; iv) respect of front-liner employees in empowerment; v) visual tracking on lean and amplification of its effects; and vi) flexible regimentation based on available evidence. Hence, lean provides a better healthcare at less cost involved resulting increased customer satisfaction.

## LEAN MANAGEMENT AND EMPLOYEE SATISFACTION

Employee is a competitive advantage for an organization. Employee satisfaction is the feeling of happiness, positive emotional and obtained motivation from job task (Omar & Zakaria, 2016). Employee satisfaction affects labour market behaviour, employee absenteeism and staff turnover (Chen et al, 2012). Registered staff nurse turnover rate in Malaysia was increased more than 50% which reported attrition rate of 400 nurses in 2005 to 1049 nurses in 2010 due to low

degree of job satisfaction in workplace (Choong et al, 2012). Work stress is a crucial element to de-motivate employee and reduced job satisfaction. Employee who work in healthcare industry need to expose to high level of stress and there was a case reported that a young doctor found dead in restroom due to work stress on April 2012 (Mohd et al, 2014). Furthermore in Australia, 53 percent of general practitioner had left their workplace due to occupational stress and heavy workload (Van et al, 2006). Besides that, employee in healthcare industry needs to work long hours and handling complicated workflow was directly decrease job motivation.

Lean implementation in healthcare industry able to standardize work flow and increased employee satisfaction. Sutter Gould Medical Foundation had improved physician satisfaction from 63 percent to 87 percent by reducing unnecessary workflow after lean implementation (Grabau, 2016). Elimination of unnecessary workflow with lean management is able to reduced employees' stress level and increased their satisfaction (Shazali et al, 2013). Employee satisfaction in healthcare industry is important because it is direct related with patient care and organization healthcare cost. Furthermore, lean management can integrate and standardize current work processes with tools to link with each other to prevent repetitive work task (Ganguly, 2011). For example, in hospital billing information, patient's clinical history, personal details and diagnostic results able to integrate by using Hospital Information System which accessible by authorized personnel to prevent delay of time and unnecessary paper recording. Besides that, lean implementation by using one of the 5S element, Seiso (cleaning) is able to keep the work station clean, tidy and safe where employee is keep away from hazardous work environment (Falkowski & Kitowski, 2013). Thus, employee that works in happy environment or less stressful environment is able to increase employee satisfaction, efficiency and productivity which as a motivator for employee to achieve goals (Raziq & Maulabakhsh, 2015).

Elsewhere in literature, lean is a continuous improvement process that needs empowerment from each of every employee in organization. Lean thinking shall blend with organization model and set as organization culture. Hence, employees are able to participate and feel that they are part of the organization and their viewpoints and contribution are appreciated by organization. By involved employees' empowerment in lean process, employees are able to increase job satisfaction, trust with organization, and create effective teamwork environment, which is relatively important in healthcare sector (Elnaga & Imran, 2014). Therefore, this study derive proposition as below:

Proposition 1: Lean management is positively related to employee satisfaction.

## **EMPLOYEE SATISFACTION AND COST SAVING**

Healthcare is a nature of business that cannot afford to medical error. Medical error is preventable adverse effects from healthcare regardless its effect is harmful to the patient. Activities of medical error included inaccurate diagnosis, inappropriate treatment, medication error, infection from inappropriate hygiene handling and etc. According to Grober & Bohnen (2005), medical errors resulting between 44000 and 98000 patient die in USA and this was incurred cost between US\$17 billion and US\$29 billion per year in additional healthcare cost. Collins (2011) proposed that high rate of employee satisfaction is able to lower the rate of medical error, reduce extra cost that incurred from unethical behaviour such as legal cost, reputation cost. Besides that, high employee's satisfaction is able to reduce absentee's rate and staff turnover rate (Sanchez et al, 2016). Thus, talent staff is able to retain in organization and reduce unnecessary cost such as training cost. Rao (2016) concluded that employees who work under pressure is prone to develop both mental and physical illness and these contributed high percentage of hospitalization in government and private hospital in 2015 (KKM Healthfacts, 2016). This can lowered employee's productivity while increased expenditures for organization. Employees need to work extra to cover colleagues work task and expose to unnecessary pressure environment. So higher employee satisfaction can reduce medical cost and HR cost in an organization. Therefore, this study derive proposition as below:

Proposition 2: Employee satisfaction is positively related to cost saving.

## **LEAN MANAGEMENT AND COST SAVING**

Healthcare setting involved of sophisticated diagnostic tools, frequent update technologies and skills are increasing operational cost. However at the same time, demand from publics and community are not allow healthcare sector to tolerate with current situation without changes. So, by implementation of lean management, unnecessary waste activities shall be removed to enhance cost saving by produced cheaper price of materials and just in time inventory (Habidin et. al, 2014). In healthcare industry all the resources is precious and valuable. Miller (2013) proposed that lean - cost saving ideas such as technical streamlining and workflow optimization is able to reduce operational cost. For example, create stream value mapping on standard procedure for patient who seek for medical assistance in hospital to prevent unnecessary testing and diagnostic been done. This is providing correct services at exact timing based on patient's need by applying lean thinking in process flow. Vegting et al (2011) concluded that few intervention base on lean management been implement in hospital and as a result there 13% reduction of diagnostic cost from 2008 to 2009. As conclusion, lean management implementation was able to reduce cost after eliminate waste activities without compromise with service quality. Therefore, this study derive proposition as below:

Proposition 3: Lean management is positively related to cost saving.

## CONCLUSIONS

Lean philosophy was started from manufacturing sector and the benefit was extended into service sector since 1970s due to the poor management flow, low productivity and service quality which hindering the growth of service sector globally (Bowen & Youngdahl, 1998). Levitt (1972) proposed of lean in service industry by using “production-line approach” is believed to improve both cost and service quality together. However, arguments arose because scholar think that service industry was behave differently from manufacturing industry whereby service is emphasized in employee’s skills and attitude while manufacturing is focused on technology solutions (Bowen & Youngdahl, 1998). Furthermore, lean implementation in service industry faced challenges such as lack of confidence regarding the benefit from lean management and fear of new practices affecting current business service (Gupta & Sharma, 2015).

Although service is an intangible activity and relies on the interaction between customer and employees, it also serves the same outcome that provides solutions to end customers (McIntosh et. al, 2013; Osborne et al, 2013). Besides that, DosLeite and Viera (2015) posited that implementation of lean is able to improve current situation in service industry which are lack of standardization and at the same time is able to increase employee working behaviour. Standardization was needed in service industry to focus on targeted customer’s expectation with high quality service at acceptable price. Therefore, lean process in service sector need to focus on employee in term of training to increase the empowerment ownership in lean. This shows clearer picture in service sector because service industry has first contact point with customer whether as front-liner (customer service) or back end support (service provider team) which has different characteristic if compared to manufacturing industry which dealing more with products. So in service industry, more cost need to focus on manpower to deliver quality services. In practically, this study is significance in healthcare industry in Malaysia regardless in primary, secondary or tertiary healthcare. This is because by effectiveness of lean management process can delivered higher quality of service with lower operational cost and increase satisfaction of customer. For employees, lean management process able to create a happy working environment and this contributing to higher employee satisfaction which later increase customer satisfaction and cost saving.

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# THE EFFECT OF UMRAH PILGRIMS MOTIVATION AND SATISFACTION ON BEHAVIORAL INTENTION AT BANDUNG CITY

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## EXTENDED ABSTRACT

As one of the countries with the largest number of Muslims in the world, Indonesia faces a significant demand for Hajj. However, with the length of waiting time of Hajj which averagely takes up to 37 years, the demand for Umrah is increased as it requires a faster waiting time and has a cheaper price. In Indonesia, Umrah Plus is becoming a trend among Moslems. Why has there been an enhancement in Umrah Plus industry? The research methods use a combination of qualitative and quantitative analysis. This research showed that there are a relationship between umrah pilgrims' motivation, satisfaction and behavioral intention. And also that the different age backgrounds of pilgrims forms diverse experiences about their motivations, satisfaction and behavioral intention as pilgrims vary. The result shows While they decided to practicing Umrah again, 59% choose Umrah Plus as their tour package.

**Keywords:** : Umrah, Pilgrimage, Motivation, Satisfaction, Behavioral Intention

## INTRODUCTION

Hajj pilgrimage is one of the pillars of Islam that must be done by Moslems. As a country with the largest number of Muslims in the world with population approximately about 220 million people, Indonesia faces a significant demand for Hajj pilgrimage. However, with the length of waiting time of Hajj pilgrimage which averagely takes up to 37 years, the demand for Umrah pilgrimage is increased as it requires a faster waiting time and has a cheaper price. Ministry of Hajj and Umrah of Saudi Arabia has announced the countries with the largest umrah pilgrims in the world. From the data, Indonesia came out with the number of Umrah pilgrims as many as 635.990 people.

In Indonesia, Umrah Plus is becoming a trend among Muslims. Umrah Plus is an Umrah package provided by tour and travel agency with travel packages to other tourism destinations besides worshipping in Mecca and Medina. According to Muharom Ahmad, President Director of Travel Bureau Wahana Haji: "The demand of Umrah Plus is high and in the last two years the demand continues to grow because many people want to experience the halal tourism" Actually, Umrah Plus travel packages have been popular in the last four years. However, the increase on demand for umrah plus has increased in the last two years which even the graphs have never dropped, this is due to the increase of Indonesia's Muslims who have the above purchasing power parity.

In addition, Indonesia's muslims nowadays have an awareness of the history of Islamic Dakwah. However, not all of umrah participants want to take worship and travel packages. According to Muharam Ahmad, Umrah Plus is usually taken by pilgrims who have conducted Umrah worship previously. And the first one usually focuses only on Regular Umrah. It is important for the Umrah tourism industry to ask the following question: Why has there been enhancement in Umrah Plus tourists industry?

There are several reasons that affect tourism demand such as exchange rate variation, a reduction of disposable income, disasters, motivations, and past experience (Cooper et al. 2005) and travel motivation has been recognised by tourism researchers as an important area in understanding and predicting tourist behaviour (Kao, 2007) Matzler and Siller (2003) stated that travel motivations are of greatest importance for tourism service marketing. Therefore, it is important to gain an in-depth understanding of Pilgrims Umrah motivations, satisfactions, and future intentions to help provide answers to this fundamental question.

## LITERATURE REVIEW

### 1. Islamic Spiritual Tourism

Spiritual tourism has been practiced for various motives: to meet self-actualisation, personal well-being or any other needs and traditionally, there are three kinds of religious and spiritual travels in Islam: hajj/umrah, rihla and ziyara (Haq, 2014). According to Teoman Duman in The Value of Islamic Tourism: Perspective From The Turkish Experience, Islamic Tourist Motivation are below:

Table 1 Islamic Motivation

Motivation	Variable
Acting in the cause of God (fī sabīl-Allāh), submission to the ways of God (through ḥajj and 'umrah), realisation of the smallness of man and the greatness of God, encouraging and strengthening the bond of silat al-rahīm (Muslim fraternity), conducting business.	This research described this motivation as Spiritual Motivation
Seeking health (relaxation), education (learning-teaching-information sharing/visiting scientists), realisation of other cultures, business.	This research described this motivation as Push Motivation
Promoting Islam (tabligh), seeking scientific knowledge, educating others, working for ḥalāl earnings, taking lessons from past	This research described this motivation as Pull Motivation

## 2. Motivation

According to Maslow Theory, human needs are arranged in a hierarchy from the most to least pressing from physiological needs to safety needs, and the last is self-actualization needs (Kotler & Armstrong, 2013). At the top of the pyramid is the need for self-actualization, this needs can be obtained from hobbies, travel and education. When the first four needs are being met, people will explore more of their potential talents and develop their capabilities within their hobbies. People also tend to become everything they are capable of becoming, they develop all aspects like physical, social, emotional and spiritual, they are also enriching experiences and self-fulfillment.

## 3. Spiritual Motivation

In this research, spiritual motivation is Umrah Pilgrimage (spiritual journey). Spiritual Motivation in this research consists of: Pray to God, Make a Wish, Enrich beliefs, and Communicate with God (Zhang, T & Yan, N. (2016) also God's forgiveness based on results of interview and also as one of Pillars of Islams to conduct hajj and umrah if able.

## 4. Push and Pull Motivation

Push motives (as personal characteristics), are related to personal, intrinsic motives for travelling such as adventure, relaxation, evasion, escape from routine, or in this study, the broader categories of leisure and business Crompton (1979). Push motives are mostly related with the decision to travel. In this research, Push Motivation consists of: Relaxing, Rest, Family time, moment with family and Visit new country, Learn new things, learn how to live, socialize with new people, feel the luxurious service, and experience sharing. Pull factors are related to the tangible characteristics of destination (urban life, landscape, events, culture, heritage, museums or climate), thus providing an extrinsic travel motive to the tourist. Crompton (1979). In this research, Push Motivation in this research consist of: Ziyara, Historical Islam, visiting mosque and museum, attending business and seminar, Shopping, food, and tourist attraction.

## 5. Satisfaction

Satisfaction has been defined as a feeling or the end-state of a process that is accumulated and resulted from a subjective emotional response or cognitive evaluation of a set of experiences, or the fulfillment of needs during the experience. In this research, the Satisfaction consists of Destination Attributes, Tour Service, Perceived Value and Emotion. This approach assumes that satisfaction can be classified into two levels, consisting of satisfaction with the encounters of services or products, and the resulting overall satisfaction.

## 6. Destination Attributes

Destination attributes/services play a significant role in tourist behavior research because researchers have found that it is likely to influence travellers' destination choice, to form a destination's image, to pull tourists to a destination, and can be used to measure service performance or tourist satisfaction.

## 7. Tour Service

Package tourists generally expect to have a good experience and a high quality product when they pay a lump sum in advance. When tourists have high expectations of a tour package, the service quality of the tour becomes an important issue. In this research, Tour Service category consists of Manasik material, Briefing before departure, Contact Person, The airplane, Hotel, Cleanliness of the hotel, Hotel facilities, Hotel distance with mosque, Hotel distance with museum, Cleanliness of the bus, Bus safety, Time of worship, Relaxation time, Ziyarah time, Time of shopping, The diversity of destinations, Extra price, Tour guide quality, Hospitality of tour guide and Responsibility of tour guide.

## 8. Percieved Value

Customers choose between products that offer more value, which is the sum of product benefits, both tangible and intangible, and costs. Determining, delivering, and communicating customer value are very important aspects in every service provider. These three aspects are the part of the core strategic design processes and determine the competitiveness and long-term survival of an organization.

## 9. Emotional Value

Emotion is described as a complex human reaction that involves not only intense subjective feelings labelled as 'joy', 'anger', 'sorrow', but also outward emotional expressions and the ability to understand emotional information (e.g., the ability to read the emotional reactions of others) (Baron, 2001) (Kao, 2007) When the emotions of people increase, there is usually a physiological response such as increased blood pressure, heart rate, muscle tension, and respiration. In addition, people have an expressive reaction (distinctive facial expression, body posture, or vocalisation), and some kind of subjective experience (internal thoughts and feelings) (Kao, 2007)



### 10. Overall Satisfaction

Overall satisfaction was defined as the sum of satisfactions which is resulted from all encounters and an overall impression of the experiences with attributes of all products and services (Kao, 2007) Many studies in leisure and tourism have investigated the relationship between overall satisfaction and loyalty, and found that overall satisfaction has a positive relationship with future intention or loyalty.

### 11. Behavioral Intention

Tourists make subjective judgments about the behavior that will happen in the future after visiting tourism destinations. One type of the subjective judgments is about revisit intention, loyalty and recommendation intention, the second type includes complaints and negative word of mouth and departure, etc. This paper aims to define the behavior intention of tourists in making a judgment about whether the travel experience was good enough after the trip. It can help us to understand whether the tourists will revisit and recommend, or if they will complain and not go again.

### 12. Trend Spotting

According to Tor W. Andreassen, on Trend Spotting and Service Innovation, there are three segments for deriving valuable innovations based on eight trend:

- Young, free, and simple:** young individuals between 20 to 30 years old, working or studying, living on their own with their partner, with no kids. The keyword describing this group is quantity of life.
- Chaos in my life:** young adults from 30 to 45 years old, with children under their care. Keyword describing this group is surviving life.
- Got my life back:** adults between 50 to 70 years old, still active in work life but whose kids are out of the nest. They have significant disposable income and a healthy appetite for enjoying life. Keyword describing this group is quality of life.

### Research Framework

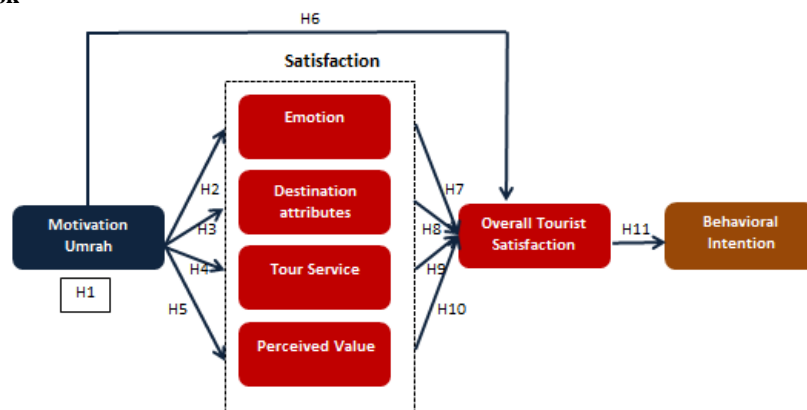


Figure 1 Research Framework

- H1** = Tourist have different Umrah Motivation  
**H2** = Umrah Motivation has positive influence on Emotion  
**H3** = Umrah Motivation has positive influence on Destination Attributes  
**H4** = Umrah Motivation has positive influence on Tour Service  
**H5** = Umrah Motivation has positive influence on Perceived Value  
**H6** = Umrah Motivation has positive influence on Overall Tourist Satisfaction  
**H7** = Emotion has positive influence on Overall Tourist Satisfaction  
**H8** = Destination Attributes has positive influence on Overall Tourist Satisfaction  
**H9** = Tour Service has positive influence on Overall Tourist Satisfaction  
**H10** = Perceived Value has positive influence on Overall Tourist Satisfaction  
**H11** = Overall Tourist Satisfaction has positive influence on Behavioral Intention

### METHODOLOGY

The research methods use a combination of qualitative and quantitative analysis to check the relationship between umrah pilgrims' motivation, satisfaction and behavioral intention. For qualitative analysis, this research use Exploratory Factor Analysis using interviews. Questionnaire and likert scale was used to collect data on the umrah pilgrims's motivation, satisfaction, and behavioral intention. And for quantitative analysis, this research also use Structural Equation Modelling as the tools to analyze the hypotheses.

In this research, from total 203 respondents, most of the respondents are females 128 (63.05%) as compared to males 75 (36.95%). The majority of the respondents was under the category 25-29 years old (40.39%), followed by 18-24



years old (36.95%). This happens because of the growth and increase in religious awareness among young people in Bandung City. One of the phenomena that occurs is the emergence of movement “Pemuda Hijrah” or “Shift”. And 64.04% always savings for travelling. So, in this research the writer found that most of respondents practicing umrah with their own savings.

## FINDINGS AND ARGUMENT

Based on Structural Equation Modelling test, we can see the result below, it can be seen the coefficient of each variable shows a strong relation between Motivation, Satisfaction and Behavioral Intention. If the value of t count bigger than the determined critical limit which is  $\pm 1.96$ ; so that the  $H_0$  is rejected, this means there is influence between variable.

Table 2 Hypotheses Result

Hypotheses		Coefficient	Value of t count	Result	R square value
H2	Umrah Motivation has positive influence on Emotion	0.072	9.913	$H_0$ is rejected	0.493
H3	Umrah Motivation has positive influence on Destination Attributes	0.805	10.244	$H_0$ is rejected	0.648
H4	Umrah Motivation has positive influence on Tour Service	0.811	10.049	$H_0$ is rejected	0.658
H5	Umrah Motivation has positive influence on Perceived Value	0.588	5.258	$H_0$ is rejected	0.346
H6	Umrah Motivation has positive influence on Overall Tourist Satisfaction	0.268	2.954	$H_0$ is rejected	0.971
H7	Emotion has positive influence on Overall Tourist Satisfaction	0.119	2.541	$H_0$ is rejected	
H8	Destination Attributes has positive influence on Overall Tourist Satisfaction	0.320	5.211	$H_0$ is rejected	
H9	Tour Service has positive influence on Overall Tourist Satisfaction	0.354	5.452	$H_0$ is rejected	
H10	Perceived Value has positive influence on Overall Tourist Satisfaction	0.073	1.851	$H_0$ is accepted	
H11	Overall Tourist Satisfaction has positive influence on Behavioral Intention	0.879	10.981	$H_0$ is rejected	0.773

Table 3 Result Umrah Pilgrims' Motivation based on Age

Respondents of Motivation based on Age				
Age	Spiritual	Push	Pull	Description
18 - 24 years	81 people	56 people	25 people	After their spiritual motive, most of respondents aged 18 – 29 years in Bandung had high push motivation after they practicing umrah.
25 - 29 years	82 people	53 people	29 people	
30 - 34 years	9 people	7 people	2 people	
35 - 39 years	4 people	4 people	0 people	After their spiritual motive, most of respondents aged 30 – 44 years in Bandung had high push motivation after they practicing umrah.
40 - 44 years	4 people	3 people	1 people	
45 - 49 years	6 people	0 people	6 people	
50 - 54 years	10 people	1 people	9 people	After their spiritual motive, most of respondents aged 45 – 64 years in Bandung had high pull motivation after they practicing umrah.
55 - 59 years	5 people	1 people	4 people	
60 - 64 years	2 people	0 people	2 people	

## CONCLUSION AND SUGGESTION

1. This research speculates that this is due to respondents with ages of 18 – 29 years had busy life. This age characteristic consists of young individuals with occupation of working or studying. and single. At this age range, usually each individual still has high spirit and curiosity to learn new things, to explore new countries or travel around the world. to socialize with new people and to tell those experiences to other people.
2. This research speculates that this is due to the respondent with age of 30 – 44 years has difficult period in their lives due to the pressures from family and career. This age characteristics consists of people who have gotten married

while working who are always busy or having chaos in their live. So that for this segmen the respondents tend to choose activities that make them get closer to their families, and to make them feel more relaxed from their hectic daily lives. At this age range they want to have more free time to refresh their mind with family. Their purpose is to get some rests with their family

3. This research speculates that this is due to the respondents aged 45 – 64 years have desire to enjoy higher lifestyle, they tend to choose to travel to places they have known from all kinds of source of information yet have not had time to visit. Their curiosity tends to make them wanting to understand Islam much deeper. At this age range, there are also a lot of respondents who choose to enjoy shopping and trying the culinary there.
4. Data analysis showed that umrah pilgrims' behavioral intention correlates with overall satisfaction. This means high overall satisfaction level may lead to higher recommendation from pilgrims; therefore, improving relevant facilities of the destinations and service from tour and travel could attract more visitors and more recommendations. Whatever their motivation. the satisfaction is high. After a visit, if the pilgrims' satisfaction is high, they may think positively about their Umrah pilgrimage experience. Moreover, they will share the Umrah pilgrimage experience with others and recommend Umrah pilgrimage to others.

### Suggestion

For practice, there is an enchancement trend in Umrah Plus industry which needs to be further investigated, the writer was trying to decipher their motivations, satisfactions, and behavioral intention of umrah pilgrimage, what their experiences and what their future intentions are. This information will help the practice in Umrah industry as the basic to understand what the pilgrims behavior are and how to offer services that can satisfy them. This information may also assist them in developing and improving their decision making for their business services they offer.

For further research, because of limitation of this research, several aspects cannot be covered in this research. Firstly, the writer suggest to increase the sample and data collection, it is suggested for the sample to be able to represent each characteristic based on each age category. Secondly, in this research the writer only interviewed 5 Umrah Travel Agents in Bandung, for the next research the writer suggest interviewing all of the Travel agents in Bandung to understand Umrah industry much deeper. Thirdly, it is suggested for the next research to find out the motivation of Umrah by the respondents who have never conducted Umrah and will do it in the near future, then they should be interviewed again as soon as they are done doing Umrah, whether their motivation before and after Umrah will be the same or different, or there will be another variable to be considered.

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# THE STRATEGY OF THE DEVELOPMENT OF BATIC CRAFTS AS A CREATIVE INDUSTRY IN THE CITY OF BOGOR

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## EXTENDED ABSTRACT

Entering the MEA by the end of 2015, thus bringing the impact of competition at the domestic and global level, including in the small industry of batik craft sector. Batik is a legacy of Indonesia that needs to be preserved because batik is a typical Indonesian textile that has a motif that has a high artistic value.

**The objective of this research** are (1) Knowing and analyzing the creative industry condition of batik craft sub-sector in Bogor City; (2) Identify and analyze the value chain of creative industries batik craft sub-sector in Bogor City; (3) Analyzing the most appropriate strategy for creative industries batik craft sub-sector in Bogor City using analysis technique EFAS, IFAS, SWOT, and QSPM; (4) Knowing and analyzing the roles of the three main actors of government, big business and college academics.

**This research uses Qualitative method**, with population is all Batik industry owner in Bogor City. While the data collection techniques are interviews, and observation. Quantitative data analysis techniques on this research proposal using the average index calculation for each external and internal environmental factors; SWOT and QSPM analysis in determining the right development strategy to be applied to Batik Craft Industry in Bogor City.

**Based on the results** of value chain analysis, batik bogor industry has problem of production activity that is (1) difficult to obtain workforce with skill and knowledge of batik; (2) difficult to obtain batik raw materials efficiently, given its location far from the batik industry. Based on the results of SWOT analysis, the strategy of Bogor batik industry development is appropriate to be done (1) product development / product innovation; (2) market development; (3) cooperate with local universities in conducting market research and R & D. To implement the strategy above the need for collaboration and coordination between actors namely government, university institutions and batik business communities Bogor.

**Keywords :** *SWOT analysis, Development Strategy in Batik Industry*

# THE EFFECT OF PETA'S LEATHER AWARENESS VIDEO CAMPAIGN ON CONSUMER ATTITUDE CHANGE IN PRODUCT PURCHASE INTENTION

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## EXTENDED ABSTRACT

Leather is one of the most widely traded commodities in the world. Indonesia's leather export industry — with an estimated annual turnover of US \$200,000 to US \$1 million, — is the fourth largest among ASEAN nations. Unfortunately, Indonesian leather tanning process are often illegal. The exotic skins industry kills, often brutally, millions of animals every year. People for the Ethical Treatment of Animals (PETA), the world's largest animal rights organization, launched an awareness video campaign aiming to decrease purchase intention for leather by shifting consumer demand to imitation leather. This study conducted a questionnaire survey in the Bandung area to analyze PETA's video campaign. It asks: how and to what degree did PETA communications leads to changes in consumer attitudes and purchase intentions. The research conducted within 100 respondents showed that there is attitude change occurred caused by strong message quality of the video campaign itself. Moreover, attitude change showed positive result of significance which the higher attitude change emerged, the higher purchase intention occurs.

**Keywords:** : Awareness Video Campaign, Attitude Change, Purchase Intention

## INTRODUCTION

Leather is one of the most widely traded commodities in the world. Indonesia, the fourth-largest exporter among members of ASEAN, has been shipping leather goods — especially cowhide and reptile leathers — overseas since the 18<sup>th</sup> century. Main sourcing centers include the provinces of East Java, West Java, Bali, and Papua (Indonesia Sourcing Report, 2011; Fahas, 2016); prominent importers include China, Italy, Vietnam, Germany, Hong Kong, India, and Malaysia (International Trade Center, 2016; Ministry of Trade RI, 2016). In 2016, Indonesian suppliers had an estimated annual turnover of US \$200,000 to US \$1 million and produced on average 49,845 leather products per month (Indonesia Sourcing Report, 2016). Based on Indonesia's Ministry of Trade, exports in Indonesian leather products have increased from 2016 to 2017 by 34 percent.

Unfortunately, Indonesian leather tanning process are often illegal. The International Trade Center determined that South-East Asian countries, including Indonesia, Cambodia, and Thailand, have used illegal tanning processes on endangered animals (Wihardandi, 2012). Every year, at least 440,000 pythons are slaughtered in Indonesia, Malaysia, and Vietnam just to make frivolous fashion accessories. This is illegal in Indonesian law, based on article 302 KUHP (Kitab Undang-Undang Hukum Pidana) on persecution of animals and article 1 UU 1990 on conservation of natural resources and ecosystems. Toxins used in the leather tanning process also cause environmental destruction and pollution, thanks to toxins used (PETA, n.d.). Environmental issues have been at the top of legal tanners' agenda for the past few decades, since dealing properly with tannery waste is expensive (United Nations Industril Development, 2010). However, illegal trade in exotic skins is unchecked across the world, thanks to the high profit potential of luxury leather goods. Fraud, poor regulations, mislabeling, and dubious business run rampant in the supply chain (Vasudev, 2016).

In April 2016, People for the Ethical Treatment of Animals (PETA), the world's largest animal rights organization, launched an awareness video campaign aiming to decrease purchase intention for leather by shifting consumer demand to imitation leather. This video tries to persuade people not to use leather products because they harm living animals, focusing especially on animals with exotic skins. This paper seeks to understand the impact of this video campaign had on consumer attitude and purchase intention. To be successful, a marketing campaign has to reach people with a message that will help them decide to change their behavior. In order to be effective persuaders, the campaign must first get people's attention by sending an effective message and ensure they process the message in the way the persuaders would like them to (Perner, 2017). Furthermore, to accomplish these goals, persuaders must take into consideration the cognitive, affective, and behavioral aspects of their method regardless type of campaign they use (Jhangiani & Tarry, 2015). Petty and Cacioppo (1986) emphasize that consumer attitudes can change after an object of consumption has been associated with either positive or negative cues. Such cues cause a person to adopt an attitudinal position towards the product without much further product

evaluation. Importantly, these cues may influence attitudes even if they do not address any arguments relevant to the merits of the product (Maddux & Rogers, 1980).

This study is using video-based study by PETA with 1.53 duration time. The study will be conducted using online questionnaire to Bandung citizens with range age above 17 years old. This research employ quantitative research to test the hypotheses and proposed models. To answer research questions, the data collected analysed using paired sample t-test, multi linear, and path analysis. The focus problem in this research is limited to analyse the effect of persuasive communication (video campaign) elements to attitude change and purchase intention. The research conducted within 100 respondents showed that there is attitude change occurred caused by strong message quality of the video campaign itself. Moreover, attitude change showed positive result of significance which the higher attitude change emerged, the higher purchase intention occurs.

## **LITERATURE REVIEW**

### **Message Quality**

Message quality is critical to persuasion. These message variables relate to characteristics of the message itself. There are numerous other message qualities that play an important role in persuasion. Xiaoquan Zhao et al. (2011) measured self-reported components that can be used to assess perceived message strength from multiple points of view to elicit positive and negative thoughts. In their study, components of perceived message strength include believability, convincingness, importance, confidence, friends, thoughts, agreement, and reason.

### **Source Expertise**

Source power can be important as well in persuasion. Source components in persuasion relate to parts of the individual or company that specialties and conveys the persuasive message. Generally, powerless sources have been found to create more attitude change and persuasion than powerless sources (*French & Raven, 2017*). The theory of Elaboration Likelihood Model (ELM) has studied such components supporting source expertise measurement which are expertise, trustworthiness, and attractiveness.

### **Personal Involvement**

Personal involvement is a basic determinant of persuasion. This relates to characteristics or features of the intended interest audience – that is, the people who will receive the persuasive message (Tormala & Brinol, 2014). From the ELM's perspective, personal thoughts have an impact on persuasion that leads to attitude change. Motivation and ability to involve with the topic are matters to measure Personal Involvement (Petty & Cacioppo, 1984).

### **Attitude Change**

Attitudes are one of the most indispensable construct in consumer research. Attitudes relate to our general assessments of individuals, objects, or issues (*Tormala & Brinol, 2014*). Some attitudes are positive, some are negative, and others are moderately neutral. Attitude could be measured by asking whether the product would be bad/good, pleasant/unpleasant, and satisfied/unsatisfied (*Xiaoquan Zhao, 2011*). Generally, persuasive message are more powerful at including attitude change when they match rather than mismatch the actual of perceived basis of target attitude (*Petty & Fabrigar, 2008*). A study found classical conditioning as an approach strategy to change affect of consumer beliefs which try to “pair” the product with a liked stimulus that is expected to get people to like the campaign and will slip over into purchase or unpurchased a product (*Perner, 2017*).

### **Purchase Intention**

Purchase Intention characterized as the probability and willingness of a person to offer preference to a specific product. The findings demonstrate that consumer purchase intention are impacted by the cause related marketing campaigns (Shabbir, Kaufmann, Ahmad, & Qureshi, 2010). Study discovered firms will be at more advantageous side if they work on Cause Related Marketing campaigns, as it helps to enhance the corporate image, increase the brand attractiveness and also helps to bring the positive change in the attitude of consumers which eventually impacts the final consumer purchase intention (Qamar, 2013).

### **Cause Related Marketing Video Campaign**

Cause Related Marketing campaign are much more important for Non Profit Organization because CRM aimed as a promotional strategy that can increase awareness and give benefits for the non-benefit organization (Enrique Bigné-Alcañiz, 2010). The impact of Cause Related Marketing has been considered on various factors, for instance, customer attitudes towards it, consumer purchase intention, nearby the organizations who are incorporated into such marketing campaigns (Deborah J. Webb, 2013). It is inflicted that those campaign has some effect to buying decision. On the basis of prior research, it would appear that the emotional nature of cause-related marketing in advertising plays an important role in processing, evaluation, and persuasion (Mardian, 2002). In some implementation in order to make consumers loyal, CRM is using persuasive communication strategies associated with both traditional mass and new social media (Ayanso & Lertwachara, 2014).

## **Theoretical Framework and Hypothesis**

There are five variables used for analyzing the questions; three independent variable (X) named as Message Quality, Source Expertise, and Personal Involvement. One dependent variable (Y) named as Attitude Change. For the analysis of purchase intention, variable X and Y as explained before become independent variable and dependent variable

(Z) named as Purchase Intention. Based on the findings on previous research and also supporting data from field study, the hypotheses generated as below:

- H1. Message quality has significant influence to attitude change
- H2. Source Expertise has significant influence to attitude change
- H3. Personal Involvement has significant influence to attitude change
- H4. Attitude change has significant influence to purchase intention

## METHODOLOGY

### Data Collection

Questionnaire will be distributed online to Bandung citizens with range age above 17 years old. Number of sample uses sampling method by Solvin formula, which using 90 percent of confidence level. Then, the sample size for this study is 100 respondents.

### Research Measurement

The measurement items are adopted from preceding research. Message Quality is adopted from Xiaoquan Zhao et al. (2011), while Source Expertise and Personal Involvement is adopted from Petty & Cacioppo (1984). The questionnaire section separated between before and after watching video campaign. The respondent for this study will watch 1:53 minutes video duration. Before the video watched, respondents will be given questionnaire that consist of 6 questions including respondent profile. After respondents watch the video, they will be given another questionnaire that consist of 15 questions. The researcher will use rating scale in 6-point of Likert scale on different attributes of attitude change and purchase intention.

### Data Analysis

This study is using t-test analysis to find out attitude change occurred after watching video campaign, multi linear regression analysis to find out which factors of persuasive communication elements has significant influence to attitude change, and path analysis to find out the impact of factors affecting attitude change to purchase intention.

## FINDINGS AND ARGUMENT

### Reliability and Validity

Based on the validity test conducted, it is obtained that all items of the questionnaires are valid where the results of validity coefficients are above 0.3. Attitude change and purchase intention has similar validity number which are considered as high validity. From message quality components, useful question has the strongest correlation with validity coefficient of 0.903 while the weakest is confidence question with validity coefficient of 0.762. In source expertise components, expertise question has the strongest correlation with validity coefficient of 0.939 while the weakest is trust question with validity coefficient is 0.888. The final dimension which is personal involvement, both questions has similar correlation number of validity coefficient. For reliability test, it is concluded all variables of this research which are Message Quality ( $X_1$ ), Source Expertise ( $X_2$ ), and Personal Involvement ( $X_3$ ) indicated as reliable where all of the variables Cronbach's Alpha exceed 0.6.

### Paired Sample T-test Analysis

Based on Table 1, there is significant different between BeforeAT (Before Attitude Change) and AfterAT (After Attitude Change) where Sig. (2-tailed) < 0.005. The analysis of mean indicated positive result (1.82911) which means the mean BeforeAT is higher than AfterAT, or there is reduction in consumer attitude toward the usage of leather goods after watching the video campaign.

For purchase intention, there is also significant different between BeforePC (Before Purchase Intention) and AfterPC (After Purchase Intention) where Sig. (2-tailed) < 0.005. The analysis of mean indicated positive result (1.68354) which means the mean BeforePC is higher than AfterPC, or there is reduction in consumer purchase intention toward leather goods after watching the video campaign.

Table 1. Paired Sample T-test Analysis

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	BeforeAT - AfterAT	1.82911	1.56878	.12481	1.58260	2.07563	14.656	157	.000
Pair 2	BeforePC - AfterPC	1.68354	1.56021	.12412	1.43838	1.92871	13.563	157	.000

### Multiple Linear Regression Analysis

DETERMINANT COEFFICIENT ( $R^2$ )

Based on the result of this analysis, it is obtained that the regression coefficient ( $R^2$ ) is 0.265. It indicates that there exists a slight significant influence between message quality ( $X_1$ ), source expertise ( $X_2$ ), and personal involvement ( $X_3$ ) with attitude change (Y). Even though these independent variables only represent 26.5% from all of variables that can influence attitude change. There is 73.5% from attitude change that influenced by another independent variable which not analyzed in this study.

## HYPOTHESES TEST

The result indicated that F sig. 0.000 < 0.05 means independent variables has significant influence to dependent variable as a whole. Based on Table 2, it can be concluded that only message quality ( $X_1$ ) has significant influence on attitude change (Y) with Sig. 0.000 less than 0.05. While source expertise ( $X_2$ ) and personal involvement ( $X_3$ ) does not represent significant influence due to Sig. value above 0.05.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	1.829	.108		16.926	.000	1.616	2.043
Message Quality	.785	.120	.500	6.532	.000	.547	1.022
Source Expertise	.047	.202	.030	.234	.815	-.352	.446
Personal Involvement	.003	.200	.002	.013	.989	-.392	.397

a. Dependent Variable: ATT\_Change

Table 2. T-test

In order to learn the influence of message quality ( $X_1$ ), source expertise ( $X_2$ ), and personal involvement ( $X_3$ ) on attitude change (Y), the multiple linear regression conducted is able to obtain a formula as follows:

$$Y_{attitude\ change} = 1.829 + 0.785X_{message\ quality} + 0.047X_{source\ expertise} + 0.003X_{personal\ involvement}$$

## PATH ANALYSIS

The result of R Square (0.781) indicated that message quality, source expertise, personal involvement, and attitude change represent 78.1% of all variables that can influence purchase intention change. There is another 21.9% of purchase intention change that influenced by another variable, which not being studied in this study. Then, only attitude change and message quality assessed has significant influence to purchase intention with Sig. less than 0.05.

## CONCLUSIONS

According to this research framework, there are four hypotheses conducted in this research:

- *H1: Message quality has significant influence to attitude change*  
**Hypotheses Accepted.** Message Quality has significant influence toward attitude change. An increase of 1 point in message quality will increase attitude change for 0.785 point.
- *H2: Source Expertise has significant influence to attitude change*  
**Hypotheses Rejected.** Source Expertise does not have significant influence toward attitude change. An increase of 1 point in source expertise will increase attitude change for 0.047 point.
- *H3: Personal Involvement has significant influence to attitude change*  
**Hypothesis Rejected.** Personal Involvement does not have significant influence toward attitude change. An increase of 1 point in personal involvement will increase attitude change for 0.003 point.
- *H4: Attitude change has significant influence to purchase intention*  
**Hypotheses Accepted.** Attitude change has significant influence toward purchase intention change. An increase of 1 point in attitude change will increase purchase intention change for 0.873 point.

To summarize the findings, it is obtained that all independent variables which are message quality ( $X_1$ ), source expertise ( $X_2$ ), and personal involvement ( $X_3$ ) have a positive or unidirectional relationship with attitude change. However, based on significant level, source expertise and personal involvement does not have a significant influence on attitude change (Y) indicated by sig. coefficient exceeds 0.05. Moreover, attitude change showed positive result of B unstandardized correlation means that the higher attitude change emerged, the higher purchase intention occurs. The more consumer unwilling to use the products, the more respondents also unwilling to buy the products. This video is considered as providing negative impact caused unwillingness to buy leather products. However, there is positive impact to reduce the usage of leather products refer to such issues explained in research background. According to the aim of the video itself that is to decrease purchase intention of leather products, this video has successfully impactful to these research respondents.

## FURTHER RESEARCH

As for recommendation for the next research, it may able to gather a wider respondent not only from Bandung, but respondents outside region as well by having a general object of study that may help to obtain respondents from other regions to generate a wider results of the research. There is another 73.5% of attitude change that influenced by another variable of persuasive communication elements and 21.9% of purchase intention change that influenced by another variable, which not being studied in this study. Thus, it is recommended to have further research to analyze the shortage of variables.

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## **ARE WE MEASURING USING THE RIGHT INSTRUMENT? THE VOICE OF THE MBA STUDENTS IN UTM INTERNATIONAL BUSINESS SCHOOL**

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### **EXTENDED ABSTRACT**

Among the factors which could lead to turnover in an organization are dissatisfaction with the work content and perceived job alternatives. Especially in an academic organization, the employee's emotional labour is one of important cause of actual turnover behaviour and intentions to leaving the organization. The job did not meet expectations. It has become all too common for a job to significantly vary from the initial description and what was promised during the interviewing stage. When this happens it can lead to mistrust. These may lead to employee misalignment. The intention of this research is to explore from the stakeholder's view on the high turnover rate amongst academicians in University Technology Malaysia's International Business School. This research is looking at a qualitative approach and based on a survey on 63 MBA students in University Technology Malaysia's International Business School. The result shows that the Research University's Key Performance Index (KPI) do not jive with the expectation of the MBA students that want the business school as an incubator to inculcate their business values and acumen. The assessment on the Key Performance Index (KPI) do not really measure the right measurement which undeniably led to a high turnover rate amongst academicians.

**Keywords:** : human resources management, employee turnover, policy makers