

# RUSSIAN JOURNAL OF AGRICULTURAL AND SOCIO- ECONOMIC SCIENCES

ISSN 2226-1184



#12(84)

December 2018

"RJOAS is an interdisciplinary open access journal of agriculture and socio-economic studies. The journal aims at establishing a bridge between theory and practice in the fields of agriculture and socio-economic research..."

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Crossref DOI: 10.18551/rjoas.2018-12.42

DOI <https://doi.org/10.18551/rjoas.2018-12.01>

## **THE SYSTEMATIC RISK OF STOCKS: ANALYSIS OF PROPERTY AND AGRICULTURE SECTOR IN INDONESIA**

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### **ABSTRACT**

Systematic risk is a risk that cannot be avoided and eliminated by diversification, the fluctuation of this risk is influenced by macroeconomic factors. This study aims to analyze the effect of Degree of Economic Leverage (DEL), Degree of Operating Leverage (DOL), and Degree of Financial Leverage (DFL) on the property and agriculture sector in Indonesia. In this study, researcher used secondary data; those are weekly common stock return and weekly market return published by Indonesia Stock Exchange, for determining beta coefficients. Subsequently, sales, EBIT, EAT, and annual inflation are utilized to calculate DEL, DOL, and DFL. Samples were taken by using purposive sampling and sample selection criteria. This research used panel data regression analysis using E-views 9. The result of this research showed that (1) partially, only the variable DEL and DFL that influence significantly to systematic risks of stock on a property sector and (2) partially, only the variable DEL and DOL that influence significantly to systematic risks of stock on sector of agriculture. Therefore, investors should invest in property sector companies that have a low value of DEL, DOL, and DFL to minimize systematic risk of stocks. And in the agriculture sector companies investors should invest in companies that have a high value of DEL, DOL, and DFL to minimize the systematic risk of stocks.

### **KEY WORDS**

Systematic risk, economic leverage, operating leverage, financial leverage, property, agriculture.

For investors, stock investing in Indonesia Stock Exchange is full of uncertainty. This uncertainty is indicated by the fluctuation of stock prices. In this regard, one of the efforts that investors can take to maximize profits from their stock investment is to consider the level of risk of their investment as the basis for making investment decisions.

The risks faced by investors in stock investments are divided into two types of risks, those are systematic risk and non-systematic risk. Non-systematic risk can be controlled by investors by diversifying portfolios, so when investors evaluating stock investment risk, they will tend to pay attention to systematic risks that can't be controlled or eliminated through portfolio diversification.

There have been several studies that have been carried out concerning the factors that influence the systematic risk of stocks, including research conducted by Harry F. Griffin and Michael T. Dugan (2003) and Putri Hervie Karuniandari (2006). The two researchers conducted a systematic risk research of stocks in the manufacturing sector. After observed the movement of the average value of stock systematic risk during the study period as reflected in Figure 1, it turns out that there are several other sectors outside the manufacturing sector that have extreme systematic risk values. The research conducted by the two researchers needs to be carried out by expanding the research to cover other sectors, including the property sector and the agriculture sector.

Based on the statement above, the research on the factors that influence the systematic risk of stocks needs to be further investigated and re-tested, so that the factors that influence the systematic risk of stocks in Indonesia will be known.

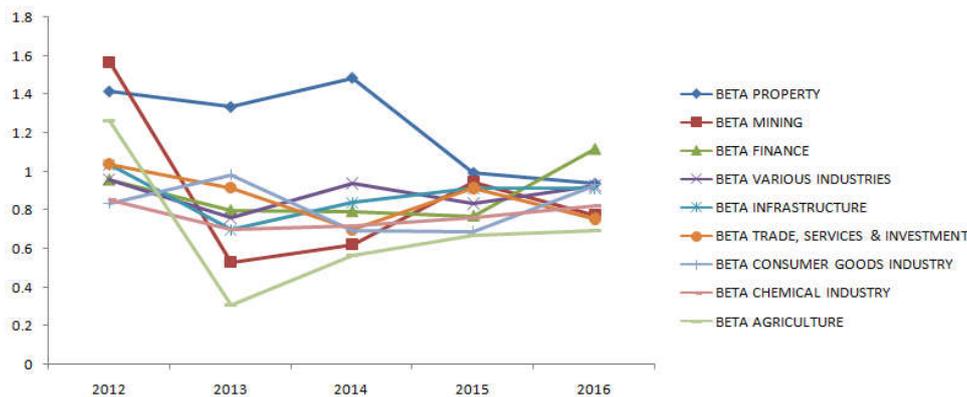


Figure 1 – Stocks beta of all sectors listed on the IDX in 2012-2016 (Source: www.investing.com, Data processed, 2017)

### METHODS OF RESEARCH

The data needed in this study are quantitative and secondary data, data are time series data in a period of 5 years, starting from 2012 to 2016. Secondary data is obtained through literature studies, journals related to this research, Central Agency on Statistics (Badan Pusat Statistik), Indonesia Stock Exchange (www.idx.co.id), www.finance.yahoo.com, www.investing.com, and others.

Determination of the sample in this study was using purposive sampling focused on property sector companies and companies in the agriculture sector listed on Indonesia Stock Exchange that are actively traded from 2012 to 2016. The companies used as research samples are companies that publish their financial statements during the period of 2012 to 2016, the company has a positive beta value and is not greater than 3, and the company has positive EBIT and EAT values. Based on these criteria, 25 companies, 20 property sector companies and 5 agriculture sector companies were obtained. The consideration of using property sector companies is to have the highest average value of systematic risk, while the consideration of using agriculture sector companies is to have the lowest average systematic risk value.

Panel data regression analysis was performed using E-views software 9. The independent variables used for panel data regression analysis in this study were DEL, DOL, and DFL, while the dependent variable is beta stock ( $\beta$ ). The general formula used in this study is as follows:

$$\beta_j = \gamma_0 + \gamma_1 DOL_j + \gamma_2 DFL_j + \gamma_3 DEL_j + \tilde{\epsilon}_j$$

Where: B = systematic risk (stock beta);  $\gamma_0$  = intercept (constant) regression equation;  $\gamma_1, \gamma_2, \gamma_3$  = regression coefficient;  $\tilde{\epsilon}_j$  = confounding variable outside the model.

The dependent variable used in this study is stock beta. According to Bodie et al (2008), the formula used to calculate the stock beta value is as follows:

$$\beta_i = \frac{\text{Cov}(R_i, R_m)}{\text{Var}(R_m)}$$

Where:  $\beta_i$  = Beta;  $\text{Cov}(R_i, R_m)$  = Covariant return of the issuer to market return;  $\text{Var}(R_m)$  = market variant.

The independent variables used in this study are:

DEL. According to Mandelker and Rhee (1984), the formula used to calculate the DEL value is as follows:

$$DEL = \frac{\% \Delta Q}{\% \Delta Z}$$

Where: %  $\Delta Q$  = Percentage change of company's sales; %  $\Delta Z$  = Percentage of changes in macroeconomic factors.

DOL. The formula used to calculate the DOL value is as follows:

$$DOL = \frac{\% \Delta EBIT}{\% \Delta Sales}$$

Where: %  $\Delta EBIT$  = Percentage change of company's EBIT value; %  $\Delta Sales$  = Percentage change of company's sales.

DFL. The formula used to calculate the DFL value is as follows:

$$DFL = \frac{\% \Delta EAT}{\% \Delta EBIT}$$

Where: %  $\Delta EAT$  = Percentage change of company's EAT value; %  $\Delta EBIT$  = Percentage change of company's EBIT value.

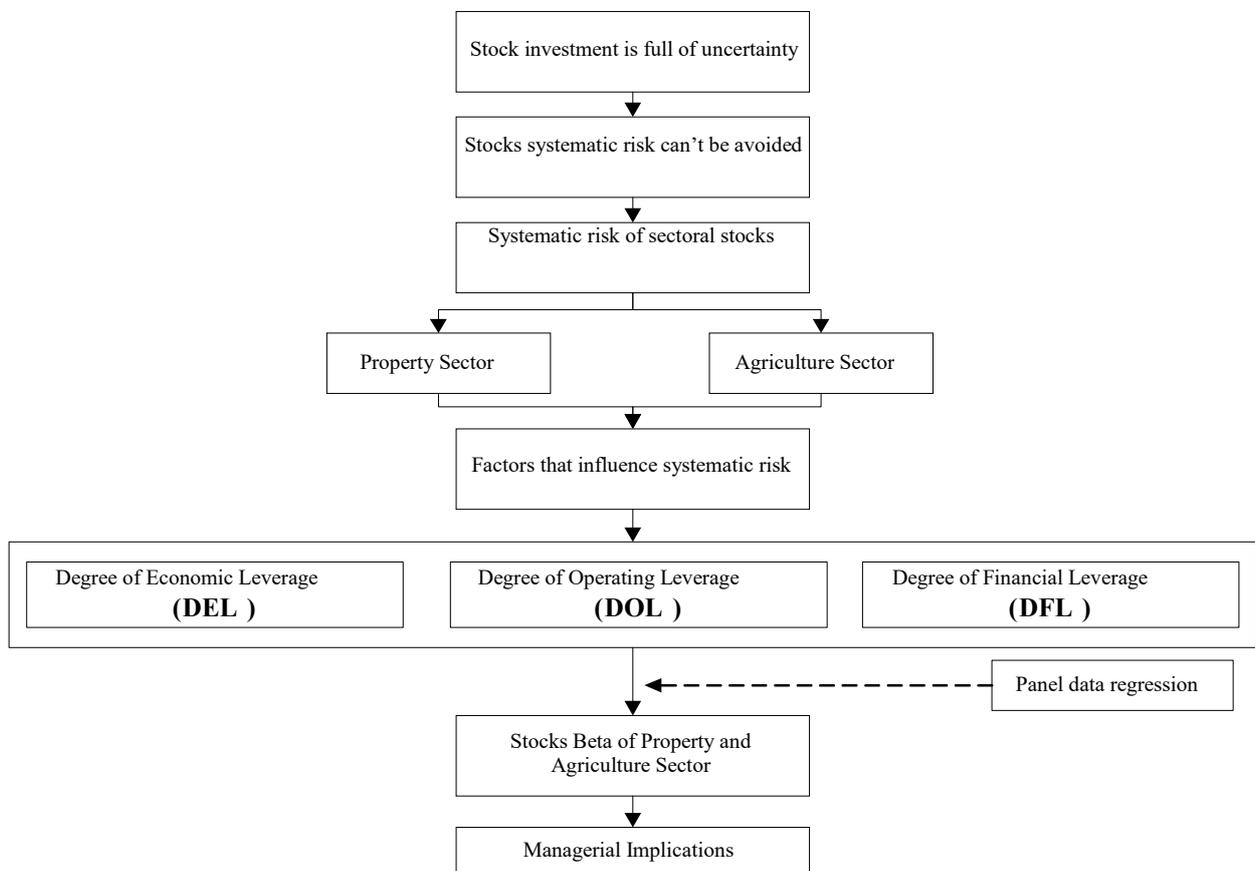


Figure 2 – Research conceptual framework

**Research Hypothesis.** Hypothesis formulated in this research are the influence of DEL, DOL, and DFL on the systematic risk of stocks in property and agriculture sector companies. The hypothesis in this research can be seen as follows.

Ho.1: DEL does not affect the systematic risk of shares in the property and agricultural sector companies positively.

Ha.1: DEL affects the systematic risk of shares in the property and agricultural sector companies positively.

Ho.2: DOL does not affect the systematic risk of shares in the property and agricultural sector companies positively.

Ha.2: DOL affects the systematic risk of shares in the property and agricultural sector companies positively.

Ho.3: DFL does not affect the systematic risk of shares in the property and agricultural sector companies positively.

Ha.3: DFL affects the systematic risk of shares in the property and agricultural sector companies positively.

## RESULTS AND DISCUSSION

The process of selecting panel data regression models in this study was carried out in stages. The first step is to estimate the pooled least square (PLS) model and the fixed effect model, applied to both in the property sector companies and in the agriculture sector companies. The second step is to do the Chow test to choose the best PLS model or fixed effect model in estimating panel data regression. The following table results from the Chow test on property and agriculture sector companies.

Table 1 – Chow test results in property and agriculture sectors

Cross-section F	Statistic	d.f.	Prob.
Property	0.898659	(19,77)	0.5858
Agriculture	0.883548	(4,17)	0.4946

Based on the test results, it showed that the F value calculated on the model of property sector (0.5858) and agriculture (0.4946) greater than 0.05, so the model used for the two companies is the PLS model.

The third stage is to estimate the random effect model in the property and agriculture sector companies. The fourth step is to test the Lagrange multiplier (LM) to choose the PLS model or the best random effect model in estimating panel data regression.

Table 2 – Lagrange multiplier test results for property and agriculture sectors

Breusch-Pagan	Test Hypothesis		
	Cross-section	Time	Both
Property	0.200416 (0.6544)	37.42393 (0.0000)	37.62434 (0.0000)
Agriculture	0.294340 (0.5875)	6.630411 (0.0100)	6.924751 (0.0085)

Based on the test results showed the probability value of Breusch-Pagan in property sector company model (0.6544) and agriculture (0.5875) is greater than 0.05, so the model used for the two companies is the PLS model.

Based on the test results above, it can be concluded that the panel data regression model is the best and the model that will be used in this study for both property and agriculture sector companies is the PLS model.

Table 3 – Panel data regression model on property sector companies

Model	R-Squared	Variable	Coefficient	Std Error	Prob
PLS	0.0314	DEL	0.00414	0.00061	<b>0.0000*</b>
		DOL	0.00827	0.00535	0.1256
		DFL	0.00961	0.00289	<b>0.0013*</b>
FEM	0.2072	DEL	0.00519	0.00135	<b>0.0002*</b>
		DOL	-0.00013	0.00839	0.9871
		DFL	0.01084	0.00646	<b>0.0971**</b>
REM	0.0314	DEL	0.00414	0.00061	<b>0.0000*</b>
		DOL	0.00827	0.00535	0.1256
		DFL	0.00961	0.0029	<b>0.0013*</b>

Source: Data processed where: \*significant at the real level of 5%, \*\*significant at the real level of 10%.

$$\beta_{property} = 1.29601 + 0.00414 DEL + 0.00827 DOL + 0.00961 DFL$$

Based on Table 3 above the DEL variable has a positive effect on the real level of 5% or directly proportional to the systematic risk of stocks. The DEL variable has a probability value of 0.0000 with a coefficient of 0.00414. This result shows that every increase of 1 unit of DEL, it will make the systematic risk of all issuers in the model increase by 0.00414 units. The results of this coefficient are in accordance with the theory and hypothesis proposed in this study, in which the hypothesis in this study is that DEL has a positive effect on systematic risk. The regression results of this study indicate the same conditions as the research conducted by Griffin and Dugan (2003) which showed a positive relationship between DEL and systematic risk in the issuers of manufacturing sub-sectors.

This finding indicates that the value of DEL can increase the value of the systematic risk of stocks in the property sector companies, which is indicated by the DEL value that has a significant positive effect. These findings indicate that changes in sales due to changes in inflation can explain systematic risk. If inflation experiences high volatility, then there is a possibility of greater sales volatility which results in uncertainty in the profits earned by the company. The uncertainty of profit obtained by the company will ultimately increase the systematic risk of stocks in the property sector companies. Inflation movement to sales level of property sector companies can be seen in Figure 3.

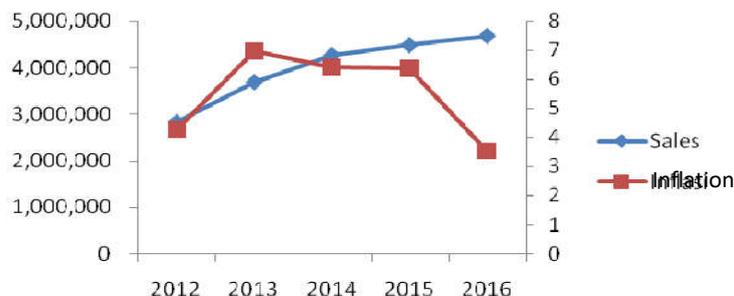


Figure 3 – Sales and inflation property sector

Based on Table 3 above the DOL variable has a positive effect or is directly proportional to the systematic risk of stocks. DOL variable has a probability value of 0.1256 with a coefficient value of 0.00827. These results indicate that every increase in 1 unit of DOL, so that the systematic risk of all issuers in the model will increase by 0.00827 units. The results of this coefficient are in accordance with the theory and hypothesis proposed in this study, in which the hypothesis in this study indicate that DOL has a positive effect on systematic risk. The regression results of this study showed the same conditions as the researchs conducted by Putri Hervie Karuniandari (2006), Kartini and Nevsi Rizki Herine Putri (2008), and Bram Hadianto and Lauw Tjun Tjun (2009) which showed a positive relationship between DOL and systematic risk on issuers of manufacturing and mining sub-sectors.

This finding indicates that the DOL value can increase the value of stocks systematic risk in the property sector companies, which is marked by a positive but insignificant DOL value. This condition is not in line with the research conducted by Griffin and Dugan (2003). This finding indicates that EBIT changes because sales changes cannot explain systematic risk. This condition is estimated because a small change in the level of sales does not provide a significant change in the company's operating profit (EBIT), that can be seen in Figure 4. The increase in the level of sales in property sector companies is not proportional to the increase in operational costs.

Based on Table 3 above the DFL variable has a positive effect on the real level of 5% or is directly proportional to stocks systematic risk. DFL variable has a probability value of 0.0013 with a coefficient value of 0.00961. These results indicate that for every increase in 1 unit of DFL, it will make the systematic risk of all issuers in the model rise by 0.00961 units.

The results of this coefficient are in accordance with the theory and hypothesis proposed in this study, in which the hypothesis in this study is that DFL has a positive effect on systematic risk. The regression results of this study indicate the same conditions as the research conducted by Putri Hervie Karuniandari (2006) which showed a positive relationship between DFL and systematic risk in the issuers of manufacturing sub-sectors.

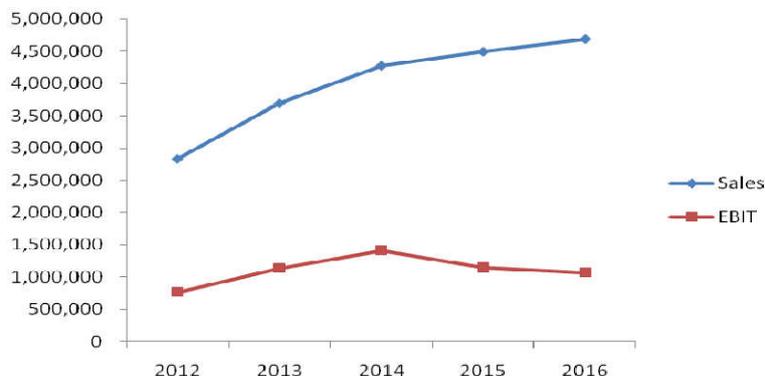


Figure 4 – Sales and EBIT property sector

This finding indicates that the DFL value can increase the value of stocks systematic risk in the property sector companies, which is characterized by a significant positive DFL effect. This finding indicates that EAT changes because EBIT changes can explain systematic risk. This condition is estimated because small changes in EBIT can provide significant changes to the EAT, which can be seen in Figure 5 below.

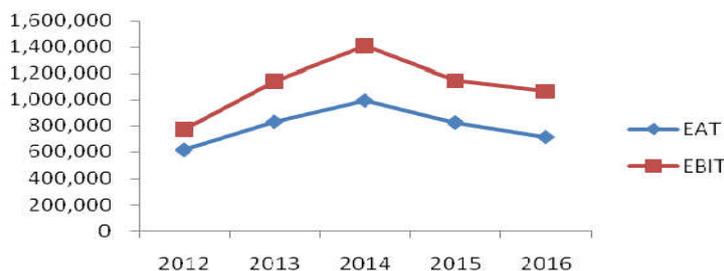


Figure 5 – EAT and EBIT property sector

Table 4 – Panel data regression model results on agriculture sector companies

Model	R-Squared	Variable	Coefficient	Std Error	Prob
PLS	0.1528	DEL	-0.0066	0.00226	<b>0.0084*</b>
		DOL	-0.0205	0.00542	<b>0.0011*</b>
		DFL	-0.0526	0.05692	0.3657
FEM	0.29862	DEL	-0.0012	0.0028	0.6666
		DOL	-0.0199	0.00438	<b>0.0003*</b>
		DFL	-0.0115	0.06102	0.8532
REM	0.1528	DEL	-0.0066	0.00226	<b>0.0084*</b>
		DOL	-0.0205	0.00542	<b>0.0011*</b>
		DFL	-0.0526	0.05692	0.3657

Source: Data processed where: \*significant at the real level of 5%, \*\*significant at the real level of 10%.

$$\beta_{\text{agriculture}} = 0.79489 - 0.0066 \text{ DEL} - 0.0205 \text{ DOL} - 0.0526 \text{ DFL}$$

Based on Table 4 above the DEL variable has a negative effect on the real level of 5% or inversely proportional to stocks systematic risk. The DEL variable has a probability value of 0.0084 with a coefficient of -0.0066. This result showed that every increase of 1 unit of DEL, it will make the systematic risk of all issuers in the model decrease by 0.0066 units. The results of this coefficient are not in accordance with the theory and hypothesis proposed in

this study, in which the hypothesis in this study is DEL has a positive effect on systematic risk. The regression results of this study indicate the same conditions as the research conducted by Putri Hervie Karuniandari (2006) which showed a negative relationship between DEL and systematic risk in the issuers of manufacturing sub-sectors.

This finding indicates that DEL value can reduce the value of stocks systematic risk in the agriculture sector companies, which is indicated by DEL value has a significant negative effect. This condition is not in line with the research conducted by Griffin and Dugan (2003). This is because the agriculture sector is the primary sector that is needed by the market, so that inflation volatility does not have a significant effect on sales and changes in obtained profit. This will ultimately reduce stocks systematic risk in the agriculture sector companies. Inflation movement to sales level of agriculture sector companies can be seen in Figure 6 below.

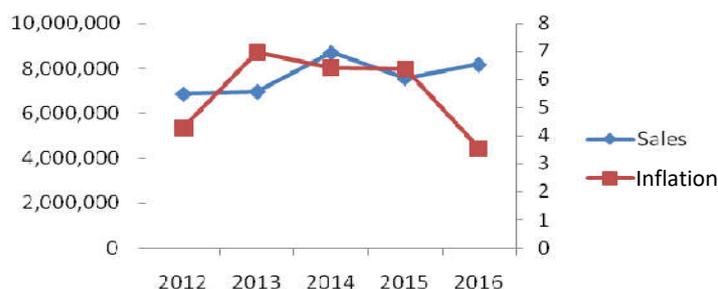


Figure 6 – Sales and inflation agriculture sector

Based on Table 4 above the DOL variable is a negative influence on the real level of 5% or inversely proportional to the systematic risk of stocks. The DOL variable has a probability value of 0.0011 with a coefficient of -0.0205. This result shows that every increase in 1 unit of DOL, so that the systematic risk of all issuers in the model will decrease by 0.0205 units. The results of this coefficient are contrary to the theory and hypothesis proposed in this study, in which the hypothesis in this study is DOL has a significant positive effect on systematic risk. The regression results of this study indicate the same condition as the research conducted by Griffin and Dugan (2003) which showed a negative relationship between DOL and systematic risk in the issuers of manufacturing sub-sectors.

This finding indicates that the DOL value can reduce the value of the systematic risk of stocks in the agriculture sector companies, which is characterized by a significant negative DOL effect. This finding indicates that EBIT changes because sales changes can explain systematic risk. This condition is estimated because small changes in the level of sales can provide significant changes in the company's operating profit (EBIT), which seen in Figure 7. Changes in the level of sales in the agriculture sector companies tend to be proportional to the increase in operational costs.

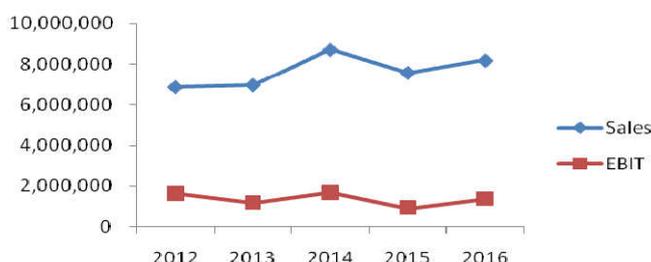


Figure 7 – Sales and EBIT agriculture sector

Based on Table 4 above the DFL variable has a negative effect or inversely proportional to stocks systematic risk. Variable DFL has a probability value of 0.3657 with a coefficient of -0.0526. These results indicate that for each increase in 1 unit of DFL, it will

make the systematic risk of all issuers in the model decrease by 0.0526 units. The results of this coefficient are contrary to the theory and hypothesis proposed in this study, in which the hypothesis in this study is that DFL has a significant positive effect on systematic risk. The regression results of this study indicate the same condition as the research conducted by Griffin and Dugan (2003) which showed a negative relationship between DFL and systematic risk in the issuers of manufacturing sub-sectors.

This finding indicates that the DFL value can reduce the value of stocks systematic risk in the agriculture sector companies, which is characterized by a negative but insignificant DFL value. These findings indicate that changes in EAT because changes in EBIT don't affect systematic risk. This condition is caused by the agriculture sector being the primary sector needed by the market, in the end the influence on systematic risk is not significant. EAT movement to EBIT in agriculture sector companies can be seen in Figure 8 below.

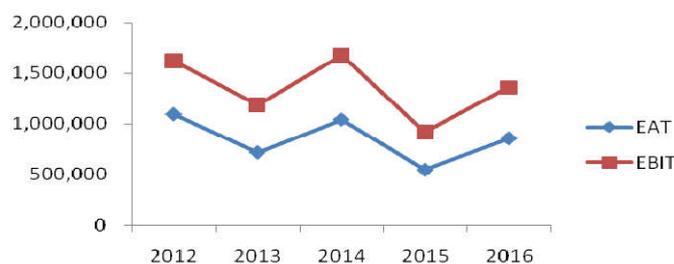


Figure 8 – EAT and EBIT agriculture sector

### MANAGERIAL IMPLICATIONS

Property sector stocks with an average stock beta value of 1.3 are better investment choice compared to the agriculture sector (with average value is 0.66) when market conditions are bullish (experiencing an increase). On the contrary, when market conditions are bearish (decreasing), investors are advised to invest in agriculture sector stocks.

For investors who will or have invested in the property sector, they must pay attention to how the company is able to increase its sales when there is an economic shock and the company's ability to generate profits from the use of external corporate funds in the form of corporate debt funds, because these two factors have a significant positive effect on company's systematic risk. If the company's sales response increases when inflation increases, the property sector remains an alternative investment option during bullish market conditions. On the other hand, if the increase in inflation causes a decrease in the company's sales and the total beta value of the stocks becomes above 1, then the property sector is not an investment choice during bullish conditions. If an increase in the company's EBIT causes a decrease in the EAT of the company and the total beta value of the stock becomes above 1, the property sector is an investment choice when the condition is bearish. On contrary, if the company's EAT response increases when there is an increase in the company's EBIT, the property sector remains an alternative investment option during bullish market conditions. Therefore, during a bullish market condition investors are advised to invest in property sector companies stocks that are experiencing increased sales and/or experiencing increased after-tax income.

For investors who will or have invested in the agriculture sector, they must pay attention to how the company's ability to generate sales when there is an economic shock and the company's ability to generate profits from the company's fixed costs. If the company's sales response increases in the event of an increase in inflation, the agriculture sector remains an alternative investment option when the market conditions are bearish. On the other hand, if the increase in inflation causes a decrease in sales of the company and the total beta value of the stock becomes above 1, then the agriculture sector is not an investment choice in bearish conditions. If the company's sales increase causes a decrease in the company's EBIT and the total beta value of the stocks becomes above 1, then the agriculture sector is an investment choice during bullish conditions. On the contrary, if the

company's EBIT response increases when there is an increase in company sales, the agriculture sector remains an alternative investment option when market conditions are bearish. Therefore, during bullish market conditions, investors are advised to invest in agriculture sector companies that are experiencing increased sales and/or expanding their business.

### **CONCLUSION**

Based on study results in the property sector, only DEL and DFL variables that have a significant positive effect on the systematic risk of stocks, while the DOL variable doesn't have a significant effect on systematic risk. In the agriculture sector, only the DEL and DOL variables have a significant negative effect on the systematic risk of stocks, while the DFL variable doesn't have a significant effect on systematic risk. Changes that occur in the DEL and DFL variables in the property sector when there is an increase will increase systematic risk. Changes that occur in the variables DEL and DOL in the agriculture sector when there is an increase will reduce systematic risk.

### **SUGGESTIONS**

For investors, it's expected to pay more attention to the value of DEL, DOL, and DFL because these three values can affect systematic risk. This is also to minimizing risk as well as maximizing profits. For companies, because it is proven that DEL, DOL, and DFL variables have an influence on systematic risk, the company should make a strategy to control systematic risk to gain investors' trust in investing. For the next researcher, it is better to add other independent variables that is expected to give more accurate influence in analyzing factors that influence systematic risk, these variables include: changes in interest rates, economic growth, political conditions, exchange rates. In addition, add more company sectors and research periods.

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DOI <https://doi.org/10.18551/rjoas.2018-12.02>

## **ANALYSIS OF OPTIMAL PORTFOLIO PERFORMANCE IN KOMPAS 100 AND LQ 45 OF INDONESIA STOCK EXCHANGE**

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### **ABSTRACT**

This study aims to analyze the formation of optimal portfolios in Kompas 100 and LQ 45 stocks. The research methodology used in the formation of optimal portfolios is Single Index Model, Constant Correlation Model, and Markowitz Model by measuring portfolio performance using the Sharpe Index, Treynor Index, and Jensen Index. Based on the results, (1) the proportion of the optimal portfolio with the highest return generated in Kompas 100 stocks using the Single Index Model method. (2) The Kompas 100 portfolio has the highest Sharp, Treynor, and Jensen Index values compared to the LQ 45 portfolio with the Single Index Model, Constant Correlation Model, and Markowitz Model. (3) Calculation of optimal portfolio with Single Index Model shows better performance than Constant Correlation Model and Markowitz Model for both Kompas 100 and LQ 45.

### **KEY WORDS**

Compass 100 Index, LQ 45 Index, optimal portfolio, single index model, constant correlation model, Markowitz model, Sharpe Index, Treynor Index, Jensen Index.

The capital market is currently growing; this development can be seen among others from the increase in the number of issuers, market capitalization, investment actors, and Composite Daily Stock Index. The increase can be seen, one of which is from the value of the JCI, which was around IDR 5,500 in 2016 and the Composite Stock Price Index (CSPI) was at the level of 6355.65 in 2017—the highest closing level for the JCI in 2017. This indicates that the capital market is one of the attractive alternatives in investing and according to Partono *et al.* (2017), investment is starting to become a necessity in the community in Indonesia. Gautam & Singh (2014) affirm risks and returns play an important role in making investment decisions.

To get the maximum profit in investing in the Stock Exchange, investors must conduct investment analysis. Investment analysis can be an analysis of internal and external factors. An internal factor analysis can be an analysis of the company's financial performance. According to Yolanda (2018), corporate governance can affect company performance and for banking companies, capital adequacy can be influenced by the company's financial ratios (Yolanda, 2017).

Analysis carried out by investors can help in determining an efficient portfolio that provides the greatest expected return with the same level of risk or a portfolio that contains the smallest risk with the same level of expected return. Of the many choices available in a collection of efficient portfolios, investors will choose the optimal portfolio that best fits their investment policy.

According to Thomas *et al.* (2017), rational investors will choose investments in companies that have a single index model analysis. Fadila Paramitha and Achmad Anggono (2013) find an efficient and optimal portfolio, based on the Modern Markowitz Portfolio Theory using the aad in solver tool, with the result is the highest Sharpe ratio showing better performance and having a higher risk, in line with the results of research by Pinasthika and Surya (2014). Nugroho (2018) states that with the Sharpe, Treynor, and Jensen Index method, Business Index 27 is superior to IDX 30, but Business Index 27 is more sensitive in

changing market returns. Arna Suryani and Eva Herianti (2015) state that the Treynor index shows consistent results from the measurement of LQ 45 stock performance.

The Indonesian Capital Market has many stock indices; several that are often of concern are Kompas 100, LQ 45, and JII because the three indices consist of companies that have large market capitalization and their liquid stocks are traded, so that it attracts investors.

Therefore, the research problems in this study are: (1) Is there an optimal portfolio in Kompas 100 and LQ 45 stocks generated from the Single Index Model, Constant Correlation Model, and Markowitz Model method? (2) How is the comparison of the performance of the Kompas 100 and LQ 45 optimal portfolios? (3) How is the ratio of optimal portfolio performance formed based on the method of Single Index Model, Constant Correlation Model, and Markowitz Model?

## LITERATURE REVIEW

*Optimal Portfolio.* Efficient portfolios are defined as portfolios with the highest returns on certain risks or portfolios with the lowest risk for certain returns. According to T. N. Sari<sup>1</sup> *et al.* (2017), portfolios are categorized to be efficient when offering the expected maximum return for a certain level of risk or offering a minimum risk for the expected return. An optimal portfolio is a portfolio that is chosen from a large selection of portfolios available in efficient portfolios. Investors need to consider and determine what securities form a portfolio that can achieve maximum efficiency and be adjusted to the preferences of the investor concerned about the return and risk they are willing to bear.

*Markowitz Model.* Modern Portfolio Theory was discovered in 1952 by Harry Markowitz in his dissertation in the field of statistics. His discovery, entitled "Portfolio Selection" was first published in the Journal of Finance (Mangram, 2013). Modern Portfolio Theory, Optimal Portfolio is a technical finance theory equivalent to a statement "Don't put all your eggs in one basket. If the basket is dropped, all eggs are broken; if placed in more than one basket, the risk that will be broken is dramatically reduced (Mangram, 2013)." Likewise in investing, risk can be reduced by diversifying namely placing funds in different stocks, different asset classes (such as bonds, derivative instruments, real estate, and so forth) and or for commodities such as gold or oil (Mangram, 2013). According to Markowitz, investing in many securities is not enough to minimize variance. In diversifying, investors need to avoid securities with high covariance. Investors should diversify into companies in different industries, especially those with different economic characteristics, because they have lower covariance than companies in the same industry. In addition, according to Markowitz, diversification cannot eliminate all risks because there will always be systematic risks that cannot be lost (Mangram, 2013). Portfolios that have a maximum expected return do not always have a minimum variance. Thus, the investor's portfolio choice is the one giving the maximum expected return on a certain variance or the portfolio with the smallest variance at a certain expected return (Zubir, 2013).

*The Single Index Model.* In 1963, William F. Sharpe developed the Single Index Model, which was a simplification of the Markowitz Portfolio Theory by reducing the number of variables that must be estimated. According to Zubir (2013), the Single Index Model is a technique to measure return and risk of a stock or portfolio.

The model assumes that stock return movements are only related to market movements. If the market moves up, in the sense that demands for stocks increases, then the price of stocks in the market will rise as well. Vice versa, if the market moves down, the stock price will also decrease, so it can be concluded that stock returns correlate with market returns (Husnan, 2005).

The Single Index Model divides the profit level of a stock into two parts, namely returns that are not affected by market changes ( $\alpha_i$ ) and returns that are affected by the market ( $\beta_i R_m$ ). Beta ( $\beta_i$ ) shows the stock sensitivity level of the market index gains.

Furthermore, the Single Index Model divides the stock variance into two parts: unique risk ( $\sigma_{ei}^2$ ) and market-related risks ( $\beta_i^2 \sigma_m^2$ ). Meanwhile, covariance depends solely on market

risk. This means that the Single Index Model shows that the only reason why stocks move together—this is that they react to market movements (Husnan, 2005).

*The Constant Correlation Model.* Elton, Gruber, and Padberg developed the Constant Correlation Model in 1978. The model assumes that the correlation coefficient between stocks is equal. In this model, the procedure used to form a portfolio is the same as in the Single Index Model, but the stock rating to form a portfolio uses excess return to standard deviation or ERS (Elton, 2014). To fulfill the assumption that the correlation coefficient of each stock is constant, the value used is the average value of the correlation.

## METHODS OF RESEARCH

The population in this study is stocks included in the Kompas 100 and LQ 45 Index during the period of January 2013 to December 2017. The technique used in determining the sample is purposive sampling where the determination of samples is based on certain considerations.

The sample criteria used in this study are:

- Stocks listed on the Kompas 100 and LQ 45 from January 2013 to December 2017;
- Stocks consistently listed on the Kompas 100 and LQ 45 from January 2013 to December 2017.

Based on the results of the selection, there were 52 stocks on the Kompas Index 100 and 24 stocks on the LQ 45 that met the criteria of the sample in this study.

*The Single Index Model.* In the Single Index Model, stocks that have an excess return to beta (ERB) value that is higher or equal to the cutoff point value are stocks that will form an optimal portfolio. ERB and  $C_i$  are calculated using the following formula.

$$ERB_i = \frac{E(R_i) - R_f}{\beta_i}$$

Where: ERB<sub>i</sub>: excess return to beta stock i; E(R<sub>i</sub>): expected return to beta stock i; R<sub>f</sub>: risk-free asset return;  $\beta_i$ : beta stock i.

$$C_i = \frac{\sigma_m^2 \sum_{j=1}^t A_i}{1 + \sigma_m^2 \sum_{j=1}^t B_i}$$

Where:  $\sigma_m^2$ : market-return variance.

To find the proportion of a portfolio, the following formula is used:

$$W_i = \frac{Z_i}{\sum_{j=1}^k Z_j}$$

The  $Z_i$  value can be searched by the following equation:

$$Z_i = \frac{\beta_i}{\sigma_{e_i}^2} (ERB - C^*)$$

*The Constant Correlation Model.* In Constant Correlation Model, stocks that have the value of excess return to standard deviation (ERS) that are higher or equal to the value of the cutoff point are stocks that will form an optimal portfolio. ERS and  $C_i$  are calculated using the following formula:

$$ERS = \frac{(E(R_i) - (R_f))}{\sigma_i}$$

Where: E (R<sub>i</sub>): Expected return security i; R<sub>f</sub>: Free-risk return; σ<sub>i</sub>: Standard deviation security i.

$$C_i = \frac{\rho}{1 - \rho + i\rho} \sum_{j=1}^i \frac{E(R_j) - R_f}{\sigma_j}$$

Where: ρ: Constant correlation coefficient; E(R<sub>i</sub>): Expected return security i; R<sub>f</sub>: Free-risk return; σ<sub>i</sub>: Standard deviation security i.

Assumed that ρ has a constant correlation coefficient, the constant correlation value can be searched by the following formula:

$$\rho = \frac{\sum_{i=1}^N \sum_{j=1}^N \rho_{ij}}{N}$$

*The Markowitz Model.* Markowitz model calculations are performed using a solver in Microsoft Excel with the following limitations:

- The sum of all w is one (W total = 1);
- Each stock w value is greater or equal to zero (w<sub>i</sub> > 0) to avoid short sales;
- The portfolio expected return is the same as the expected target return (E(R<sub>p</sub>) = E\*).

Solver is used to find a portfolio with minimal risk on a certain return, a portfolio that has the highest capital allocation line value will be chosen as the optimal portfolio. To calculate the expected return and risk of the Markowitz Model, the following formula is used:

$$E(R_p) = \sum_{j=1}^n E(R_i) \cdot (W_i)$$

Where: E(R<sub>p</sub>): portfolio expected return; E(R<sub>i</sub>): *expected return* of stock i investment; W<sub>i</sub>: proportion of funds invested in stock i.

The standard deviation can be searched from the square root of the portfolio or from the following equation:

$$\sigma_p^2 = \sum_{i=1}^n \sum_{j=1}^n w_i \cdot w_j \cdot \sigma_{ij}$$

Where: σ<sub>p</sub><sup>2</sup>: Portfolio variance; W<sub>i</sub>: Weight of stock i; W<sub>j</sub>: Weight of stock j; σ<sub>ij</sub>: Covariance between stocks i and j.

According to Telelilin (2010), to calculate portfolio performance, the following formula is used:

$$\text{Sharpe's Index} = \frac{R_p - R_f}{\sigma_p}$$

Where: S: The value of the Sharpe Ratio; R<sub>p</sub>: Average portfolio returns; R<sub>f</sub>: Average risk-free return rate; σ<sub>p</sub>: Total portfolio risk.

Sharpe index is a portfolio performance calculated based on the net result of a portfolio with a risk-free interest rate per unit.

$$\text{Treynor Index} = \frac{R_p - R_f}{\beta_p}$$

Where: T: The value of the Treynor Ratio; R<sub>p</sub>: Average portfolio returns; R<sub>f</sub>: Average risk-free return rate; β<sub>p</sub>: Portfolio systematic risk.

The Treynor Index is a metric for determining how much excess return was generated for each unit of risk taken on by a portfolio.

$$Jensen\ Index = R_p - (R_f + \beta_p(R_f - R_m))$$

Where:  $\alpha$ : The value of the Jensen Ratio;  $R_p$ : Average portfolio returns;  $R_f$ : Average risk-free return rate;  $R_m$ : Average market return;  $\beta_p$ : Portfolio systematic risk.

In Jensen index, portfolio premium risk is influenced by the risk of premium markets.

## RESULTS AND DISCUSSION

### *Kompas 100:*

*The Single Index Model.* Based on the results of calculations with the formation of an optimal portfolio with a single index model, 33 stocks have a positive ERB value and 1 has a negative ERB value. For optimal portfolio formation, stocks that have a positive ERB are used. Based on the value of  $C^*$ , the portfolio formed is as follows:

Table 1 – Optimal Portfolio Performance Kompas 100: The Single Index Model

No	Company	Stock Proportion (%)
1	UNVR	15.63
2	BBCA	11.48
3	PTPP	14.45
4	BJBR	11.36
5	PWON	10.08
6	TLKM	9.75
7	BBTN	8.90
8	ICBP	8.64
9	BBNI	4.30
10	PNBN	3.37
11	PLNF	2.04

Source: Data processed, Microsoft Excel.

In Kompas 100, the optimal portfolio performance measured using the Single Index Model shows that UNVR has the largest proportion and PLNF has the smallest proportion.

*The Constant Correlation Model.* In Constant Correlation Model, stocks that have a higher or equal value of excess return to standard deviation (ERS) to the value of the cutoff point are stocks that will form an optimal portfolio.

Table 2 – Optimal Portfolio Performance Kompas 100: The Constant Correlation Model

No	Company	Stock Proportion (%)
1	BBCA	17.82
2	TLKM	14.67
3	UNVR	14.21
4	BBNI	12.80
5	BBTN	9.98
6	PTPP	9.87
7	PWON	8.84
8	BJBR	7.00
9	ICBP	4.80

Source: Data processed, Microsoft Excel.

In Kompas 100, the optimal portfolio performance measured using the Constant Correlation shows that BBCA has the largest proportion and ICBP has the smallest proportion.

*The Markowitz Model.* In Kompas 100, the optimal portfolio performance measured using the Markowitz Model shows that BBCA has the largest proportion and PLNF has the smallest proportion.

Based on Table 1, 2 and 3, it can be seen that the Single Index Model has a return of 0.001062, the Constant Correlation Model has a return of 0.001028, and the Markowitz

Model has a return of 0.001024. Thus, the Single Index Model is superior compared to the other two models.

Table 3 – Optimal Portfolio Performance Kompas 100: The Markowitz Model

No	Company	Stock Proportion (%)
1	BBCA	25.39
2	TLKM	16.23
3	PTPP	12.00
4	BJBR	11.15
5	ICBP	9.43
6	PWON	8.86
7	BBNI	4.94
8	PNBN	4.53
9	PNBN	4.53
10	PLNF	1.49

Source: Data processed, Microsoft Excel.

Table 4 – Comparison of Optimal Portfolio Performance Kompas 100

<i>The Optimal Portfolio Performance Kompas 100</i>			
n/n	<i>The Single Index Model</i>	<i>The Constant Correlation Model</i>	<i>The Markowitz Model</i>
E(IDR)	0.001062	0.001028	0.001024
$\sigma$	0.013632	0.013257	0.013332
Sharpe Index	0.064869	0.064112	0.063462
Treynor Index	0.000736	0.000692	0.000720
Jensen Index	0.000659	0.000619	0.000625

Source: Data processed, Microsoft Excel.

The level of risk faced can be calculated using the standard deviation ( $\sigma$ ). Of the three models above, the standard deviation of the Single Index Model has a value of 0.013632, the Constant Correlation Model has a value of 0.013257, and the Markowitz Model has a value of 0.013332. This shows that the Constant Correlation Model has the lowest risk. According to Niranjana Mandal (2013), the optimal portfolio calculation model with the Sharpe's Single Index Model is easier than using the Markowitz's Mean-Variation Model and this model can show how risky a security is if security is stored in a well-diversified portfolio.

Based on Table 4 above, the performance of Kompas 100 stocks can be seen:

**Sharpe Index.** The Single Index Model has a value of 0.064869, Constant Correlation Model has a value of 0.064112 and Markowitz Model has a value of 0.063462; these results show that the Single Index Model has the highest performance. J. Francis Mary and G. Rathika (2015) show that of 10 companies studied using the Sharpe Single Index Model, only one becomes an investment destination—the one having high performance. Besides that, Meenakshi and Sarita (2012) state that the Sharpe Single Index Model is very simple and useful for optimal portfolio construction.

**Treynor Index.** The Single Index Model has a value of 0.000736, the Constant Correlation Model has a value of 0.000692, and the Markowitz Model has a value of 0.000720. Of the three models, the Single Index Model has the highest performance.

**Jensen Index.** The Single Index Model has a value of 0.000659, the Constant Correlation Model has a value of 0.000619, and the Markowitz Model has a value of 0.000625. Of the three models, the Single Index Model has the highest performance.

Thus, it can be concluded that the Single Index Model is the best optimal portfolio because it has the highest performance value using the Sharpe, Treynor, and Jensen Index. Niranjana Mandal (2013) confirms that the development of an optimal portfolio investment by using that Sharpe Single Index Model is easier and more comfortable.

**LQ 45:**

**The Single Index Model.** For LQ 45, 17 stocks have a positive ERB value, and the data is used to form a portfolio. The value of  $C^*$  is in AKRA, which has the highest  $C_i$  value of

0.000480. Based on the  $C^*$  value, the portfolio is formed from ICBP, UNVR, TLKM, BBCA, BBNI, and AKRA. The largest optimal portfolio proportion is BBCA.

Table 5 – Optimal Portfolio Performance LQ 45: The Single Index Model

No	Company	Stock Proportion (%)
1	BBCA	26.72
2	UNVR	25.34
3	TLKM	20.72
4	BBNI	15.47
5	ICBP	10.77
6	AKRA	0.96
7	UNTR	0.02

Source: Data processed, Microsoft Excel.

*The Constant Correlation Model.* With the calculation of the constant correlation model, UNTR has the highest  $C_i$  value of 0.025741. Based on the  $C^*$  value, the optimal portfolio proportion is formed from BBCA, UNVR, BBNI, TLKM, ICBP and UNTR shares. The largest proportion is UNVR and the smallest is TLKM.

Table 6 – Optimal Portfolio Performance LQ 45: The Constant Correlation

No	Company	Stock Proportion (%)
1	BBCA	27.71
2	UNVR	22.10
3	TLKM	22.81
4	BBNI	19.90
5	ICBP	7.48

Source: Data processed, Microsoft Excel.

*The Markowitz Model.* With Markowitz Model, BBCA has the highest portfolio proportion and lowest AKRA.

Table 7 – Optimal Portfolio Performance LQ 45: The Markowitz Model

No	Company	Stock Proportion (%)
1	BBCA	24.37
2	UNVR	25.40
3	TLKM	19.27
4	BBNI	16.92
5	ICBP	9.95
6	UNTR	2.16
7	AKRA	1.93

Source: Data processed, Microsoft Excel.

According to Ihsan Kulali (2016), the Markowitz Model provides the best solutions in many alternatives, which are used with the mean-variance approach. Based on the 3 descriptions above, it can be seen that BBCA has the highest portfolio performance followed by UNVR and TLKM. ICBP, UNTR and AKRA have a proportion of stocks below 10%. Comparison of optimal portfolio performance from LQ 45 stocks using the 3 models above is presented in Table 8:

Table 8 – Comparison of Optimal Portfolio Performance LQ 45

Optimal Portfolio Performance LQ45			
-	<i>The Single Index Model</i>	<i>The Constant Correlation Model</i>	<i>The Markowitz Model</i>
E(IDR)	0.000958	0.000950	0.000953
$\sigma_p$	0.013775	0.013142	0.013113
Bp	1.171869	1.190387	1.178054
Sharpe Index	0.056622	0.058716	0.059087
Treynor Index	0.000666	0.000648	0.000658
Jensen Index	0.000560	0.000548	0.000554

Source: Data processed, Microsoft Excel.

Based on table 8 it can be seen that Single Index Model has a return of 0,000958, Constant Correlation Model of 0,000950 and Markowitz Model of 0,000953. From these results indicate that the Single Index Model has the highest return, it shows that the Single Index Model is superior compared to the Constant Correlation Model and Markowitz Model. To measure the level of risk faced, standard deviation is used. The standard deviation with Single Index Model is 0.013775, Constant Correlation Model of 0.013142 and Markowitz Model is 0.013113. Of the three models above, the lowest risk level is the Markowitz Model.

Based on table 8 above, the performance of LQ 45 stocks are as follows:

*Sharpe Index.* Calculation of the proportion of optimal portfolio shows that the Single Index Model has a value of 0.056622, the Constant Correlation Model has a value of 0.058716, and the Markowitz Model has a value of 0.059087. From these results, the Markowitz Model has the highest performance.

*Treynor Index.* Calculation of the proportion of optimal portfolio shows that the Single Index Model has a value of 0.000666, the Constant Correlation Model has a value of 0.000648, and the Markowitz Model has a value of 0.000658. From these results, the Single Index Model has the highest performance.

*Jensen Index.* Calculation of the proportion of optimal portfolio shows that the Single Index Model has a value of 0.000560, the Constant Correlation Model has a value of 0.000548, and the Markowitz Model has a value of 0.000554. From these results, the Single Index Model has the highest performance.

Based on the above, it can be concluded that Markowitz Model is the best optimal portfolio because it has the highest performance value on the Sharpe Index. This is in line with the recommendations of Fadila Paramitha and Achmad Herlanto Anggono (2013) stating that if investors want to calculate or make their own portfolios, they can use the Markowitz Modern Portfolio Theory because this method can help investors make portfolios easier.

*Comparison of Optimal Portfolio Performance Kompas 100 and LQ 45.* Based on optimal portfolio performance formed on Kompas 100 and LQ 45, the followings can be known:

- Kompas 100 has an optimal portfolio return of 0.001062, while LQ 45 has an optimal portfolio return of 0.000958. This shows that the Kompas 100 optimal portfolio has the highest return compared to LQ 45 or that Kompas 100 is superior compared to the LQ 45 stock index;
- Kompas 100 has a standard deviation value of 0.013632 and LQ 45 of 0.013775. This shows that Kompas 100 has the lowest standard deviation, which means the level of risk possessed is lower than that of LQ 45 stocks;
- Based on the calculation of the Sharpe Index, Kompas 100 has an optimal portfolio proportion of 0.064869 (the Single Index Model) and LQ 45 has a value of 0.056622 (the Markowitz Model). This shows that Kompas 100 has the highest performance.
- In the Treynor Index, it can be seen that Kompas 100 has an optimal portfolio proportion of 0.000736 and LQ 45 of 0.000666. This shows that Kompas 100 has the highest performance;
- In the Jensen Index, it can be seen that Kompas 100 has a performance value of 0.000659 and LQ 45 has a value of 0.000560. This shows that Kompas 100 has the highest performance or that Kompas 100 is also superior in the Jensen Index compared to the optimal portfolio of the LQ 45 stocks.

The optimal portfolio formed based on the Single Index Model on Kompas 100 is the best optimal portfolio because it has the highest performance value on Sharpe, Treynor, and Jensen Index. This shows that stocks investors should choose are proportions formed based on the optimal portfolio of the Single Index Model on Kompas 100. Gautam, J., & Singh, S. (2014) confirm that with the Markowitz model based on several assumptions regarding investor behavior, a single asset portfolio is considered efficient if there are no other assets or portfolios that offer higher expected returns.

## CONCLUSION

The formation of an optimal portfolio with the Single Index Model, the Constant Correlation Model, and the Markowitz Model in Kompas 100 and LQ 45 stocks produces different proportions of optimal portfolios. The optimal portfolio proportion with the highest return is generated in Kompas 100 using the Single Index Model method. Stocks that have the lowest risk are Kompas 100 using the Constant Correlation Model and LQ 45 using the Markowitz Model method. These results are in line with the research conducted by Umanto (2008), that the formation of an optimal portfolio with a constant correlation model has a better performance compared to the optimal portfolio formed using the single index model. The Constant Correlation Model and the Markowitz Model produce higher returns than return on JCI.

The research conducted by Ayu (2013) also supports this research, that the Single Index Model and the Constant Correlation Model can be used to form an optimal portfolio.

Kompas 100 portfolio has the highest Sharpe, Treynor, and Jensen Index values compared to the LQ 45 portfolio with the Single Index Model, the Constant Correlation Model, and the Markowitz Model. This shows that the optimal portfolio in Kompas 100 has better performance than the optimal portfolio formed in LQ 45. These results are in line with the research conducted by Setiawan (2012) that the optimal portfolio formed in Kompas 100 shares is more optimal than the optimal portfolio formed in stocks in Business Index 27.

For optimal portfolio using the Single Index Model, the highest performance is in Kompas 100 using the Sharpe, Treynor, and Jensen Index compared to LG 45. This shows that the optimal portfolio calculation with the Single Index Model has better performance than Constant Correlation Model and Markowitz Model for both Kompas 100 and LQ 45. J. Francis Mary and G. Rathika (2015) confirm that an efficient portfolio can be achieved with a single index model as proposed by Sharp. The results of this study are in accordance with Ayu (2015) that optimal portfolio performance in the form of the Single Index Model has a better performance than the optimal portfolio formed by the Constant Correlation Model.

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DOI <https://doi.org/10.18551/rjoas.2018-12.03>

## **STRATEGY OF IMPROVING HUMAN RESOURCE MANAGEMENT PLANNING IN COMPANY DEVELOPMENT**

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### **ABSTRACT**

To achieve the better requirements in company, Human resources management planning needs to be identified and planned. The management determines the company of human resources to be placed in the desired position and to obtain systematic improvements. It requires both elements, they are quality and quantity. To achieve high quality Human resources management requires some strategy. This study will investigate the strategy of human empowerment and development methods for the purpose of improving the effectiveness of company. This study uses a qualitative descriptive design. The researcher used a case study to investigate the strategy of human resources management planning development in company. The data used in this research was various sources reference for research writing. Data analysis techniques used was data classification. The obtained data are classified and organized then; the researcher finds the strategy of human resources planning management development. The result of the research shows that individual performance in every activity is the key to achieving productivity. Performance determines where people and other resources in the company are brought together the final results based on the level of quality and standards. It has been set. Consequently, company needs human resources who have expertise and unique abilities based on the vision and mission of the company. Therefore, company must be able to develop the potential of human resources to be more creative and innovative.

### **KEY WORDS**

Management, business, human resources, development.

Some experts put forward several notions of human resource management planning. It is a series of future oriented steps or action and how a resource is allocated with business activities. It will be funded, supported and implemented. Therefore, it can achieve the objectives (Sofo, 2014). Other experts say that human resource planning is a process existing human resources which have been identified, defined and planned for the needs of the company. It aims to meet both short and long term needs (Prashanti, 2013).

Bulla and Scoh (1994) define Human Resource planning is a process to ensure human resource. The requirements in company have been identified and planned to achieve the specified requirements. According to Erick Vetter (in Widajanti, 2007) human resources planning is a process where management determines how the company should move from the current state of human resources to the desired position in the future. It has been seen as a linear process by using short-term data and processes as a long-term planning guide. systematic improvements need to be given to the inputs, processes and test systems to ensure the creation of high quality. Optimal quality of human resouces planning is expected. The achievement of human resources can master the knowledge, skills and expertise in accordance with the evolving science and technology (Sobakh, 2017)

Human resources planning follows the concept that humans are the most important source of strategy in an company. In general, Human resources planning is related to the right resources for long-term and short-term business. It requires both element, they are quality and quantity. Human resources planning relates to a larger issue of human empowerment and development methods for the purpose of improving the effectiveness of an company (Prashanti, 2013). Thuman resourcesough human resources planning, management tries to get the right person, in the right amount, at the right place and at the

right time, and produces long-term maximum satisfaction for both the company and the individual professional competence, it means human resources should have a broad knowledge of the subject matter that will be taught. The management should have knowledge of theoretical concepts, able to choose the appropriate method and able to use planning in human resources development (Sobakh, 2017).

According to Schuler and Walker (1990) in Widajanti (2007), Human resources planning includes 5 (five) stages, they are (1) Identifying objectives, (2) Forecasting the needs or basic requirements of human resources, (3) Assessing the skills that have been possessed and characteristics other internal offers, (4) Determining the main needs of human resources, and (5) Developing a plan of activity and program activities to ensure the placement of the right people in the right place. Human resources activities are described in the human resources terms, they are:

1. Short-term planning (up to one year) is often referred to as a human resource strategy, it is including:

a. Predicting supply and demand that can be predicted with certainty (what work needs to be filled and offered, how and where to get those people)

b. Setting goals that are easy to quantify (including: attracting, assessing and determining employees needed for various jobs)

c. Design and implementation of short-range programs (for example: employee withdrawal programs, selection programs, performance appraisal systems to identify performance improvements and award compensation, training programs that emphasize developing skills needed in the future, compensation systems designed to achieve short-term goals and are expected to assist the process of achieving a longer term goal)

d. Evaluate short-term planning (including: an assessment of how well goals have been achieved). Because short-term goals are generally easily quantified (for example: accommodating the number of job applicants, determining the number of hired employees and the level of employee performance), then a systematic evaluation of human resources programs to meet the short-term needs of the company is quite flexible and some evaluations are in fact can be done by large company.

2. Medium-term planning (period of two or human resources years), it is including:

a. Predicting medium-term demand, in this case strategic planning seeks to predict company output, for example: expected production, volume and level of sales,

b. Predict medium-term offer. To predict medium-term supply can be derived from external or internal information sources, but usually internal information is crucial and more feasible,

c. Set goals. The medium-term objective is a series of action plans developed to achieve goals through joint efforts of human resources planning and relevant managers in a company. Medium-term goals are more visible in terms of: re-adjusting the skills, attitudes and behavior of employees to adjust the main changes needed in the business, such as adjusting human resources practices to changes in employee needs,

d. Design and implementation of medium-term programs that can help employees adjust to company changes. These programs include: training or retraining programs (this is influenced by technological changes), services related to work that require new management styles (production of goods, values of service orientation, delivery of goods), good readiness in the long run short to attract new or hired employees who can encourage longer-term programs, economic conditions force downsizing (there are human resources main drivers for medium-term programs, namely: company restructuring (including: mergers and acquisitions), reduction in labor which often follows company restructuring and adaptation to a diverse workforce).

e. Medium-term evaluation. Because the medium term is more uncertain, contingency and broader scope, the adjustment of the analysis unit is often at the productivity of the department or business unit.

3. Long term (more than ten years) It is including:

a. Forecasting demand and supply related to succession challenges. While the succession planning program itself is a complex system to protect long-term corporate

health. The main goal of the succession management program is to develop a strong leadership team for strategic tasks (Leibman et. Al., 1996 in Widajanti, 2004). Key activities in forecasting long-term demand and supply include:

b. Identifying employees who have high potential, identifying what is needed provides learning experiences to develop competencies. While a good development program, includes a variety of components: selection procedures, development plans, mentorship, performance review and career planning activities that involve employees in planning and monitoring their own development.

c. Design and implementation program, this can be done by developing the talents of people who have better mental abilities, which are psychologically suited to what the company needs for innovation and change, planning succession and career development and quality improvement programs,

d. Long-term planning evaluation. Succession program evaluation emphasizes the ability to predict individual outcomes, such as career progress and satisfaction. Long-term evaluation is also applied to evaluate long-term programs that use company results, such as: share price, market share, receipt of industry awards and so on.

### **METHODS OF RESEARCH**

Based on the problem of the study stated above, the suitable design of this research is qualitative research. This research shows the result of strategy of human resources planning management. These strategy consist of integrated planning for the future company, it involve working design, job carier, training, development, management, success, remuneration, retirement in a natural setting. Dörnyei (2007: 40) the qualitative study design is to describe the real phenomena that is occured naturally or the real fact situation is undercontrol in this study. this study attempts to understand how is the strategy to overcome human resource planning management.

Qualitative research engages case study (Johnson and Christensen, 2008:29). This study aims to find the facts of human resource planning problem solving. The data is collected in words. It focused on the strategy of human resource planning management. The data analyzed inductively and explored the meaning of thus, the suitable strategy selected to investigate research question use qualitative research design.

The obtained data from the observation and interview is analyzed inductively. The obtained data are collected into one and classified then, the researcher find the solution of human resources planning strategy. After that the researcher analyze them in line with the research question and decide them what important to be learned. The result of the analysis is drawn a conclusion

Since the data collections in qualitative design. The data presente in word and sentences form. Unstructured interview is used to gain depth data. The researcher classify the data into relevant unit which enable to solve the research objective. The data which does not have relation to the strategy of human resources planning the researcher will reduce them. The researcher analyze them in line with the research question and determine them what significant things to be learned.

### **RESULTS AND DISSCUSION**

The availability of human resources needed to carry out tasks in the future is very important to ensure that the activities of an company can be carried out properly. The actions to be taken must be planned in advance to ensure and minimize disruption to the plans that have been made in advance. According to Hariandja (2007) good human resources planning will:

1. Improve utilization of human resources;
2. Adjusting human resources activities and needs in the future efficiently;
3. Improve efficiency in attracting new employees;

4. Completing human resources information that can help the activities of human resources and other company units.

In addition, planning human resources is considered important because it is expected to provide several benefits for both the company and employees. According to Rivai (2004) these benefits include:

1. Companies can better utilize the human resources that exist in the company. Human resource planning also needs to begin with an inventory of human resources that are already in the company. The inventory includes:

- a. Number of employees available;
- b. Various qualifications;
- c. Working period of each employee;
- d. Knowledge and skills possessed, both formal education and job training programs that have been followed;
- e. Talents that still need to be developed;
- f. Employee interests, especially those relating to activities outside of work assignments.

The results of the inventory are very important, not only in order to utilize human resources in carrying out current tasks, but at least relate to four interests in the future, namely:

- g. Promotion of certain employees to fill vacancies that are higher if due to various reasons there is a vacancy;
- h. Increased ability to carry out the same tasks;
- i. In the event of a transfer of work area which means that someone is assigned to a new location but the nature of the job assignment does not change.

2. Human resource though mature human resource planning, they work effectiveness can also be further enhanced if existing human resources are in accordance with the needs of the company. Standard Operating Procedure (SOP) as a work guideline that has been owned which includes: a conducive work atmosphere, work tools in accordance with the duties of each human resource available, the guarantee of work safety, all systems are running well, can be applied properly company and placement of human resources have been calculated based on needs and workload.

3. Productivity can be further enhanced if you have data about knowledge, work, training that has been followed by human resources. By employing in various educations and training encourage employees to increase their productivity. Human resources through education and training can improve the skills and skills of human resources followed by an increase in work discipline that will produce something more professional in handling work that is directly related to the interests of the company.

4 Human resource planning is related to the determination of future workforce needs, both in terms of the number and qualifications to fill various positions and carry out new activities in the future.

5. One aspect of human resource management which today is perceived more and more important is the pen n Subscribe employment information. By the availability of fast and accurate information, it is increasingly important for companies, especially companies that have many human resources with branches spread in various places (both domestically and abroad). With this information, it will be easier for management to carry out human resource planning based on advanced technology which is an unavoidable need in an era of rapid change.

6. As understood, one of the preliminary activities in planning including human resource planning is research. Based on the material obtained and the research carried out for the benefit of human resource planning, there will be a proper understanding of the labor market situation in the sense of:

- Demand for labor users for labor is seen in terms of number, type, qualifications and location;

- Number of job seekers along with areas of expertise, skills, professional background, wage or salary levels and so on. Understanding is important because the form of the plan that is prepared can be adjusted to the situation of the job market.

7. The human resource plan is the basis for the preparation of work programs for the work unit which handles human resources within the company. One aspect of the work program is the procurement of new employees to strengthen the existing workforce in order to improve the company's ability to achieve its goals and objectives. Without human resource planning, it is difficult to develop realistic work programs.

8. Knowing the labor market. The job market is a source for finding potential human resources for recruiting within the company. With the existence of human resource planning data in addition to making it easier to find candidates that match the needs, it can also be used to help other companies that need human resources.

9. Reference in developing human resource development programs. Human resource planning can be used as one of the reference contributions, but can also come from other sources. With complete data about the potential of human resources, it will be easier to develop programs that are more mature and more accountable. Based on these things, can be known the benefits of human resource planning in a company as something very important, for the smooth and the achievement of the objectives of the company.

*Concepts and strategy of human resource planning.* Before observing further about the importance of human resources planning or human resources planning, it is necessary to explain in advance about the steps of human resources planning. Based on the function to assist the company in achieving its objectives, it can be seen from the perspective of human resources and the focus of attention of human resources planning. It is on the process of forecasting and determination of human resources needs in the future, then the steps of human resources planning according Hariandja (2007) is as follows:

- Analysis of several factors that cause changes in human resources needs;
- Forecasting human resources needs;
- Determination of human resources needs in the future;
- Analysis of human resource availability and capability;
- Determination and implementation of the program.

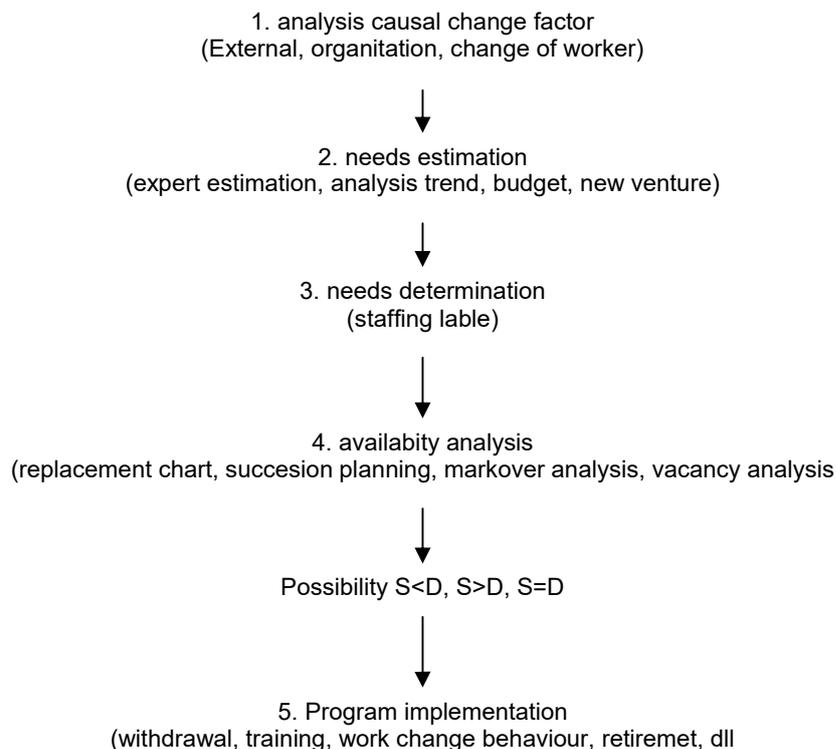


Figure 1 – Human resource planning model (Source: Hariandja, 2007)

Another opinion was conveyed by Hasibuan SP in Mulyadi, et al (2012) regarding the stages of human resources planning, namely:

*Procurement.* Procurement must be planned properly and correctly so that the quality and quantity of human resources are in accordance with the needs of the company, including: withdrawal; selection.

*Development.* Development is the process of improving the technical skills, theoretical, conceptual and moral of employees the human resources through education and training. Education and training must be in accordance with the needs of current and future workers, including: education; training; mutation.

*Compensation.* Compensation is the provision of fringe benefits (*direct*) and indirect (indirect), money or goods to employees as compensation for services provided by the company. The principle of compensation is fair and decent. Fairly interpreted in accordance with its work performance, it is reasonable to be interpreted as being able to fulfill its primary needs and guided by the government's minimum wage limits and based on internal and external consistency.

*Maintenance.* Maintenance is an activity to maintain or improve the physical, mental and loyalty conditions of employees, so that they remain willing to work together until retirement. Maintenance needs to be planned properly so that *labor turnover* is relatively low, by providing welfare programs.

*Discipline.* Deployment is the most important human resources function and the key to the realization of goals because without good discipline, it is difficult to achieve maximum goals. Discipline is the desire and awareness to obey company regulations and social norms. The discipline is a reflection of the responsibilities of employees that must be carried out as well as possible rules of law sanctions.

*Stop.* Termination is the breaking of one's work relationship from the company. Termination must be planned as well as possible so as not to cause difficulties for the company, because sooner or later employees will stop for various reasons. Among them: retirement, fired.

The six concepts in above, we can see that human resources planning is important for the progress of a company therefore, the rate of interest (urgency) resources planning is quite high. The urgency of human resources planning consists of integrated plans for the future of the company including work design, recruitment, training, development, career management, succession, remuneration, separation and resignation, reward systems, and performance management. An integrated approach is not only important for good human resources practice, but also to ensure that company goals, structures and culture are effective and efficient.

*Strategy of human resources Training and Development in the Industry Union.* To improve the quality and competitiveness of the company, management needs to decide the human factor. This can be done by building basic mentality human resources, so that the growing awareness of quality in all levels of employees from top management to lower level employees. Mental base is a mental attitude that underlies the way of thinking how to behave and how to act in carrying out their daily work in harmony with the values of the company (Budi Santosa, 2004 in Soetjipto, 2008, p. 94). For development basic mentality for the realization of a work culture, the role of human resources needs to be optimized. Basic mental development can be done by human resources through employee training and development programs. This is as expressed by Pheter Sheal (2003) in Soetjipto (2008, p. 96) that there are 4 main reasons why employee training and development programs become increasingly important, they are: rapid changes in technology as well as people tasks; lack of direct skills and long-term skills; changes in the expectations and composition of the workforce; market competencies and pressures for improvement in the quality of products and services.

Given that the program of education and training is basically organized as a means to eliminate or at least reduce the gap between the competencies that exist today with the competence standard or expected to be done by someone, then in this case the training

needs analysis and the development of a tool to identify gaps and analyze whether these gaps can be reduced or eliminated human resources through a training and development program. As expressed by Soetjipto (2008, p. 103) that without a genuine needs analysis, it can be ascertained that the training program that is designed will only be successful in the classroom or training venue. This means that the implementation of training may work very well, but when participants (trainees) return to their respective workplaces, they become ignorant or confused about how to apply what they have learned from the training.

*Competency-based human resources Development.* Soetjipto (2008) argues that in company, human resources (labor) are a very important component, because the success of company depends on the quality of the people inside it. Changes in technology and environments move so fast in all joints of life that make competition so sharp. Therefore, the company must have a competent workforce so that it can respond quickly to any changes that exist, analyze the impact on the company, and prepare step accurate to deal with various conditions.

Individual performance in every activity is the key to achieving productivity, because performance is a result, where people and other resources in the company are together bring the final results based on the level of quality and standards that have been set. Consequently, company needs human resources who have expertise and unique abilities in accordance with the vision and mission of the company. Therefore, company must be able to develop the potential of human resources to be more creative and innovative. Competency-based human resources development is carried out in order to provide results that are in accordance with the goals and objectives of the company with predetermined performance standards, so that the company's target to provide excellent service to consumers will be achieved (Soetjipto, 2008).

*Competencies Needed for the Future.* Based on the ideas of the experts can be identified several main points about the quality that needs to be owned by someone at the executive, manager and employee level. Therefore, it is necessary to prepare the competencies needed to meet the new challenges in the future according to Spencer & Spencer (1993, pp. 343-345), it is including the following.

*Executive Level.* At the executive level compensation is needed in the "strategic thinking" field, "change leadership", and "relationship management". The explanation of the human resources competencies is as follows:

- Competence "*strategic thinking*" is the competency to understand the trends of rapid environmental change, look at the market opportunities, thuman resources seats, strengths and weaknesses of the company in order to identify "*strategic response*" optimally;
- Competence "*change leadership*" is the competency to communicate the vision and strategy of change that can be transformed to employees. Understanding of the company's vision by employees will lead to motivation and commitment so that employees can act as sponsors of innovation and "*entrepreneurship*", especially in allocating the best possible companyal resources to lead to the change process;
- Competence "*relationship management*" is the ability to improve relationships and network with others. Collaboration with other parties is needed for the success of the company.

*Manager Level.* At the manager level, at least competency aspects such as "flexibility", "interpersonal understanding" are needed, "Empowerment", "Team facilitation", and "portability". The explanation of the five competencies is as follows.

- Competence "flexibility" is the ability to change the structure and managerial systems if necessary companyal change strategy for the effective implementation of companyal tasks;
- Competence "interpersonal understanding" is the ability to understand the value of different types of people;
- " Empowerment " competence is capable of various information, conveying ideas by subordinates, developing employee development, delegating responsibilities, giving

feedback suggestions, expressing positive expectations for subordinates and rewarding employees who have the motivation and responsibility greater than;

- Competence "facilitation team" is the ability to bring people to work together effectively to achieve common goals, including in this case is to give every person to participate and resolve conflicts;
- Competence "portability" is the ability to adapt and function effectively with overseas environment so managers should be 'portable' to the positions that exist in any country.

*Employee Level.* At the employee level required quality competencies such as "flexibility", "information search, motivation, and learning ability", "achievement motivation," work motivation under time pressure", "collaboration", and "service orientation to customers". The explanation of the six competencies is as follows.

- Competence "flexibility" is the ability to see change as an exciting opportunity rather than as a thuman resource seat;
- The competence of "information search, motivation, and learning ability" is a competence about enthusiasm to seek learning opportunities about technical and interpersonal skills;
- "Achievement motivation" competence is the ability to drive innovation, continuous improvement in quality and productivity needed to meet competency challenges;
- The competence of "work motivation under time pressure" is a combination of flexibility, achievement motivation, stress resistance, and companyal commitment that makes individuals work well under the demand for new products, even in limited time;
- "Collaboration" competence is the ability to work cooperatively in multi-disciplinary groups, put positive expectations on others, interpersonal understanding, and companyal commitment;
- "Service to customer orientation" competence is a great desire to serve customers well, and initiatives to overcome obstacles in the company in order to overcome the problems faced by customers.

## CONCLUSION

Based on the finding and discussion above, it can be concluded that company need human resources who have expertise and unique abilities in accordance with the vision and mission of the company. Therefore company must be able to develop the potential of human resources to be more creative and innovative. Competency based human resources development is carried out in order to provide results in accordance with the goals and objectives of the company with the performance standards that have been set, executives needed compensation in the field of strategic thinking, Change leadership, and relationship management. At the manager level, at least competency aspects such as flexibility, interpersonal understandings are needed such as empowerment, team facilitation, and portability. At the employee level required quality competencies such as flexibility, information search, motivation, and learning ability, achievement motivation, work motivation under time pressure, collaboration, and service orientation to customers. Those are the classification of strategy in developing human resources management planning. This study result imply to improve business sector especially in manage human resources.

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DOI <https://doi.org/10.18551/rjoas.2018-12.04>

## **INTERACTION EFFECT OF INTOLERANCE OF AMBIGUITY, PERSPECTIVE AND TYPE OF BALANCED SCORECARD MEASURES ON PERFORMANCE EVALUATION**

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### **ABSTRACT**

Performance evaluation is defined as key activities to ensure whether organizational goals can be realized or not. The character of the evaluator and evaluation object are the determining factors for evaluating performance evaluation. The purpose of this research was to determine the interaction effects of intolerance of ambiguity evaluator with the balanced scorecard perspective, intolerance of ambiguity evaluator with the type of balanced scorecard measures, as well as perspective with the type of balanced scorecard measures on the results of performance evaluation. The approach used in this research was quantitative, the type of research was experimental using the factorial design of 2x2x2. The research was conducted at two private universities that implemented the balanced scorecard in Jakarta. 128 respondents of the research consisted of head of study programs, deans and rectorates. The analytical method used was a three-way variant analysis that was processed using SPSS version 24 software. The results show that the interaction between intolerance of ambiguity evaluator and balanced scorecard perspective has an effect on the results of performance evaluation, the interaction of intolerance of ambiguity with the type of balanced scorecard measures has an effect on the results of performance evaluation, and the interaction between perspective with the type of balanced scorecard measures has an effect on the results of performance evaluation. These findings provide implications for performance evaluation systems that can influence organizational behavior to achieve organizational goals.

### **KEY WORDS**

Interaction effect, intolerance of ambiguity, perspective, size, performance evaluation.

Accreditation results owned by universities can be an indicator of their qualities. When deciding on college choices, prospective students will see the accreditation assesment of institutions and study programs. Likewise, graduate recruiters will recruit graduates from universities by looking at the accreditation of institutions and study programs. In the face of competition, universities need to have the best actration at national and international levels. To have such accreditation, universities can use balanced scorecard (BSC) as a method to translate their vision and mission into performance measures that can be controlled and realized.

Since being introduced by Kaplan and Norton in 1996, the BSC has been widely used in profit-oriented and non-profit oriented institutions. Several foreign and domestic universities have implemented BSC to measure their performance. Large universities in the USA such as the University of California Berkeley, the University of California San Diego, Cornell University, the University of Tennessee, and so on have for some time used this BSC concept to measure the performance of their organizations (Indrajit and Djokopranoto, 2006: 144). Similarly, several universities in Jakarta, Indonesia has also implemented BSC such as Tarumanagara University (Prarono, 2009), Bina Nusantara University (Polla, 2007).

A survey conducted by Anand, Sahay and Saha (2005) found that 45.28% of respondents had used BSC as a performance management tool.

In order to obtain accreditation, the role of the evaluator of the internal performance of universities and accreditation institutions is to determine the level of accreditation obtained. Before the accreditation of study programs or institutions is carried out by an accreditation institution, the performance evaluator from within the university can be the initial determinant to determine the level of accreditation. The results of performance evaluation are influenced by evaluation context, object of evaluation, and evaluator (Gelderman, 1998).

The BSC has major strengths in unique measures in every perspective (Kaplan and Norton, 1992). However, Lipe and Salterio (2000) proved in their research that managers ignore one of the key characteristics of BSC, namely the placement of unique sizes for the strategic objectives of business units in the evaluation of performance evaluation. If the manager assesses performance with a common size only, it will create a bias for the usefulness of the BSC, which is caused by the amount of implementation costs including management time that is not comparable with the usefulness of BSC or in short, the BSC does not cause any benefits (Kaplan and Norton, 1996).

In line with the findings of Lipe and Salterio (2000), Ittner, Larcker and Meyer (2003) in their research proved that there is a subjectivity in determining the relative weight of measures used in evaluation because there is a tendency to bias from a financial perspective for common performance measures. Lipe and Salterio (2000) stated that there are human cognitive tendencies and other factors that result in performance evaluation which is not aligned with the strategies and objectives articulated in the BSC of the company. These other factors are the availability of third party guarantees (Libby, Salterio and Webb, 2004), the BSC evaluation approach (Roberts, Albright and Hibbets, 2004) and manager's knowledge of BSC (Dilla and Steinbart, 2005).

The results of research conducted by Ittner, Larcker and Meyer(2003) revealed various performance measures that are charged to the BSC bonus plan in most service companies. Subjectivity occurs in the BSC plan that allows managers to reduce the balance in giving bonuses by placing a portion of the weight on financial measures. Financial performadnce is the main determinant of bonuses. They argued that psychology-based explanations are more relevant than economic-based explanations in explaining company performance measurement practices.

The results of research conducted by Cardinaels and Veen-Dirks (2010) proved that when evaluating using BSC, evaluators tend to pay more attention to financial measures than non-financial measures. Furthermore, the results of Bone and Sholihin's (2012) research indicate that when evaluation is conducted by using BSC, the evaluators tend to give more attention to both financial and non-financial perspectives in common size than unique size. Gelderman (1998) stated that there are several characteristics of evaluators of performance measurement systems, such as locus of control and ambiguity tolerance. With the various characteristics of evaluators, the results of the performance evaluation system can vary. DeBusk, Killough and Brown (2010) argued that an aspect of individual differences that has been tested in accounting research since 1970 are intolerance of ambiguity.

Budner (1962) supported the possible relationship between intolerance of ambiguity (IOA) and the use of information. Individuals who are intolerant of ambiguity will be more likely to seek additional information to reduce the threat of ambiguity from existing data or the absence of overall data (DeBusk, Killough and Brown, 2010). Dermer (1973) stated that there is a possibility that cognitive characteristics of information users can influence perceptions about important information and therefore can influence how information influences behavior.

Evaluators who are not tolerant of ambiguity need a lot of information in doing their work compared to evaluators who are tolerant of ambiguity (Gelderman, 1998). DeBusk, Killough and Brown (2010) suggested that intolerance of ambiguity is related to individual self-confidence. Liedtka, Church and Ray (2008) stated that individuals who are intolerant of ambiguity reject ambiguous information. Banker, Chang and Pizzini (2004) found that performance evaluation is influenced by measures related to strategy rather than measures

that are not related to strategy when evaluators are provided with detailed information about the strategy of the business unit.

This research follows up on what Lipe and Salterio (2000), DeBusk, Killough and Brown (2010), Cardinaels and Veen-Dirks (2010), and Bone and Sholihin (2012) have done to identify possible biases in performance evaluation. Lipe and Salterio (2000) found that when performing performance evaluation using BSC, evaluators are more likely to pay attention to common measures than unique measures. While research from Cardinaels and Veen-Dirks (2010) found that when evaluation is conducted by using BSC, evaluators tend to pay more attention to financial measures than non-financial measures. Furthermore, the results of Bone and Sholihin's (2012) research showed that evaluators use both common financial measures and common non-financial measures in evaluating their performance. Bone and Sholihin (2012) research results indicated that when evaluation using BSC is conducted, evaluators tend to pay more attention to common financial measures than unique financial measures as well as common non-financial measures versus unique non-financial measures.

The results of this research are contrary to the theory proposed by Kaplan and Norton (1992) as the inventor of the BSC, namely that the BSC does not only focus on financial measures but also non-financial measures so as to provide a more comprehensive view of a company to act in accordance with its long-term goals and have the main strength on unique measures in each perspective. If the manager assesses performance with common measures only, it creates a bias for the usefulness of the BSC because the amount of implementation costs including management time is not comparable to the usefulness of the BSC. Rather, the BSC does not cause any benefit (Kaplan and Norton, 1996).

The gap between the BSC theory and the findings of some of the results of the study may be explained by using DeBusk, Killough and Brown (2010) findings, which stated that evaluators who are not tolerant of ambiguity will be more likely to seek additional information to reduce the threat of ambiguity from existing data (DeBusk, Killough and Brown (2010)). The existence of a gap between the results of some of these studies with BSC theory can be expected because the research is only at the stage of object evaluation, namely the perspective and type of BSC measures related to performance evaluation. IOA performance evaluators are treated as control variables.

This research limits the combined effect of IOA, perspective and type of BSC measures on the results of performance evaluation, including: the effect of IOA interaction with the BSC perspective on the results of performance evaluation, the effect of IOA interaction with the type of BSC measures on the results of performance evaluation, the effect of perspective interaction with type of BSC measures on the results of performance evaluation. This is in line with the opinion of Gelderman (1998) who stated that the performance measurement system is determined by the interaction between two variables and the three variables, namely the evaluation context, the evaluation object and the evaluator as well as each variable. The results of studies which revealed the effect of interaction between independent variables on the dependent variables were not found. Whereas in practice, performance evaluation activities involve the interaction of several independent variables on the dependent variable. The performance measurement system design is determined by what is economically desired by the organization. The system is the basis for building hypotheses that relate between IOA (evaluator), perspective and type of BSC measures (object of evaluation) with performance evaluation.

## HYPOTHESIS DEVELOPMENT

*The Effect of Interaction between IOA with BSC Perspective on Performance Evaluation.* Differences in the characteristics of evaluators of organizational performance have various effects in providing performance evaluation. When making decisions, evaluators who are intolerant of ambiguity will tend to seek additional information to reduce the threat of ambiguity from existing data or the absence of overall data (DeBusk, Killough and Brown, 2010). Information in the BSC can be grouped related to financial and non-

financial perspectives (Kaplan and Norton (1992)). Gelderman (1998) stated that the characteristics of evaluators, evaluation objects and evaluation context and interaction of the three affect the performance evaluation system. Its tolerance for ambiguity with evaluation object, namely the BSC perspective has an effect on the results of organizational performance evaluation. Thus, based on this, hypothesis can be stated as follows:

Ha1: There is an effect of IOA interaction with BSC perspective on performance evaluation.

*The Effect of Interaction between IOA with Type of Measures on Performance Evaluation.* When making decisions, performance evaluators that are not tolerant of ambiguity tend to seek additional information to reduce the threat of ambiguity from existing data or the absence of overall data (DeBusk, Killough and Brown, 2010). The strength of the BSC is on unique performance measures at each perspective. If the performance evaluator uses only common performance measures, there are wasted resources and the BSC that does not provide benefits (Kaplan and Norton, 1996). Gelderman (1998) stated that the characteristics of the evaluators, evaluation object and evaluation context and the interaction of all three affect the organizational performance evaluation system. Thus the interaction between the characteristics of the evaluator (the level of tolerance for ambiguity) with evaluation object (type of BSC measures) has an effect on the results of organizational performance evaluation. Based on this, the following hypothesis can be stated:

Ha2: There is an effect of IOA interaction with the type of BSC measures on performance evaluation.

*The Effect of Interaction between Perspective with Type of BSC Measures on Performance Evaluation.* Kaplan and Norton (1996) argued that: "If it can measure it, you can manage it". The statement is the rationale for measuring all activities grouped into four perspectives in the BSC, namely finance, customers, internal business processes, growth and learning. Types of performance measures can be classified as common and unique. Performance measures for qualitative activities tend to be common statements that give rise to subjective assessment potential while quantitative performance measures are detailed and more objective. The BSC has the main strength in unique measures in every perspective. If the manager assesses performance with a common measure only, it will create a bias for the usefulness of the BSC. This is due to the large amount of implementation costs including management time that is not comparable to the usefulness of the BSC. Rather, the BSC does not cause any benefits (Kaplan and Norton, 1996).

Object evaluation affects the performance evaluation system (Gelderman, 1998). BSC has a financial and non-financial perspective with a common and unique type of measures. If the evaluator is provided with an evaluation object in the form of financial perspective information compared to a non-financial perspective, the results of the performance evaluation can be different. Likewise, if common performance measures is provided compared to unique performance measures, the results of the performance evaluation can be different. Thus the perspective and type of BSC measures have an influence on performance evaluation. Based on this thought, there is an effect between perspective interaction and type of BSC measures on performance evaluation. Based on the description, the following hypothesis can be formulated.

Ha3: There is an effect of interaction between IOA, perspective and type of BSC measures on performance evaluation.

## METHODS OF RESEARCH

This research used quantitative approach. The type of the research was experimental using factorial design. With factorial design, it allowed researchers to test the effects of two or more manipulations at the same time on the dependent variable (Sekaran and Bougie, 2013: 195). This research used a factorial design of 2x2x2, as shown in Table 1. Independent variables which were attribute variables (controlled) were IOA with two high and low treatment levels. Manipulated independent variables were experimental variables, namely perspective variables with two levels of treatment, namely financial and non-financial,

and variable types with two levels of treatment, namely common and unique. The dependent variable was performance evaluation.

Table 1 – Research Experiment Design

IOA	Perspective			
	Financial		Non Financial	
	Common	Unique	Common	Unique
High	Group A	Group B	Group C	Group D
Low	Group E	Group F	Group G	Group H

Source: Processed by authors.

To find out IOA performance evaluators, the researchers used the Budner scale. According to DeBusk, Killough and Brown (2010), the Budner scale was most often used to determine the level of intolerance of ambiguity because it had the best level of validity and reliability compared to other scales. The score on Budner's scale was determined by giving a value to each participant's response item. Statement items with answer choices were provided in the form of a 1 to 7 Likert scale. If the statement item was answered by the participant by crossing the number "1", then the score for the item statement was 7, if the number "2" was selected, then the score for the statement item was 6, and so on. The higher score indicated the higher tolerant of ambiguity or lower IOA.

The other two independent variables were perspective and type of measures. The BSC perspective was grouped into two, namely financial and non-financial. Details for non-financial perspectives included customer perspective, internal business processes, learning and growth. Types of performance measures could be divided into common and unique measures. Performance measures that were common in nature, gave orientation as an outcome while performance measures that were unique in nature, contained a combination of outcome-oriented measures and outcome triggers (Cardinals and Venn-Dirks, 2010). The dependent variable of this research was organizational performance evaluation. Measurement of performance evaluation was done by giving a performance assessment score. Then the scores of each group were compared.

The IOA instrument was adopted from the Budner scale in DeBusk, Killough and Brown (2010). The BSC perspective instrument was sourced from Kaplan and Norton (1996). Instruments of type of BSC was adopted from Cardinals and Venn-Dirks (2010), which was adjusted to the accreditation assessment guidelines of the Indonesian National Accreditation Board. Performance evaluation instruments were adopted from Bone and Solihin (2012).

Research location was at two private universities located in Jakarta. Data collection was done in even semester of 2016/2017 academic year up to odd semester of 2017/2018 academic year. The research population was all heads in two Jakarta private universities that applied BSC and offered strata study programs 1. To find out about private universities that implemented BSC, it was done by using a google search engine search and was confirmed through interviews with the heads of study programs. Respondents who became participants in the research were 128 people. Gay and Diehl (1992: 146) argued that to be representative and the results can be derived, the sample must be as large as possible and for experimental research, the minimum sample was 15 subjects per group. The sample determination method used was random sampling and data collection was conducted using questionnaires.

The experimental steps began by asking participants to fill out personal data and read the case to do the experimental work. The experimental assignment contained Budner's questionnaire and the case of study program performance evaluation. In Budner's questionnaire, participants were asked to fill in the answers according to their description. Participants were asked to cross the numbers listed under the statement which consisted of 16 items. There were numbers 1 through 7 that described the participant's response to each statement. Number 1 represented "strongly disagree" and number 7 represented "strongly agree". Furthermore, participants were grouped into 8 and asked to work on a case of study program. In that case, participants were described as faculty/high school heads who evaluated division performance (study programs). Response to performance evaluation was

measured on a scale of 0-100. The score range category was as follows: 0-50 = bad, 51-75 = enough, 76-90 = good, 91-100 = very good.

Tasks for each group were the same. It's just that for groups A, C, E, G, got common performance measures, while groups B, D, F, H got unique performance measures. Group A had the characteristics as performance evaluators who were not tolerant of ambiguity was provided with common performance measures for financial perspectives while group C was provided with common performance measures for non-financial perspectives. Group E as performance evaluators who were tolerant of ambiguity was provided with common performance measures for financial perspectives while group G was provided with common performance measures for non-financial perspectives. Group B had the characteristics as performance evaluators who were not tolerant of ambiguity was provided with unique performance measures for financial perspectives while group D was provided with unique performance measures for non-financial perspectives. Group F as performance evaluators who were tolerant of ambiguity was provided with unique performance measures for financial perspectives while group H was provided unique performance measures for non-financial perspectives.

After participants evaluated the performance of the study program, a manipulation check was conducted. If the participant provided performance evaluation (score) and opinion, then the performance evaluation (score) was used. If the participants only assessed one, then they were considered a failure as a participant. If the participant passed the evaluation phase, then a manipulation check was conducted to find out the participants' understanding of their position as evaluators. The IBM SPSS Statistics 24 program was used to process data using the three-way ANOVA method.

## RESULTS AND DISCUSSION

Based on the data processing for the intolerance of ambiguity questionnaire and 4 sets of completed performance evaluation cases, the distribution of the number of research participants in eight cells in Table 1 shows group A: 17, group B: 17, group C: 17, group D: 16, group E: 15, group F: 15, group G: 15, and group H: 16 participants. Thus the total of research participants were 128 people, ranging from the head of the study programs to the head of the rector's.

From the answers to the performance evaluation scores given by each participant, descriptive statistical processing tailored to the purpose of the research was carried out and the results of the mean performance evaluation can be seen in Table 2. The effect of interaction between IOA\*Perspectives in descriptive statistics showed that the interaction of evaluators who had low IOA that were provided by financial perspectives provided the highest mean score of performance evaluation, namely 80.5667 followed by low IOA with non-financial perspectives, high IOA with financial perspectives, and the lowest was high IOA with non-financial perspectives with a mean performance evaluation score of 65.6061.

Table 2 – *Mean and Standard Deviation* of Performance Evaluation Value Based on IOA, Perspective and Type of BSC measures

<i>Descriptive Statistics; Dependent Variable: Performance_evaluation</i>					
IOA	Perspective	Type_of_measures	Mean	Std. Deviation	N
Low	Financial	-	80.5667	7.95974	30
	Non-Financial	-	76.0968	5.81008	31
High	Financial	-	73.4706	4.84446	34
	Non-Financial	-	65.6061	5.08023	33
Low	-	Unique	83.2903	6.01772	31
		Common	73.1333	4.13341	30
High	-	Unique	71.7879	6.05061	33
		Common	67.4706	5.90960	34
-	Financial	Unique	81.1250	7.37367	32
		Common	72.4688	4.13470	32
-	Non-Financial	Unique	73.5938	7.57696	32
		Common	67.7813	6.41940	32

Source: SPSS Output.

Interaction of IOA\*Type of measures in Table 2 shows 4 mean scores for performance evaluation. It turned out that evaluators who had low IOA who were provided with unique measures information gave a highest mean score for performance evaluation, then followed by low IOA with common measures, high IOA with unique measures and the lowest were evaluators with high IOA who were provided with common measures by giving a mean score of performance evaluation of 67.4706.

Interaction of Perspective\*Type of measures in Table 2 shows the financial perspective with unique measures was given the highest performance evaluation score of 81.1250 by the performance evaluator. The order of mean score of the next evaluation performance was a non financial perspective with unique measures, a financial perspective with common measures, and the lowest mean score of performance evaluation was a non-financial perspective with common measures information with a score of 67.7813.

Of the three interactions, the greatest mean score of interaction of performance evaluation was a low IOA with unique measures with a mean score of 83.2903. On the contrary, the lowest mean score of interaction of performance evaluation was a high IOA with a non-financial perspective with a score of 65.6061.

Standard deviation indicates risk, namely the possibility of not obtaining the mean score of performance evaluation. The higher the standard deviation, the more risky in the sense that the higher the probability of not getting the mean score of performance evaluation. When viewed from the standard deviation, the lowest was the performance evaluator who had a low IOA who were provided with common measures information with a standard deviation of 4.13341. Conversely, evaluators who had low IOA who were provided financial perspective information had the highest standard deviation of 7.95974.

After the IOA questionnaire passed the validity and reliability test and the performance evaluation data passed the normality and homogeneity test, data processing was carried out. The results can be seen in Table 3. From the table, it showed that the interaction of IOA\*Perspective produced Sig. 0.044 which was lower than 0.05, which meant that Ha1 was accepted. Thus there was an effect of interaction between IOA evaluators and the BSC perspective in determining the performance evaluation score. Next was interaction of IOA\*Type of BSC measures which showed Sig. 0.00, which was smaller than 0.05, it meant that Ha2 was accepted. There was an effect of interaction between IOA evaluator with the type of BSC measures in determining performance evaluation scores. Table 3 also showed the interaction of Perspective\*Type of measures with Sig. 0.032, which was lower than 0.05. It meant that Ha3 was accepted. This proves that evaluators were influenced by the information provided in the form of perspective interaction with the type of BSC measures when the evaluators provided a performance evaluation score.

Table 3 – ANOVA Test Results

<i>Tests of Between-Subjects Effects; Dependent Variable: Performance_evaluation</i>					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	5821.170 <sup>a</sup>	7	831.596	41.836	.000
Intercept	697417.845	1	697417.845	35085.472	.000
IOA * Perspective	82.715	1	82.715	4.161	.044
IOA * Type of size	295.532	1	295.532	14.868	.000
Perspective * Type of size	93.189	1	93.189	4.688	.032
Error	2385.322	120	19.878		
Total	704259.000	128			
Corrected Total	8206.492	127			

a. R Squared = .709 (Adjusted R Squared = .692)

To determine the direction of the interaction effect between the independent variables on the dependent variable, it can be seen on the interaction plot. The data of mean of performance evaluation shown in Table 2 was used as a basis for making plots presented in Figure 1. Based on Figure 1, the lower the intolerance of ambiguity, the performance evaluators increasingly provide higher performance evaluation scores. Effects of interaction between IOA\*Perspective showed that performance evaluators who had low intolerance of ambiguity were provided with information on the type of BSC measures with unique

measures, gave the highest performance evaluation scores, while performance evaluators who had low intolerance of ambiguity were provided with information on the type of BSC measures with common measures gave the lowest score of performance evaluation. Performance evaluators who had low intolerance of ambiguity with financial perspective information provided a higher performance evaluation score than those provided by non-financial information.

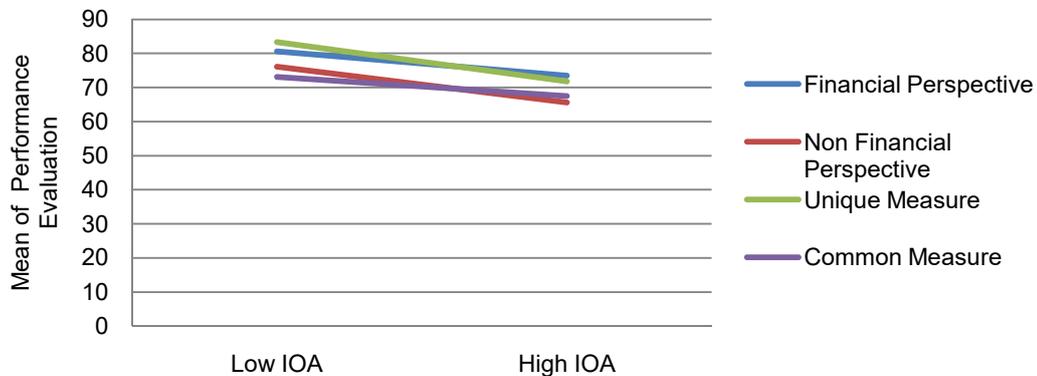


Figure 1 – Interaction Plots of IOA\*Perspective and IOA\*Type of measures

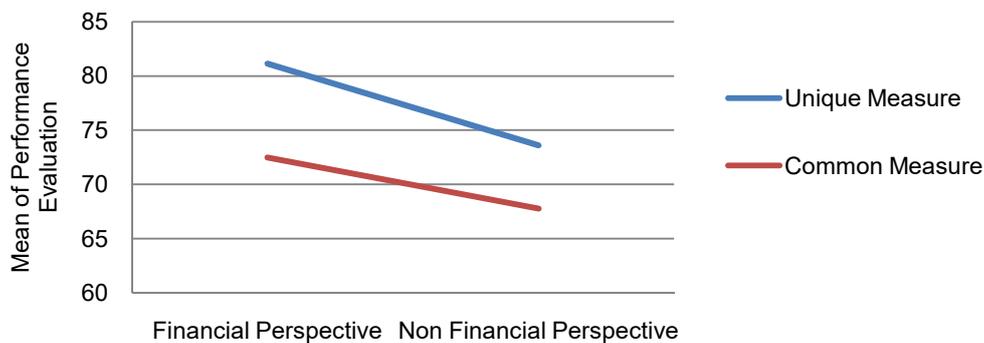


Figure 2 – Interaction Plots of Perspective\*Type of measures

To determine the effect of interaction between Perspective\*Type of BSC measures, it can be seen on Figure 2. Based on the figure, the direction of interaction of financial perspectives with unique measure had a highest effect on the mean score of performance evaluation compared to the interaction of financial perspectives with common measure. Interaction between financial perspectives with unique and common measures had a higher effect on performance evaluation scores than interaction between non-financial perspectives with unique and common measures.

Paying attention to Table 1 and Figures 1 and 2, three combinations of interactions, namely IOA\*Perspective, IOA\*Type of measures, and Perspective\*Type of measures showed that the interaction between low IOA and unique measure had a highest effect on the mean score of performance evaluation, followed financial perspective with unique measure, IOA with financial perspective. The interaction between high IOA and non-financial perspective gives the lowest effect in determining the mean score for performance evaluation.

## DISCUSSION OF RESULTS

*The Effect of Interaction between IOA\*BSC Perspective on Performance Evaluation.* The results of the research in Table 3 prove that the interaction of IOA\*BSC perspective had an effect on performance evaluation. Based on Figure 1, the direction of the interaction effects for the financial and non-financial perspective lines from the top right to the bottom

right. This shows that the direction of the effect of interaction between IOA\*BSC Perspective, namely the interaction of low IOA with financial perspective had the highest effect on performance evaluation followed by the interaction of low IOA with non-financial perspectives, high IOA with financial perspectives, and the lowest effect of interaction in performance evaluation was interaction between high IOA with a non-financial perspective.

Budner (1962) supported the possible relationship between intolerance of ambiguity (IOA) and the use of information. Dermer (1973) stated the possibility that cognitive characteristics of information users (evaluators) can influence perceptions about important information and therefore can influence how information affects behavior. Liedtka, Church and Ray (2008) stated that evaluators who are not tolerant of ambiguity reject ambiguous information. DeBusk, Killough and Brown, 2010 stated that evaluators who are not tolerant of ambiguity (high IOA) when making decisions will be more likely to seek additional information to reduce the threat of ambiguity. In the BSC, organizational performance is assessed from four perspectives, namely finance, customers, internal business processes, and learning and growth (Kaplan and Norton, 1992). In this research the last three perspectives are grouped as non-financial perspectives. Gelderman (1998) stated that the interaction between evaluator characteristics, evaluation object and evaluation context influence the performance evaluation system. Thus the results of this research supported the opinions of the authors and researchers. Interaction of characteristics of evaluators in the form of IOA evaluators with evaluation object in the form of BSC perspectives had an effect on performance evaluation.

*The Effect of Interaction between IOA\*Type of BSC measures on Performance Evaluation.* Table 3 showed that IOA\*Type of BSC measures had an effect on performance evaluation. Figure 1 gave the direction of the interaction effect for the line of unique measures and common measures, namely from the top right to the bottom right. The figure showed the direction of the effect of interaction between IOA\* Type of BSC measures was interaction between a low IOA with a unique measures that has the highest performance evaluation followed by the interaction of low IOA with common measures, high IOA with unique measures, and the lowest interaction effects in performance evaluation was the interaction between a high IOA with the common measures.

To reduce the negative impact of ambiguity, evaluators who had a high IOA required additional information when evaluating performance (DeBusk, Killough and Brown, 2010). If additional information obtained was inadequate, the evaluator would provide a bad evaluation results and vice versa. Types of performance measures in the BSC can be distinguished in the form of unique and common performance measures (Kaplan and Norton, 1992). In the BSC, all measures were relevant to the strategy (Kaplan and Norton, 1996). Performance measures information that were common in nature, provided a common orientation as an outcome, While performance measures that were unique, contained a combination of outcome-oriented measures and outcome triggers (Cardinals and Venn-Dirks, 2010). The results of this research were in line with the opinions of some of these experts and supported the opinion of Gelderman (1998) that the interaction between the characteristics of evaluators in the form of IOA evaluators and evaluation object, namely the type of BSC measures, had an effect on performance evaluation.

*The Effect of Interaction between Perspective\*Type of BSC measures on Performance Evaluation.* Table 3 showed that the interaction between Perspective\*Type of BSC measures had an effect on performance evaluation. Figure 2 clarified the direction of interaction effects for unique and common measures lines, namely from the top right to the bottom right. This shows the direction of the effect of interaction between Perspective\*Type of BSC measures is the interaction of financial perspectives with unique measures that have the highest effect on performance evaluation followed by the interaction of financial perspectives with common measures, non-financial perspective with unique measures, and the lowest effect of interaction in performance evaluation was the interaction of non-financial perspectives with common measures. The results of this research clarified the research position of Ittner, Larcker and Meyer (2003) which proved that there was a subjectivity in determining the relative weight of measures used in evaluation because there was a tendency to bias from a

financial perspective for common performance measures. Likewise, the results of this research clarified the position of the results of Bone and Sholihin (2012), namely, when evaluating using BSC, evaluators paid more attention to the common measures of financial perspective than unique measures of financial perspective and common measures of non-financial perspective compared to unique measures of financial perspective.

According to Kaplan and Norton (1996), the BSC asked managers to view business from four important perspectives, namely financial perspective, customer perspective, internal business process perspective, and learning and growth perspective. Financial measures in the BSC indicated the results of actions taken by the company and the BSC complemented financial measures with operational (non-financial) measures on customer satisfaction, internal processes and innovation, and the development of company activities (Hoque, 2006). If the performance evaluator used only common performance measures, there were wasted resources and the BSC did not provide benefits (Kaplan and Norton, 1996). Unique performance measures, containing a combination of outcome-oriented measures and outcome triggers (Cardinals and Venn-Dirks, 2010). The results of this research proved to support the opinions of these experts and supported the opinion of Gelderman (1998) that the interaction between perspective and type of measurement which was evaluation object had an effect on performance evaluation.

## **CONCLUSION**

Based on the description, the answers to the research problem formulation can be stated as follows:

There is an effect of interaction between the IOA evaluator and the BSC perspective on the results of performance evaluation. The interaction of differences in the characteristics of performance evaluators is in the form of low and high tolerance levels; with the difference in information provided to performance evaluators in the form of financial and non-financial perspectives in the BSC empirically has an effect on differences in performance evaluation results. Evaluators who have low intolerance of ambiguity when provided with financial perspective information provide the highest evaluation results and evaluators who have high intolerance of ambiguity when provided with non-financial perspective information provide the lowest evaluation results.

There is an effect of interaction between the IOA evaluator and the type of BSC measures on the results of performance evaluation. The interaction of differences in the characteristics of performance evaluators is in the form of low and high tolerance levels, with the difference in information provided to performance evaluators in the form of unique measures and common measures in the BSC empirically has an effect on differences in performance evaluation results. Evaluators who have low IOA when provided with unique measures information provide the highest evaluation results and evaluators who have high IOA when provided with common measures information provide the lowest evaluation results.

There is an effect of interaction between perspective and type of BSC measures on the results of performance evaluation. Interaction from different perspectives is in financial and non-financial forms, with differences in information provided to performance evaluators in the form of unique measures and common measures in the BSC empirically have an effect on the difference in performance evaluation results. Evaluators who provide financial perspective information with unique measures provide the highest evaluation results and evaluators who provide non-financial perspective information with common measures provide the lowest evaluation results.

Based on these conclusions, the results of this research have practical and academic implications so that there are some suggestions that can be proposed.

For organizational management that applies BSC, when evaluating performance, it is necessary to consider the interaction between evaluators, namely the IOA and evaluation object, namely the perspective and type of BSC measures. Performance evaluators who has low IOA which are provided with unique information type provides the highest performance

evaluation results. If this is done, it will make it easier for the organization to have good performance and can influence organizational behavior that tends not to work extra hard. Conversely, if the performance evaluators chosen have a high IOA, a non-financial perspective will be provided which will result in a low performance evaluation. If this is done, it will make the organization more difficult to have high performance and can influence organizational behavior which tends to be demanded to work extra hard. Which choice is the best depends on the performance evaluation system that is in accordance with the goals of the organization.

This research did not reveal the interaction between IOA\*Perspective\*Type of measures. For academic purposes, the next research can be done to find out the best effect of interaction between the three independent variables on performance evaluation. Furthermore, the characteristics of evaluators can also be developed again such as locus of control, value orientation and others. Likewise, research participants can also be grouped based on the homogeneity of the position, for example only the heads of the study programs. Thus if this is done in the next research, it will be able to increase its contribution to the organizational performance evaluation system.

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DOI <https://doi.org/10.18551/rjoas.2018-12.05>

**THE INFLUENCE OF HUMAN RESOURCE COMPETENCE AND ORGANIZATIONAL CULTURE TO THE PUBLIC SERVICE PERFORMANCE (E-LAMPID) IN THE URBAN VILLAGE EMPLOYEE, MULYOREJO, SURABAYA**

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**ABSTRACT**

Public services is all forms of service both in the form of goods or services that provided by the government to meet a public need. Public services that provided by government is many kind, one of them are population administration. Department of Population and Civil Registration Surabaya is one of agency that gives service about population administration, but in their practice still found problems and obstacles. Therefore, the Surabaya city government makes an innovation, which is e-lampid. E-lampid is online services to birth certificate, death certificate, and the move out license. E-lampid spread to the all village office in Surabaya to ease range community, one of them is sub district of Mulyoredjo. The purpose of this research is to analyze the influence of human resource competence and organizational culture to the public service performance (E-lampid) in the urban village employee, Mulyorejo Surabaya. Public Satisfaction index of general services in Surabaya city on 2016, Mulyorejo was in worst category. it certainly cannot be separated from HR competencies and organizational culture of the employee in the organization.

**KEY WORDS**

Human resource, competence, organizational culture, public service performance, employee.

Surabaya City Government continues innovate to improve services to the community. Governments' city of Surabaya is constantly working to develop smart city by using the e-government system that aims to provide a better service to the people of the city of Surabaya. By developing applications for e-lampid. E-lampid is short for electronic born dead move came a settlement integrated information systems are built and developed by the Government of the city of Surabaya in order to facilitate the community in the management of the Administration the residency. Some settlement services that can be managed online via e-lampid i.e. a birth certificate, death certificate, certificate moved-come, as well as the affidavits move-out. The application of e-lampid is an idea of the population and the civil registry Agency of the city of Surabaya in support of organizing good governance in an environment of the Surabaya City Government.

The main problem underlying the emergence of initiatives e-Lampid application is the volume of the line management of the birth and death certificate in the service of the population and civil registration are always solid every weekday. There are about 400 of the petition. While processing the file previously pegged seven working days. It encourages the Government of the city of Surabaya to replace manual service system with information technology-based service system (online). The goal, giving the ease, effectiveness, and efficiency for the community. The chains of bureaucracy trimmed so it can all be managed online. Moreover, the current e-Kios devices that can access the application of e-Lampid are available in every Village and Sub district.

Based on a phenomenon occur in Mulyorejo and based on the observation of the researcher supported by the result of employees' performance evaluation show that, there are a lot of employees who know little about main duties and function to do, lack of skills and experience in accomplishing their work, and have low work control attitude in handling certain job which becomes their main duties and function. It is likely to happen because some of the employees have low competence in doing activities so that the result cannot be achieved optimally. In doing main duties and function, the government employees

of muljorejo have not fulfilled the expectation although the target of the performance tends to increase every year. In fact, the result obtained has not been maximally achieved yet. In this case, the phenomenon relates to the competence and organizational culture. However, the reality shows that some of the employees seem to lack of innovation in accomplishing every job given to them and lack of attention on working carefully and in detail so that some mistakes relating to the accomplished work occur.

The fact that man is a decisive factor in the successful operation of any organization need not be questioned. Any high performing organization is linked with high performing people. Selecting talented employees – (high potentials and high performers) who are able to carry out the organization's vision, mission and meet the targets is critical for the organization as well as the organization's ability to create supportive culture for these people. The question remains what gives humans the opportunity to successfully maintain its position in the company? Do we talk about the skills, knowledge, ability, talent, employee engagement? This human quality is called competence. Understanding of the concept of competency and competence is very wide. It implies concepts such as ability, behavior, activity, or even complex of operations. These components should then be reflected in above-average performance of man in a organization.

In 1973 David McClelland, working in the educational field in US, published a study – Testing for Competence rather than for Intelligence, where personal competencies (defined as motives and personality traits) or individual characteristics, were recognized as significant predictors of employee performance and success. His work was provocative, because he argued the personal competencies are more important in predicting occupational success than traditional psychometrics such as IQ and aptitude tests. McClelland is often credited with launching the competency theory in HR management. Boyatzis (1982) defined a competency as “an underlying characteristic of a person which resulted in effective and/or superior performance in a job.” According to Boyatzis, a competency in a job represented great ability and high performance. Boyatzis diagnosed problem raised by human resource managers. They needed to find a single and meaningful vocabulary for human resource department anywhere in the world - in the US, Latin America and Europe, allowing them to distinguish average performers from above average performers. Professor Harold M. Schroder from Princeton University, author of *Managerial Competence - The Key to Excellence* (1989) defined 11 key managerial competencies that incorporate into the four basic areas: cognitive competencies, motivational competence, directional competence, performance competencies. White (1959) defined competence as designate skills developed by self-organization and required for the performance. This first era of competencies in HR management was typical for observing of individual competencies (White - 1959; McClelland - 1973; Boyatzis-1982; Schroder-1989; Woodruffe 1992; Spencer-Spencer-1993). The second phase of competencies in HR management is typical by creation and managing of competency models in organizations. (Mansfield-1996; McLagan-1997; Lucia-Lepsinger-1999; Rothwell-Lindholm, 1999). Prahalad and Hamel (1989) advanced the idea of core competencies and here we talk about the third phase of competencies in HR management. This phase is based on identification of core competencies needed to gain a competitive advantage (Prahalad-Hamel- 1989; Ulrich-Lake- 1991; Rothwell-Lindholm- 1999; Delamare-Wintertone- 2005). Based on this definition, we can talk about the potential (non-observable) competencies and the (observable) activities performing the competence. Activities can be observed and measured.

Follet (2004) states that human resource competence is a developing model of human potential quality. It means that to achieve the individual or organizational goals, human resources should always do their duties based on beneficial value and advantage of activities they do. Then, from this statement, Follet theory about potential competence of human resources was born. In addition, theory proposed by Donald (2007) states that basically, the self-development access is basically an introduction of human resource competence which introduces Window Theory stating that each self-development owned by human can be observed through four perspectives which is like a window i.e. knowledge, skills, experience, and attitude.

According to Robbins (2007), the strong culture has stronger impact on the values in an organization because organizational culture has internal climate, and with high intensity, it can construct behavior in the organization which can affect someone's creativity. The organizational culture is an attitude and work behavior based on the employees' characteristic with some indicators i.e. innovation, attention to any details, team-oriented, and aggressiveness.

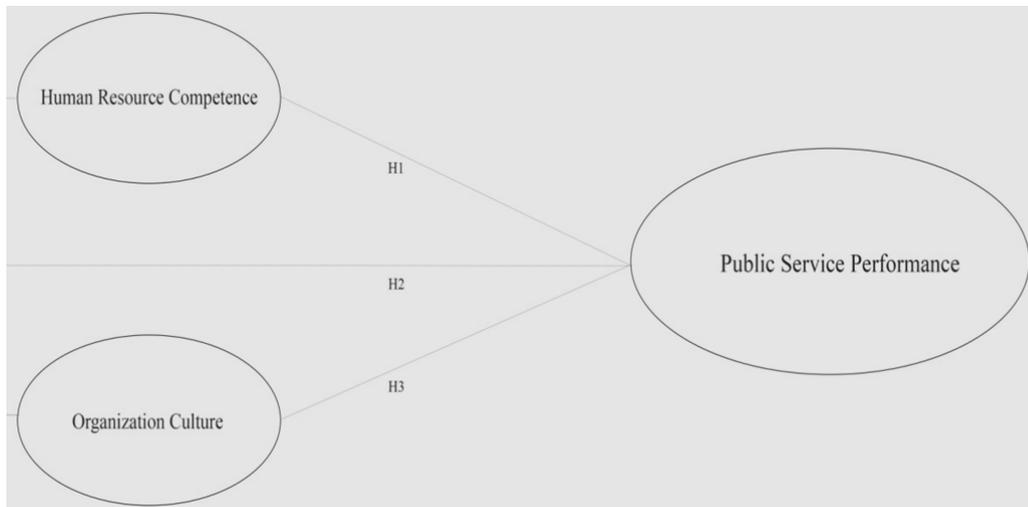


Figure 1 – Conceptual Framework

**Hypothesis:**

H1: Human resource competence had significant influence to the public service performance;

H2: Organizational culture had significant influence to the public service performance;

H3: Human resource competence and organizational culture had significant influence to the public service performance.

### METHODS OF RESEARCH

The study used a quantitative research method since the purpose is to explain the correlation among variables Human Resource Competence, organizational culture to the Public service performance. The method of data analysis in this research is descriptive data analysis, which has a goal to show the data image collected from the research locations. The analysis technique that is used is the path analysis with SPSS applications.

The location of the research at 6 urban village of Mulyorejo, Surabaya. The population was about 81 respondents. This study used a questionnaire distributed to 81 respondents on 6 urban village of Mulyorejo, Surabaya. Assumptions underlying the Path analysis is to use the test for normality and linearity test. Here are the results of normality test and linearity test: The normality assumption is based on the significance of the test Kolmogorov-Smirnov, the human resource Competency variables (X1), variable organizational culture (X2) and the Performance of public service variable (Y) is more than the value of 0.05 means that human resources Competency variables (X1), variables of organizational culture (X2) and the Performance of public service variable (Y) follow a normal distribution, the value of Asymp. SIG generated amounted to 0.20 exceeding 5% (0.05), the Gaussian itself.

Multicollinearity test is meant to be more aware of the relationship between the variables used in the regression models. Ghazali, Imam. (2013; 301) mentions the figure of tolerance to avoid symptoms of VIF multicollinearity is less than 10. As for the value of the variable is generated by the VIF Competence human resources (X 1) and variable organizational culture (X 2) are based on the table above, it appears that between free variables does not occur multicollinearity, judging from the value of the variable on the VIF

Competence human resources (X 1) of 1.578 less than 10 and Variable organizational culture (X 2) of 1.578 numbers less than 10.

Table 1 – One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		81
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1.61692462
Most Extreme Differences	Absolute	.086
	Positive	.086
	Negative	-.057
Test Statistic		.086
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	5.317	1.394		3.815	.000					
	Kompetensi Sumber Daya Manusia (X1)	.392	.030	.713	12.925	.000	.891	.826	.567	.634	1.578
	Budaya Organisasi (X2)	.273	.051	.295	5.352	.000	.726	.518	.235	.634	1.578

a. Dependent Variable: Kinerja Pelayanan Publik (Y)

### RESULTS AND DISCUSION

T-test was conducted to see whether each independent variable: HR competencies (X1) and organizational culture (X2) influential partially or singly against the public service performance variables (Y). As for the results of the T- test is as follows:

Table 2 – T-test

X variable	t-value	Sig.
HR competence (X1)	12,925	0,000
Organizational culture (X2)	5,352	0,000

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1182.276	2	591.138	220.452	.000 <sup>b</sup>
	Residual	209.156	78	2.681		
	Total	1391.432	80			

a. Dependent Variable: Kinerja Pelayanan Publik (Y)

b. Predictors: (Constant), Budaya Organisasi (X2), Kompetensi Sumber Daya Manusia (X1)

Based on the test result, the significant result of independent variable are less than 5% or under (0,05) can thus be inferred that the HR competence (X1) and Organizational culture (X2) partially has significant effect to public service Performance Variables (Y).

F test results can be used to find out the influence of human resources Competency (X 1) and Variable organizational culture (X 2) to public service Performance Variables (Y).

Based on the table above shows that the value of the count of 220.452 F with a level significantly less than 5% (sig. 0.05) of 0.000. This means human resources Competency variables (X 1) and organizational culture variable (X 2) simultaneously has significantly effect to public service Performance Variables (Y).

### CONCLUSION AND SUGGESTIONS

Based on the findings and discussion, the study can conclude the following points: the HR competence is the dimension of the Act of duties, where such action is used by the

employees to accomplish their work satisfactorily and the employee what is given in the form of different levels of performance. This limitation means that there is an implicit connection between the HR competencies with performance. Based on the findings of the study, the HR competence of the urban village employee in Mulyorejo has significant influence toward public service performance.

Organizational culture is able to arouse employee performance against the organization. Organizational culture is one of the factors needed to improve the performance of employees, as long as the employees still feel happy with a culture that is applied and it is believed by the Organization, then the employee's performance against the Organization, will still be able to perceived and the opportunities for the achievement of the Organization's success. Based on the findings of the study, the organizational culture of the urban village employee in Mulyorejo has significant influence toward public service performance.

According to the conclusion, several suggestions can be made as follows: employee Performance Appraisal should be an effort to encourage or enhance the competence of employees, future researches should expand the subject of the study and also analyze another variable to expect that analyzing another variable will be better represent the future need of public performance.

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DOI <https://doi.org/10.18551/rjoas.2018-12.06>

## **THE EFFECT OF ORGANIZATIONAL CULTURE ON JOB SATISFACTION AND EMPLOYEE ORGANIZATION COMMITMENT**

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### **ABSTRACT**

Respondents who were involved in this study amounted to 142 people who were civil servants and worked in Bajawa Regional Hospital, NTT. The sampling technique used proportionate stratified random sampling. Questionnaire score is taken using a Likert Scale and questionnaire testing using validity and reliability tests. The data analysis technique used was path analysis with the help of SPSS Version 20. The results of this study found that organizational culture influences job satisfaction and organizational commitment. The results of this study support the theory that the stronger the understanding of organizational culture will increase job satisfaction and organizational commitment. In addition, high job satisfaction can increase employee commitment to the organization. Practical implications of the results of this study can be used as a guide and consideration for the Bajawa Regional General Hospital in NTT in providing maximum service in relation to organizational culture, job satisfaction and organizational commitment. It is recommended that the existing organizational culture be maintained and the hospital will pay attention to the comfort and availability of work facilities so that employees are more satisfied in working and provide opportunities for employees to develop themselves.

### **KEY WORDS**

Organizational culture, job, satisfaction, organizational commitment.

Every organization wants its employees to have a high commitment to the organization. The higher the employee's commitment to his organization, the employee will try better in completing his tasks (Halimsetiono, 2014). In addition, high commitment has a positive effect on employee performance (Arief, 2017) and negatively influences the intention to move from employees (Tumbelaka, et al. 2016). Employees who have an attachment and a high sense of belonging to the organization can reduce their desire to move to work.

High employee commitment to the organization is not created by itself. There are many factors that encourage employee commitment to the organization. According to Saha (2016) the factors that influence organizational commitment are leadership style, organizational climate and job satisfaction. Satisfaction obtained by employees during work such as satisfaction with payments received, satisfaction with the leader or supervisor and satisfaction with colleagues can encourage employees to be more committed to the organization. Some results of previous empirical studies indicate that employee job satisfaction has a positive and significant relationship with organizational commitment. Araya and Haiyan (2015) in their study of 242 hotel employees found that job satisfaction had a positive and significant effect on organizational commitment. Salary, promotion and good communication cause employee commitment to the organization to increase. In addition, job satisfaction is a prerequisite and is a factor that causes organizational commitment (Saha, 2016., Yucel, 2012). If employees are satisfied with their work, their commitment to the organization will increase as well.

Job satisfaction and organizational commitment are influenced by the prevailing culture in the organization. Robbins and Judge (2016) define organizational culture as referring to a system of shared meanings adopted by organizational members that distinguishes the organization from other organizations. Culture in the organization functions as a mechanism for making meaning and control that guides and shapes employee attitudes and behaviors (Rivai and Mulyadi, 2012). Culture as a mechanism for meaning making and controlling

employee attitudes and behavior is realized if the organization has a strong culture (Robbins and Judge, 2016). Strong culture is characterized by intense core values of the organization organized, clearly ordered and widely shared (Robbins and Judge, 2016).

Organizational culture has a positive relationship with organizational commitment. This positive relationship is based on the fact that organizational commitment is a basis that results from organizational culture (Hazana, et al. 2015). As a member of the organization internalizing shared values and basic assumptions, and identifying themselves with the organization, employee organizational commitment increases. Employees will remain in the organization if they find that their values and beliefs are in line with the organizational culture (Anita and Begum, 2016).

Taurisa and Ratnawati (2012) in their research on the influence of organizational culture that reflects organizational culture that is, security with work, feeling valued, cooperation, organizational clarity, support and attention found that these six indicators except openness have a significant effect on job satisfaction, organizational commitment and performance. Feeling valued has the highest level of significance. This means that when an employee feels valued in an organization, then at that time the cultural presence felt by employees influences job satisfaction.

Bajawa District Hospital is one of the government-owned hospitals in Ngada District, NTT which provides health services to the people of Ngada and surrounding areas. The hospital as one of the health service units is required to be able to carry out its function of providing and organizing medical services, nursing services, rehabilitation services and prevention and improvement of community health. Health services in Bajawa Hospital are carried out with a promotive, preventive, curative and rehabilitative approach. Improving the quality of service can only be carried out by changing the mindset, attitude and behavior of employees in working in accordance with the values and beliefs in the hospital. Partakusuma (2014) argues that one of the factors influencing effective and efficient management of public service bodies is cultural factors. BLU culture is an independent culture, especially regarding integrity and discipline in changing planning, service systems and also remuneration to always develop its business to the maximum extent possible to provide the best capabilities to service users (Partakusuma, 2014).

Bajawa Hospital is committed to providing the best service with customer-oriented. One indication is that Bajawa General Hospital routinely conducts customer satisfaction surveys both internal and external customers. This is done to provide the best service to customers. The culture applied is also more customer oriented. Customer orientation is one of the characteristics of a market-oriented culture (Yoon and Lee, 2005). As a government-owned hospital, Bajawa Hospital employees are obliged to provide maximum and quality services to the community. On the other hand, sincere service, wholeheartedly depends on the employee's work expectations compared to the benefits given by the hospital.

## LITERATURE REVIEW

*Organizational Commitment.* Organizational commitment is an employee's work attitude that is needed by the organization in achieving its goals. Organizations need employees who have high organizational commitment so that the organization can continue to survive and improve the quality of services and products produced. Commitment is related to the desire and desire to survive in the organization and sacrifice for the interests of the organization. Caykolu, et al. (2011) argued that factors that predict employee organizational commitment are career advancement, satisfaction with supervisors, employee empowerment, effective leadership, peer acceptance, role ambiguity and role conflict. These factors are important determinants of organizational commitment. Their research on nurses, professional paramedics and non-clinical staff in Canada with SEM analysis found that satisfaction with supervisors and career enhancement had a direct and positive effect on organizational commitment. In addition, role conflict and role ambiguity negatively affect organizational commitment.

*Job satisfaction.* Kinicki and Kreitner (2014) define job satisfaction as a response to attitudes toward various aspects of one's work. According to Suwatno and Priansa (2011), job satisfaction is the way individuals perceive their work resulting from the individual's attitude towards various aspects contained in the work. Luthans (2006) states that job satisfaction is the result of employee perceptions of how well their work provides things that are considered important. Job satisfaction is a positive feeling about one's work which is the result of evaluating its characteristics (Robbins and Judge, 2016). Tomazevi, et al. (2014) argue that there are three factors that most influence employee job satisfaction. First, relationships and leadership are influenced by trust. Second, salary and security are influenced by organizational support and protection. Third, the duties and conditions of work are influenced by the position of work.

*Organizational culture.* Robbins and Judge (2016), suggest that there are five functions of organizational culture. First, culture has a role to define boundaries: This creates a difference between one organization and another. Second, conveying feelings of identity for members of the organization. Third, culture will facilitate commitment to everything that is greater than personal self-interest. Fourth, encourage stability of social functions. Culture is social glue that helps tie organizations together by providing standards for what workers should say and do. Fifth, is the taking of feelings and control mechanisms that guide and shape the behavior and behavior of the workers?

*Hypothesis:*

H1: Organizational culture has a significant positive effect on job satisfaction;

H2: Organizational culture has a significant positive effect on organizational commitment;

H3: Job satisfaction has a positive and significant effect on organizational commitment.

## **METHODS OF RESEARCH**

This study uses the Causal Explanatory design to determine the relationship between variables of organizational commitment, organizational culture and job satisfaction. The variables used are job satisfaction, organizational commitment and organizational culture, as expressed in the hypotheses, each of which will be described in the appropriate indicators and then derived into question items in the research instrument. The population in this study were all employees of Bajawa District Hospital with the status of civil servants totaling 239 people. The sampling technique used proportionate stratified random sampling. Determination of the number of samples is based on tables developed by Isaac and Michael (in Sugiono, 2013) for a 5% error rate. The sample size for a population of 239 people with an error rate of 5% is 142 people. Data were collected through interviews and questionnaires, followed by testing the validity and reliability. Data were analyzed using path analysis techniques to be interpreted later and in the final stage were given conclusions and suggestions.

## **RESULTS AND DISCUSSION**

Based on Table 1 it can be explained that the influence of customer-oriented organizational culture variables (X) on job satisfaction (Y1) has a positive and significant influence. This can be proven by the magnitude of the path coefficient of 0.275 with the sig value.  $t$  is 0.001 ( $0.001 < 0.05$ ). So partially customer-oriented organizational culture variable (X) has a positive and significant effect on job satisfaction (Y1). In other words H1 is accepted.

The magnitude of the contribution of customer-oriented organizational culture variables to job satisfaction can be seen from the value of Adjusted R-Square that is equal to 0.069. This means that 6.9% of customer-oriented organizational culture variables affect job satisfaction. While the remaining 93.1% of the variable job satisfaction is influenced by other variables not explained in this study.

Between customer-oriented organizational culture and job satisfaction towards organizational commitment has a positive and significant influence. From the results of the path coefficient test in Table 5.7, the value of Sig. F is 0.000 ( $0.000 < 0.005$ ). Then it can be stated that the customer-oriented organizational culture and job satisfaction simultaneously influence organizational commitment.

Table 1 – Path Analysis Model I Testing Result

Variable Independent	Standardized Coefficient Beta	t ratio	Sig. T	Description
Org. Culture (X)	0.275	3.254	0.001	Sig.

Variable Dependen: Job Satisfaction (Y1)  
R: 0.275  
R-Square: 0.076  
Adjusted. R-Square: 0.069  
F: 10.588, Sig. 0.001

Source: Primary Data, 2018.

Based on the partial calculation of customer-oriented organizational culture variables (X) has a positive and significant influence on organizational commitment (Y2) at a significant level of 0.05. This can be proven by the magnitude of the path coefficient of 0.162 with the sig value. t is 0.034 ( $0.034 < 0.05$ ). So partially customer-oriented organizational culture variables have a positive and significant effect on organizational commitment. In other words H2 is accepted.

Based on the results of partial calculations the variable job satisfaction (Y1) has a positive and significant influence on organizational commitment (Y2) at a significant level of 0.05. this can be proven by the magnitude of the path coefficient of 0.505 with the sig value. t is 0.000 ( $0.000 < 0.05$ ). So partially customer-oriented organizational culture variables have a significant positive effect on organizational commitment. In other words, H3 is accepted.

The magnitude of the contribution of customer-oriented organizational culture variables and job satisfaction to organizational commitment can be seen from the Adjusted R Square value of 0.316 means that 31.6% of the variables of customer-oriented organizational culture and job satisfaction influence the organizational commitment variable. While the remaining 68.4% of organizational commitment variables are influenced by other variables not explained in this study.

The test results also show the indirect influence of customer-oriented (X) organizational culture on organizational commitment (Y2) through job satisfaction (Y1). The amount of indirect effect is  $0.275 \times 0.505 = 0.13$ . The relationship of customer-oriented organizational culture (X) to organizational commitment (Y2) is explained more by direct influence, which is equal to 0.162 compared to indirect effects of only 0.13.

## CONCLUSION AND SUGGESTIONS

Organizational culture has a positive and significant effect on employee job satisfaction. This means that the stronger the organizational culture of Bajawa Regional General Hospital in NTT, the better the satisfaction of its employees. This can be evidenced by the variable organizational culture (X) is an influential variable of 0.275 on job satisfaction with a significant value of 0.001 which means that H1 is accepted.

Organizational culture has a positive and significant effect on organizational commitment. This means that the better the organizational culture for employees of Bajawa Regional General Hospital in NTT will grow employee organizational commitment. This can be proven by the variable organizational culture (X) is an influential variable of 0.162 to organizational commitment (Y2) with a significant value of 0.034 which means that H2 is accepted.

Job satisfaction has a positive and significant effect on organizational commitment. This means that the more satisfied employees feel with their work, will be able to foster commitment to the organization. This is indicated by the variable job satisfaction which has

an effect of 0.505 on organizational commitment with a significant value of 0.000 which means that H3 is accepted.

Based on the results of the research and conclusions, the suggestions that can be given are based on the conclusions and limitations of the research. The customer-oriented organizational culture in the RSUD Bajawa NTT already looks quite strong. For management and hospital directors need to develop the mindset of employees so that in carrying out the work is based on the goal to achieve customer satisfaction. In addition, it needs to be improved and developed the value of openness in conveying successes and failures in serving customers.

In general, employees of Bajawa Hospital have high job satisfaction. However, some things that need attention from the hospital to improve employee satisfaction are the provision of facilities for better work activities and provide incentives fairly evenly to all hospital employees.

Employee commitment to the hospital needs to be maintained. On the other hand, things that need to be improved so that employees are more committed to the organization is to give employees a wider opportunity to develop themselves, create a conducive work atmosphere so that employees do not think to work elsewhere.

Based on the results of the research above, for researchers who are interested in analyzing the relationship of organizational culture with organizational commitment by using the Value Congruence theory. Where the suitability between personal values and organizational values can increase the level of employee commitment to the hospital. For researchers who are interested in conducting further research, it is advisable to use other variables outside the research and increase the characteristics of respondents used such as age, marital status and income.

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DOI <https://doi.org/10.18551/rjoas.2018-12.07>

## **DETERMINANT FACTOR FOR NET INTEREST MARGIN: A CASE STUDY ON “X” BANK IN SURABAYA MAIN BRANCH**

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### **ABSTRACT**

The main purpose in business entity, include in Bank is to gain sufficient profit in order to keep continue and develop. This research is to analyze about the effect of Loan to Deposit Ratio, Operating Cost, Non Performing Loan and Interoffice Account (IA) toward Net Interest Margin on PT. Bank X Surabaya Main Branch, by using financial report from year of 2011 until 2015. Analysis Methode which is used to examine the proposed hypothesis is Multiple Regresion Analysis (MRA). This research concludes that both partially and together Loan to Deposit Ratio, Operating Cost, Non Performing Loan and Interoffice Account (IA) has an effect towards Net Interest Margin (NIM) in PT. Bank X Surabaya Main Branch. Variable Loan to Deposit Ratio, Operating Cost and Interoffice Account (IA) has a positive impact to Net Interest Margin, while variable Non Performing Loan has a negative impact to Net Interest Margin. This means that in order to survive and develop, bank needs to increase credit, increase efficiency and manage credit problems through prudence principles.

### **KEY WORDS**

Loan to deposit ratio, operating cost, non performing loan, interoffice account, net interest margin.

Banking is financial institution that has a vital role to the economic stability of a country that can affect to a wider community, where banks are required to have a good performance in maintaining national economy. Because it involves many people, many community it has a systemic impact to an economy, then all banking activities in Indonesia is managed by the government regulation in this case *Otoritas Jasa Keuangan (OJK)* is a regulator. Supervise is done in order to maintain banks' performance is always in good condition and right, because bank is a financial institution that plays a role in sustain and stabilize national economy.

Banks' performance evaluation is done to keep the banks work professionally and good so that people's trust in banking is increasing and better after monetary crisis issue. Banks are required to conduct self assessment by using Risk approach (Risk-based Bank Rating/RBBR) both in individually or consolidation, with the scope of assessment factors are (1) Risk Profile; (2) Good Corporate Governance (GCG); (3) Profitability (Earnings); and Capital.

Banks ability in gaining a profit, known as Profitability is the most important factor to determine banks' health level. Main purposes from business including banking are to gain sufficient profit to survive and develop.

Measuring for efficiency level and banks' profit is reviewed by looking at the magnitude of Net Interest Margin, that is comparison between net income and the average bank earning assets.

*Net Interest Margin (NIM)* is a ratio that is used to measure profitability level and banks' efficiency, especially which banks that still rely on income from interest difference.

The net interest is a difference between interest income and interest expense which includes Interoffice Account (IA). The higher NIM achieved by the bank shows the better performance from the bank.

That is the reason why national banking on early 2016 start to targeting NIM in specify number in order to increasing minimal profit compare than the number on year 2015. There are three main factors that influence banks' profitability, that are operational efficiency, asset quality and liquidity. Especially to branch office, profitability level also influenced by Interoffice Account (IA).

Efficiency is very important for main branch to measure how good and right is the main bank activities to gain sufficient profit. With the minimum operational costs but the result obtained large make the bank looks efficient in managed banks' operational cost, also will work in low interest margin. However, if the operational costs is high so the bank will work hard by setting high interest margin to cover inefficient operational costs.

Asset quality related to productive asset quality which is owned by main bank. Quality measurement indicator on main bank can be seen by ratio NPL (Non Performing Loan). This factor take effect to interest profit, considering if there is a bad credit or even stuck so profit interest also will take effect.

Liquidity is very important because banking product is the third party funds (Deposits) and loans provided (Credits). This factor is related to composition or portfolio from Credits and Deposits, or known as Loan to Deposit Ratio (LDR), used to measure how big the bank in is meet and maintain liquidity also in how big is the income from credit interest.

Loan disbursement is the main activity of the bank, therefore the largest source of bank's main income comes from this activity. The greater distribution of funds in the form of credit than third party funds in a bank brings the consequences the greater risk to be borne by the bank concerned.

The existence of this Interoffice Account (IA) determines whether the branch will earn IA revenue from head office or spend IA cost to head office. This factor affects the net interest income, especially for branches and sub-branches office, given the fund management is still centralized in the head office; the IA factor greatly affects the net interest income of the branch to obtain maximum profit.

Based on internal financial report data from 18 (eighteen) branches of PT. Bank X, the profit in Surabaya main branch almost the same with the profit earned by Tasikmalaya main branch which has a total assets Rp. 278 billion with LDR 205,41%, even profit from Tangerang main branch which has a total asset Rp. 176 billion with LDR 79,82% is bigger than Surabaya main branch which has a total asset Rp. 750 billion with LDR 18,94%.

Based on above financial report data especially about profit in Main Branch of PT. Bank X encourages the study of the effect of Loan to Deposit Ratio (LDR), Operating Cost (OC), Non Performing Loan (NPL) and Interoffice Account (IA) to Net Interest Margin (NIM). This result of this research is expected to give a Head of Main Branch PT. Bank X to improve banks operational performance.

## LITERATURE REVIEW

The theoretical basis that is used as a guideline by the researcher in doing research is Net Interest Margin (NIM) and factors influencing the formation of NIM namely Operating Cost (OC), Loan to Deposit Ratio (LDR), Non Performing Loan (NPL) and Interoffice Account (IA).

*Net Interest Margin (NIM)*. According to Frianto Pandia (2012: 83), *Net Interest Margin (NIM)* is a profitability ratio that shows comparison between net interest income with the average earning assets owned by the bank, the ratio indicates the ability the bank management in managing its earning assets to generate net interest income. Based on attachment 14 of a Bank Indonesia Circular Letter No. 13/30/DPNP dated 16 December 2011 in the calculation formula for NIM ratio is:

$$\text{NIM} = \text{Net Interest Income} / \text{Average Productive Assets} \quad (1)$$

Net interest income (annual) is interest income – interest expense.

*Loan to Deposit Ratio (LDR)*. According to Frianto Pandia (2012: 128), *Loan to Deposit Ratio (LDR)* is a ratio that states how far the bank has used the depositors' money to lend to its customers. Loan to Deposit Ratio (LDR) is simply a comparison between the loan disbursed and the total collected third party funds. According to Frianto Pandia (2012: 119), formula for *Loan to Deposit Ratio (LDR)* is:

$$\text{LDR} = (\text{Loans Provided} / \text{Third Party Funds}) \times 100\% \quad (2)$$

*Operating Costs (OC).* *Operating cost* or operational expense is all the sacrifices that are spent by the company to fund the operations of the company in order to achieve the goals to be achieved by the company. According to Frianto Pandia (2012: 20) the operational cost (overhead cost) is the cost of managing the activities and business of the bank, either directly or indirectly affecting the cost of credit, such as human resources cost, the cost of facilities / infrastructure supporting the cost of bank assets, promotion activities, labor costs and operational costs. According to Sharma and Gounder (2011) Operational Costs are defined as the ratio between operating costs and total assets. While according to Islam and Nishiyama (2016) the bank's operational costs include non-interest fees such as overhead, administration fees, maintenance fees and other expenses. Based on some of the above definitions and research results from the journals Nassar, Martinez and Pineda (2014), Sharma and Gounder (2011), Maudos and Guevara (2004) and Islam and Nishiyama (2016) obtained the formula for Operating cost (OC) is:

$$\text{OC} = \text{Operating expenses} / \text{Total Assets} \quad (3)$$

*Non Performing Loan (NPL).* *Non Performing Loan* is the ratio of comparison between problem loan and total credit. Ratio NPL is used to see how far the bank management managing problem loans, since the higher risk ratio of NPL, the credit quality of the bank is getting worse. Bank Indonesia has set a maximum of 5% of bank NPLs. Based on attachment 14 of a Bank Indonesia Circular Letter No. 13/30/DPNP dated 16 December 2011 in the calculation formula for NPL are divided into two:

- NPL *gross* is the ratio of non-performing loans based on the carrying amount of the balance in gross (before deducting allowance for impairment losses) with total credits calculated based on the carrying amount in the balance sheet.

$$\text{NPL gross} = \text{Non Performing Loan} / \text{Total Credits} \quad (4)$$

- NPL *net* is the ratio of non-performing loans based on the net carrying amount of the net balance (after deducting allowance for impairment losses) with total credits calculated based on the carrying amount in the balance sheet.

$$\text{NPL net} = \text{Non Performing Loans} - \text{allowance for impairment losses} / \text{Total Credits} \quad (5)$$

*Interoffice Account (IA).* According to Bank Indonesia's Regulation No. 14/15/PBI/2012 Interoffice Account (IA) is a charge arising from inter-office transactions that have not been completed within a certain period of time. According to Septian Dwi Purwanto (2015) Interoffice Account (IA) is an Account used to collect and channel funds in the framework of the calculation of Interoffice Benefits. Intercompany Revenue is an incentive in return for a branch office that has excess funds in fund raising and fund disbursement activities, its implementation is treated as an inter-office transaction, between a branch office with a head office and a branch with a sub-branch.

Based on the definition and components of IA it can be concluded that the ratio of IA calculation:

$$\text{RAK} = \text{Total Balance IA in one month} / \text{Total Deposits in one month} \quad (6)$$

*The effect of LDR on NIM.* The greater the amount of credit is given and the deposit collected by the bank the greater the potential rate of losses faced by the bank, so it needs to be compensated with a large net interest margin rate as well. Thus, the LDR can have a negative effect. According to Fungacova from the research Taufik Ariyanto (2011), from the perspective of economies of scale, the greater the distribution of credit then there should be benefit efficiency caused by the cost per unit for the management and distribution of credit

portfolio. Thus, the effect of lending to net interest margin may be positive or negative. Based on the results of research conducted by Taufik Ariyanto (2011), LDR has a negative influence on Net Interest Margin (NIM) banking factor in Indonesia. While the results of Islamic studies and Nishiyama (2016) showed that LDR has positive effect on NIM in South Asian countries (Bangladesh, India, Nepal and Pakistan).

*Effect of Operating Cost (OC) on NIM.* Operating cost is an operational cost which includes interest cost and non interest expense, it can conceptually determine the determination of interest margin to be sold to the public so as to obtain good results for the bank. According to Nassar, Martinez and Pineda (2014) operating costs are the most important determinants of net interest margin, the bank should also be encouraged to improve operational efficiency in order to reduce overhead costs in order to determine interest margins. According to Maudos and Guevara (2004) banks that have a high average operating cost should operate with higher margins to enable them to offset higher transformation costs. Meanwhile, according to Islam and Nishiyama (2016) the principle is that if the operational cost of the bank unit is relatively higher (less efficient), the bank will try to compensate by imposing additional on regular margin. Based on Nassar research, Martinez and Pineda (2014), Sharma and Gounder (2011), Maudos and Guevara (2004) and Islam and Nishiyama (2016) stated that Operating cost has a positive influence on NIM.

*The effect of NPL on NIM.* The level of influence of credit risk is similar to the principle of the effect of money market interest rate volatility, the higher the level of credit risk faced by the banking, the higher the risk premium rate must be so that Net Interest Margin will be greater, as well as the opposite condition. The risk faced in the event of NPL is that the bank must reserve the elimination fee according to regulatory regulation and this may affect the operational cost incurred. Based on research by Taufik Ariyanto (2011); Nassar, Martinez and Pineda (2014), Sharma and Gounder (2011), and Maudos and Guevara (2004) mentioned that NPL (credit risk) has a positive influence on NIM. While Islam and Nishiyama (2016) mentioned that NPL (credit risk) has a negative influence on NIM.

*The effect of IA on NIM.* According to Septian Dwi Purwanto (2015), basically every activity in banking, either in conventional bank or in syariah bank, cannot be separated from inter-office activities. Transactions in inter-office activities enable the management of a bank to provide incentives in the form of revenues and expenses for internal bank transactions, especially in terms of providing funds for branch offices that will perform the financing distribution but the branch office has minimal funds. Meanwhile, according to Roy M Manulang (2011) Fund Transfer Pricing (FTP) is a mechanism to calculate net income up to the lowest level in bank organization or based on other criteria such as net income per line of business, product and others. FTP also separates profit from commercial activities (related to customers) and activities related to risk management. FTP can be understood as transfer pricing for bank products that are fund raising activities and loan disbursement and asset & liability management, where the transfer price is stated at the interest rate. So it can be concluded that Inter-Office Account (IA) is also determine the profit or loss of the Branch where there is an element of interest rates as the basis of selling the price of funds and borrow funds to other branches or headquarters.

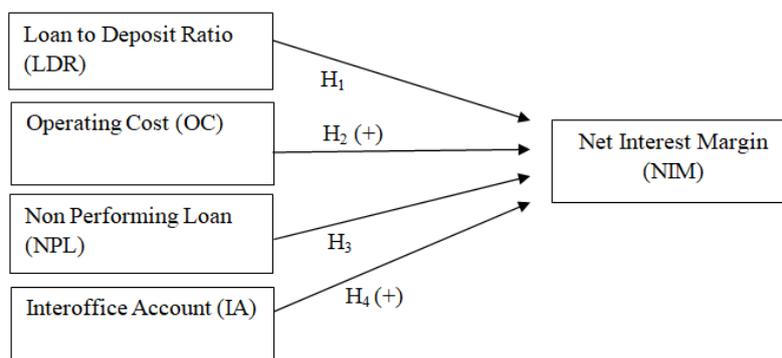


Figure 1 – Theoretical Framework

*Hypothesis:*

- H1: *Loan to Deposit Ratio (LDR)* effect on NIM;
- H2: *Operating cost (OC)* positive effect on NIM;
- H3: *Non Performing Loan (NPL)* effect on NIM;
- H4: *Interoffice Account (IAK)* positive effect on NIM;
- H5: *Loan to Deposit Ratio (LDR), Operating cost (OC), Non Performing Loan (NPL) and Interoffice Account (IA)* are affecting NIM.

**METHODS OF RESEARCH**

This study uses variables depend on Net Interest Margin and Loan to Deposit Ratio independent variable, Operating Cost, Non Performing Loan, and Interoffice Account. Net Interest Margin (NIM) is the ratio of net interest income divided by the average earning assets. The net interest income calculated is interest income minus annual interest expense. Measurement of NIM variables using the formula:

(1). *Loan to Deposit Ratio (LDR)* is the ratio of credits extended to third parties in Rupiah and foreign currency, excluding credits to other banks, to depositor funds covering demand deposits, savings deposits and time deposits in Rupiah and foreign currency, excluding interbank funds. Measurement of LDR variables using the formula;

(2). *Operating cost (OC)* is the ratio of operational cost to total asset, for calculation using previous month's Operating cost (OC) data to Net Interest Margin (NIM) data next month. Measurement of OC variables using the formula;

(3). *Non Performing Loan (NPL)* is the ratio of nonperforming loans to total loans granted. Measurement of the NPL variable using the formula;

(4). Finally, *Interoffice Account (IA)* is the ratio of total IA in one month to total Deposits in one month. The measurement of the IA variable uses formula (6).

*Population, Sample and Data.* This research is a case study research on the main branch of PT. Bank X in Surabaya. The research period chosen as the sample is 2011 to 2015, with consideration to see how big the role of PT. Bank X Surabaya Branch in affecting the value of NIM PT. Bank X nationally before and after the merger between PT. Bank Y with PT. Bank Z in 2014.

In this study the data used is secondary data taken from PT. Bank X Surabaya main branch. The data obtained is the balance sheet data per month during 2011 to 2015 from the bank's internal system.

*Data Analysis Technique.* Data analysis technique used in this research is Multiple Regression Analysis (MRA) which is multivariate analysis tool used to test the influence of some independent variable (independent variable) to dependent variable (dependent variable). The following concurrent regression research model:

$$NIM = \alpha + \beta_1LDR + \beta_2OC + \beta_3NPL + \beta_4IA + e$$

**RESULTS AND DISCUSSION**

*Descriptive Analysis.* Descriptive analysis is performed on free variables, namely Loan to Deposit Ratio (LDR), Operating Cost (OC), Non Performing Loan (NPL) and Interoffice Account (IA) and dependent variable ie Net Interest Margin (NIM). Table 1 shows that the Net Interest Margin (NIM) average is 13.96 percent with a standard deviation of 2.22 percent. This represents the monthly NIM of PT. Bank X Surabaya's main branch in 2011 until 2015 is very good, in accordance with the objectives to be achieved by the Management of PT. Bank X Centers of 2016 ie increase NIM above 5.5 percent.

The average Loan to Deposit Ratio (LDR) was 28.16 percent with a standard deviation of 10.23 percent. With the low average LDR of PT. Bank X Surabaya's main branch illustrates the condition of branches with excess liquidity. This is not good in terms of liquidity considering there are excess funds settle and not channeled into productive assets (loans).

The average value (mean) Operating cost (OC) is 46.06 percent with a standard deviation of 22.93 percent. On average, PT. Bank X Surabaya main branch is quite efficient in terms of operational costs incurred every month from 2011 to 2015. However, judging from the largest deviation standard among all variables, the operational costs incurred each month are unstable.

Table 1 – Descriptive Analysis Variable (%)

Variable	Mean	Std Deviation
NIM	13,96	2,22
LDR	28,16	10,23
OC	46,06	22,93
NPL	4,14	3,48
IA	73,45	11,18

The average Non Performing Loan (NPL) was 4.13 percent with a standard deviation of 3.48 percent. Describes the average problem loans PT. Bank X Surabaya main branch is quite high almost near the limit set by the regulator that is equal to 5 percent. Based on internal data of PT. Bank X Surabaya Main Branch, NPL per month for five years (2011 to 2015) Increase in NPL occurred in February 2013, even NPLs are above 5 percent from May 2013 until December 2015. So, the average NPL value from February 2013 through December 2015 at 6.84 percent and exceeding the 5 percent limit.

The mean value of Interoffice Account (IA) is 73.45 percent with a standard deviation of 11.18 percent. Describes that every month PT. Bank X Surabaya main branch in 2011 to 2015 earns IA interest income from its Head Office and Assisted Branches, in the absence of excess funds deposited and not channeled to productive assets (loans).

*Regression Analysis.* Multiple regression analysis (MRA) is used to measure how big the influence of each independent variable to NIM. Based on Table 4.2, it can be formulated results from the regression equation as follows:

$$\text{NIM} = -15,176 + 0,184 \text{ LDR} + 0,030 \text{ OC} - 0,288 \text{ NPL} + 0,324 \text{ IA} + e$$

Table 2 – Result of Regression Analysis

Variable	B	t count	t table	Conclusion
(Constant)	-15,176			
LDR	0,184	2,015	+/- 2,00404	Hypothesis Accepted
OC	0,030	1,868	1,67303	Hypothesis Accepted
NPL	-0,288	-2,416	+/- 2,00404	Hypothesis Accepted
IA	0,324	3,516	1,67303	Hypothesis Accepted
R <sup>2</sup>	0,532			
F	15,614	Sig.		0,000

Table 2 shows that the F-count value is 15.614 larger than the F-table of 2.5400. The magnitude of the significance value is 0.000 smaller than the alpha of 0.05. It can be concluded that there is simultaneous influence of loan to deposit ratio, operating cost, non-performing loan, and inter-office account to net interest margin.

Table 2 also shows the influence of each independent variable, namely loan to deposit ratio, operating cost, non performing loan and inter-office account partially to net interest margin. The test results show that the loan to deposit ratio, operating cost and inter-office accounts have a significant positive effect on net interest margin, while non-performing loan significantly affects negatively to net interest margin.

The results of this study indicate that the LDR variable has a significant positive effect on NIM. This means that the higher percentage of funds disbursed in the form of credit, net interest income is also higher. Credit in banking is a productive asset because it is able to generate the highest profit (interest) compared to other fund placement alternatives. In addition, from the perspective of economies of scale, the greater the credit distribution, there

are efficiency benefits associated with the cost per unit for the management and disbursement of credit portfolio.

Table 3 presents the average loan interest rate and interest Deposits PT. Bank X Main branch Surabaya for 5 (five) years. This table shows that the interest rate of Deposits with credit interest is big enough, so it can be concluded PT. Bank X Surabaya main branch to increase its NIM is expected to disburse loans from existing deposits. PT. Bank X Surabaya main branch should further increase lending, while maintaining caution in loan disbursement, in order to increase net interest income.

Table 3 – Average Interest Rate Data of Credit & Deposits, PT. Bank X Surabaya Main Branch 2011 to 2015

Years	Credit Interest	Deposits Interest
2011	20,56	6,50
2012	19,29	5,70
2013	18,34	5,97
2014	17,55	7,64
2015	16,14	7,42

Source: Internal PT. Bank X Cabang Utama Surabaya.

The results of this study indicate that the OC variable has a significant positive effect on NIM. Table 4 presents operational cost information (interest and non-interest expenses) of Surabaya Main Branch for 5 (five) years. This table describes the average that causes a significant increase in operating costs are the components of interest costs, insurance premium costs, labor costs and removal costs. This indicates that the largest component contributed to the increase in operational costs in terms of interest costs. Operating costs are the most important determinants of net interest margin, so banks should also be encouraged to improve operational efficiency in order to lower overhead costs in order to determine the interest margin can be reduced. Banks that have a high average operating cost should operate with higher margins to enable them to offset higher transformation costs.

Table 4 – Operational Cost Data, PT. Bank X Surabaya Main Branch 2011 to 2015

Operational Cost	2011	2012	2013	2014	2015
Interest Cost	18.244	29.009	41.603	57.833	58.657
Premium Cost	351	692	1.011	1.142	1.410
Labor Cost	1.308	2.373	3.243	4.158	5.229
Removal Cost	650	1.605	6.710	8.438	7.733

Source: Internal PT. Bank X Surabaya main branch (in millions).

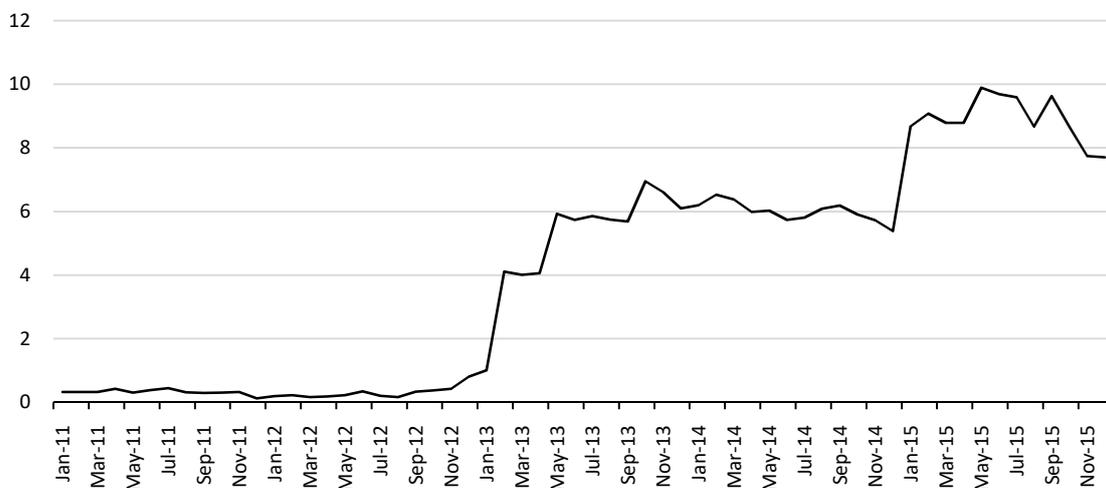


Figure 1 – Increase of NPL per month on 2011 to 2015

The results of this study indicate that the NPL variable has a significant negative effect on NIM. This indicates that NPLs negatively affect NIM. Figure 1 shows that NPL of PT. Bank X Surabaya main branch obtained the result that the NPL every year has increased to almost 10 percent. From the analysis of existing data through the financial statements, the effect of the increase in NPL is the increase of operational costs of the company due to the removal cost reserves (Earning Asset Backup) from the working capital loan portfolio.

The results of this study indicate that the Interoffice Account (IA) variable has a significant positive effect on NIM. Thus, the higher the IA the greater the NIM. This is possible because of the high differences between IA interest and third party fund interest.

Table 5 – Average interest rate data of Credit, Deposits & IA interest, PT. Bank X Surabaya Main Branch 2011 to 2015

Year	Credit Interest	Deposits Interest	IA Interest
2011	20,56	6,50	10,50
2012	19,29	5,70	9,90
2013	18,34	5,97	11,63
2014	17,55	7,64	14,14
2015	16,14	7,42	12,42

Source: Internal PT. Bank X Surabaya Main Branch.

Table 5 presents information on average interest rate of Deposits and IA of PT. Bank X Main branch Surabaya for 5 (five) years. This table shows that the interest rate of IA with loan interest is quite large while the interest rate of Deposits with IA interest is also quite large, about 5 percent. The high difference between IA and interest rate Deposits then can encourage PT. Bank X Surabaya main branch feels quite a profit in the form of net interest by placing its funds in inter-office lending. This condition can encourage PT. Bank X Main branch of Surabaya not to distribute funds in the form of credit. Although the difference between loan interest is relatively significant, which is about 4 percent during 2014 - 2015, but with quite high NPL of PT. Bank X Branch of Surabaya which amounted to almost 10 percent makes this branch is reluctant to channel funds in the form of credit. PT. Bank X Branch of Surabaya net profit is more advantageous when channeling its funds through interoffice loans which risk of failure does not exist with a net profit of about 5 percent, rather than placing funds in the form of credit which, if not cautious, leads to very high credit problems that erode branch earnings.

## CONCLUSION

The results provide evidence that the loan to deposit ratio, operating cost, non-performing loans, and inter-office accounts simultaneously affect net interest margin. Partially, the test result shows that the loan to deposit ratio, operating cost and inter-office accounts have a significant positive effect on net interest margin, while non-performing loan significantly affects negatively net interest margin.

This research has some limitations such as (1) incomplete data of credit interest rate, interest rate of Deposits and interest rate of IA PT. Bank X Branch of Surabaya in monthly period during 2011 to 2015, so the writer uses average reference data per year, and (2)  $R^2$  value equal to 53,2% shows percentage of Net Interest Margin (NIM) that can be predicted / explained by the independent variables LDR, OC, NPL and IA, while the remaining 46.8% described other variables that are not examined.

Based on the result of research, there are some implications for PT. Bank X. Firstly, bank management is expected to be able to balance Loan To Deposit Ratio (LDR) so that not too much money settles in Surabaya Main Branch so that it can generate better income. Second, bank management must be careful in expanding credit, especially working capital credit, because the risk is very large if there is bad credit.

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DOI <https://doi.org/10.18551/rjoas.2018-12.08>

## **INSIDER TRADING ANALYSIS OF FINANCIAL STATEMENTS ON MANUFACTURING COMPANIES IN INDONESIA STOCK EXCHANGE**

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### **ABSTRACT**

The purpose of this study was to determine the effect of DSRI, GMI, AQI, SGI, and TATA variables on financial report fraud and to determine the relationship between insider trading and financial report fraud. The sample used is a company that publishes financial statements in 2014-2017 and information related to insider trading. This study uses logistic regression statistical methods. The results of this study were that the DSRI and SGI variables did not significantly affect fraud and the variables GMI, AQI and TATA significantly affected financial statement fraud. And insider trading has no significant correlation or correlation with financial statement fraud. the conclusion of this study is that not all variables affect financial statement fraud and there is no relationship between insider trading and financial statement fraud.

### **KEY WORDS**

Financial report fraud, insider trading, index benefit ratio.

The financial statements are prepared with the intention to provide financial information for a company to the parties who use financial statements as consideration for making decisions. In the financial statements there are many problems in it, one of which is crime in the financial statements that currently occurs a lot. As for accounting crimes, there are no books or academic literature that specifically use this term. Crimes involving accounting science are often referred to as financial scandals or accounting scandals (Nugraha and Henny, 2015).

Accounting scandals or corporate accounting scandals are political and business scandals that arise with the disclosure of the misdeeds of executives of public companies. These crimes usually involve complex methods to misuse funds or mislead, overstate income, reduce costs, overstate the value of company assets or reduce reporting on the amount of liability, sometimes they also cooperate with officials in other companies or issuers concerned. When referring to the understanding of the accounting scandal above, accounting crimes tend to be closer to the term fraud which is related to the presentation of financial statements (Fraudulent Financial Statement) (Hutomo, 2012). Fraudulent Financial Statement is intentional misstatement or negligence, whether in terms of quantity or disclosure of financial statements intended to deceive users of financial statements, in this case the management processes financial statements for their own benefit. In general, accounting crime itself can be defined as a crime / fraud committed in the economic field and related to accounting. This means financial statement fraud is one form of accounting crime (Prakoso, 2009).

Accounting crime or accounting scandals involve business elites and professionals. An example of a popular case abroad is the Enron case where the company's stock price plummeted due to the act of Enron founder, former CEO, other enron executives and public accounting firm Arthur Anderson who conspired to commit Enron's financial report fraud (Kusmayadi, 2009). Accounting crimes in banks and in the capital market also involve professionals. By looking at the perpetrators, it was concluded that these accounting crimes fall into the category of white collar crime. This is in line with opinions (Sutherland, 1940 in Alalehto, 2015) which states that white collar crime is a crime committed by respectable people and high social status in relation to its occupation.

In Indonesia, accounting fraud is also common at the level of companies, both private and government companies. On December 6, 2012, Indonesia's score in the Corruption Perception Index (CPI) was 32 and was ranked 118 out of 176 countries measured by corruption. In this case, it can be seen from the number of cases related to corruption issues and fraudulent practices such as the liquidation of several banks, the proposed management of state-owned enterprises and the private sector to the courts, cases of banking crimes, tax manipulation, etc. (Wilopo, 2006).

In 2011, a fraud scandal occurred by PT Kimia Farma Tbk. PT Kimia Farma is an SOE whose shares have been traded on the stock exchange so that it becomes a public company. Based on a statement by the Ministry of BUMN and Bapepam's examination found misstatements in the financial statements that resulted in overstatement of net profit for the year ended 31 December 2011 amounting to Rp 32.7 billion which constituted 2.3% of sales and 24.7% from net income. This

misstatement occurred by exaggerating sales and inventory at 3 business units, and was carried out by inflating the inventory price authorized by the production director to determine the inventory value at PT Kimia Farma's distribution unit as of December 31, 2011. In addition, the management of PT Kimia Farma also records double sales of 2 business units carried out on units that are not sampled by external auditors (Parsaoran, 2009).

In the journal Beneish (1999), conducts research on quantitative differences between public companies that manipulate financial statements and companies that do not. Beneish (1999) uses financial statement data from all companies listed in the COMPUSTAT database in 1989-1992. Beneish (1999) indicates that the likelihood of fraud is marked by an extraordinary increase in receivables, deterioration in gross margins, decrease in assets, sales growth, and increasing accruals. Beneish (1999) used variables of Days Sales In Receivables Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), Depreciation Index (DEPI), Sales General And Administrative Expenses Index (SGAI), Leverage Index (LVGI), and Total Accruals to Total Assets Index (TATA), as predictors for detecting fraud. By using these variables, Beneish (1999) was able to identify 76% of sample companies cheating on their financial statements. Beneish (1999) also states that the variables DSRI, GMI, AQI, SGI, and TATA are significant variables in detecting possible fraud and are able to distinguish between companies that commit fraud and companies that do not commit fraud. Beneish (1999) suggested the use of accounting variables considered to have signals of future prospects as a technique for detecting fraud. This technique is based on the thought of the importance of information on a company that can capture the nature of the company's operations or activities economically and have economically reasonable detection capabilities (Yavida, 2001).

In the crime of financial statements is usually associated with insider trading activities that occur within the company. Therefore, it is necessary to determine whether the auditor can improve the ratio testing of financial statement crimes by including insider trading activities in this model using a sample consisting of companies found fraud and companies that have not found fraud in it (Scott and John, 1998). Insider trading crime is a white collar crime which is very dangerous for a regular market mechanism that is fair and efficient (Alahleto, 2015). Insider trading causes the price that is formed to be unnatural due to lack of information about the actual situation, but it is not easy to ensnare insider trading because the legal instruments of the capital market are less competitive with the rapid development of the capital market itself (Ardiansyah, 2014).

Not only in the capital market, there are insider trading practices, but also in companies listed on the Indonesia Stock Exchange, this practice has also occurred. Inside the company found fraud in insiders by reducing their ownership of the company's shares through a high level of sales activity that is measured by the number of transactions, and the number of shares sold (Scott and John, 1998). In addition, insider trading is also triggered by in (non-public) information banned by securities and exchange of actions. However, there are managers in companies that commit fraud in financial statements that tend to use their knowledge of fraud to protect or increase their wealth. Managers who issue misstatements of financial statements tend to protect or increase their wealth and based on their knowledge of the impact of fraud on the current financial statements that have not yet been revealed but they believe that the impact will eventually be revealed. Based on the above background, the authors are interested in conducting research on "Insider Trading Analysis of Financial Report Cheating on Manufacturing Companies in the Indonesia Stock Exchange".

*Hypothesis.* This study aims to examine and find empirical evidence of factors that influence financial statement fraud and whether these factors influence insider trading activities that commonly occur in the capital market. The following is a picture of a framework that shows the relationship between variables.

In connection with the importance of a method that can reflect the ability to detect fraud, this study uses index ratio analysis developed by Beneish. These variables are Days of Sales In Receivables Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), and Total Accruals to Total Assest Index (TATA). These variables are significantly able to detect whether the company is cheating or not on its financial statements, so that it can be known which companies are classified as companies that commit fraud and which companies are classified as not doing fraud (Efitasari, 2013).

H1a. Days of Sales In Receivables Index (DSRI) have a positive effect on financial report fraud.

H1b. Gross Margin Index (GMI) have a positive effect on financial report fraud.

H1c. Asset Quality Index (AQI) have a positive effect on financial report fraud.

H1d. Sales Growth Index (SGI) have a positive effect on financial report fraud.

H1e. Total Accruals to Total Asset Index (TATA) have a positive effect on financial report fraud.

Insider trading is a form of crime that often occurs in the capital market, where the crime is committed by an insider from an issuer or public company that has inside information. This insider

trading crime is very dangerous for the company and also the capital market because with the existence of insider trading crime this can make the company's performance deteriorate and also investor confidence will be reduced to the company. Therefore, how the company must be able to improve good control and also be supervised so that insider trading crimes do not occur in a company and also the capital market. Insider trading crime will also usually affect the company's finances where there is a fraudulent financial report so that the company's finances experience a decline in performance even if viewed from the greater level of investment and also the increasing ROA level (Scott and John, 1998). To examine the relationship between these insider trading activities and financial statement fraud, this study will test H2 as formulated as follows:

H2. There is a significant positive relationship between insider trading activities and financial statement fraud.

## METHODS OF RESEARCH

Research Variables are objects of research that become the point of attention of a research. In this study, there are two variables, the dependent variable (Y) which is financial report fraud and insider trading, while the independent variable (X) is the days sales in receivables index (DSRI), gross margin index (GMI), asset quality index (AQI), Sales Growth Index (SGI), total accruals to total assets (TATA) to measure financial statement fraud and the number of shares and the number of transactions for purchases (Pmoney, Pshares, Ptrans) and sales (Smoney, Sshares, Strans), dollars and shares that traded (Nmoney, Nshares), the total number of stock transactions (Ttrans) to measure insider trading.

### *Dependent:*

- Fraudulent Financial Reporting. In this study financial report fraud (Fraudulent Financial Reporting) acts as the dependent variable. Cheating financial statements will be measured using the Beneish Ratio Index variable. According to (Beneish, 1999) there are 5 (five) significant variables to predict fraud in the financial statements. In this study I will use a dummy to measure variables categorized into 2 types of companies, namely companies that commit fraud because they violate Bapepam regulations given code 1 (one) and companies that do not commit fraud (nonfraud) are given a code of 0 (zero).
- Insider Trading. Insider trading in this study is the existence of an insider who trades in stocks with fraud, and by doing insider trading can get the results that are in accordance with what is desired. Insider trading will be measured using certain variables that have been determined in the study (Scott and John, 1998). And in this study will use logistic regression methods and correlation tests that can measure insider trading variables so that the results are obtained that there is a positive relationship between cheating financial statements with insider trading.

### *Independent:*

- Days Sales in Receivables Index (DSRI). DSRI is the ratio of the number of sales days in accounts receivable in the first year of manipulation (year t) to the previous year's measurement (year t-1).

$$DSRI = \frac{Account\ Receivable_t - Sales_t}{Account\ Receivable_{t-1}/Sales_{t-1}}$$

- Gross Margin Index (GMI). GMI is the ratio of gross margin in the previous year (year t-1) to the first year's gross margin of manipulation (year t).

$$GMI = \frac{\frac{sales_{t-1} - Cost\ of\ Sales_{t-1}}{Sales_{t-1}}}{\frac{Sales_t - Cost\ of\ Sales_t}{Sales_t}}$$

- Asset Quality Index (AQI). AQI is the ratio of noncurrent assets (not including property, plants and equipment) to total assets, which measures the proportion of total assets to future profits that lack certainty.

$$AQI = \frac{1 - Current\ Assets_t + \frac{Net\ Fixed\ Assets_t}{Total\ Assets_t}}{Current\ Assets_{t-1} + \frac{Net\ Fixed\ Assets_{t-1}}{Total\ Assets_{t-1}}}$$

- Sales Growth Index (SGI). SGI is the ratio of sales in the first year of manipulation (year t) on sales of the previous year (year t-1).

$$SGI = \frac{Sales_t}{Sales_{t-1}}$$

- Total Accrual to Total Assets (TATA). TATA is the ratio of total accruals to total assets. Where total accruals are calculated as changes in working capital accounts other than cash and tax receivables minus depreciation.

$$TATA = \Delta \frac{Working\ capital - \Delta Cash - \Delta Current\ Taxes\ Payable - Depreciation\ and\ Amortization}{Total\ Assets}$$

The number of shares and the number of transactions for buying and selling are obtained by looking at the data on the IDX website which have been listed annually. The number of transactions is the sum of all transactions carried out by the IDX and with external and internal parties. The number of shares and the number of transactions for purchases are the number of shares and also the number of transactions that can be used to assess the purchases that will be made by the IDX. Likewise with the number of shares and the number of transactions for sales is the amount between shares and transactions in the company that are valued for sales that will be carried out by the IDX. The value of the number of shares and the number of transactions for buying and selling are analyzed.

The definition of dollars and traded shares are dollars and shares traded are traded or traded, the value of the dollar and traded shares can assess the securities and exchange commission of the IDX. Dollar variables and traded shares act as independent variables that affect insider trading. Dollar values and shares traded are obtained from data listing on the IDX website.

The total number of stock transactions is the transaction of SEC (securities and exchange commissions) for which each sale and purchase has a record of the transaction made. The total number of transactions can assess an insider trading that occurs in the SEC so that in this study using a variable total number of stock transactions to measure insider trading. Variable total number of stock transactions as independent variables analyzed.

## RESULTS OF STUDY

The test results from the table below can assess whether the model is fit, for the beginning part, the value of -2 Log likelihood which still only uses constants (c) is 261.751 while when it involves five independent variables (DSRI, GMI, AQI, SGI and TATA), the value of -2 Log Likelihood is 226,281. This has shown a decrease in value when the independent variable is included, which is  $261,751 - 226,281 = 35,470$  according to the results in the Omnibus Tests of Coefficients table below.

For the beginning, it turns out that the coefficient of -2 Log Likelihood produced -0.457 which is greater than alpha 5% so that it can accept the null hypothesis that the model is fit. Furthermore, to block 1 of the second LogL -2 value is 226,281 smaller than alpha 5% so accept the null hypothesis, and the model is fit with the data.

Table 1 – Research Model

		Chi-square	df	Sig.
Step 1	Step	35,47	5	0
	Block	35,47	5	0
	Model	35,47	5	0

Iteration	-2 Log likelihood	Coefficients						
		Constant	DSRI	GMI	AQI	SGI	TATA	
Step 1	1	230,402	-3,24	0	0,001	2,422	0,009	0
	2	227,198	-4,422	0	0,001	3,383	0,014	0
	3	226,73	-4,651	0	0,001	3,571	0,019	0
	4	226,437	-4,7	0	0,001	3,612	0,023	0,001
	5	226,283	-4,778	0	0,002	3,68	0,026	0,001
	6	226,281	-4,791	0	0,002	3,691	0,027	0,001
	7	226,281	-4,791	0	0,002	3,691	0,027	0,001

Source: Data Processing Results, 2017.

From testing the data that has been done using IBM SPSS version 20 application, if in logistic regression use Cox & Snell and Nagelkerke R Square. Then the Likelihood results obtained, can be seen in the table below:

Table 2 – Likelihood results

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	226,281 <sup>a</sup>	0,166	0,225

Source: Data Processing Results, 2017.

The test results in the summary model obtained a Log likelihood value of -2.28,281 with a significance of Hosmer and Lemeshow of 0.139 menunjukkan 0.05 indicating a regression equation with DSRI, GMI, AQI, SGI and variable in the equation variables.

After getting the results of the likelihood function to find out whether the variables can be used in this study, the next step is to test the hypothesis with the Hosmer and Lemeshow Test to test the feasibility of the regression model based on the hypothesis of this study. The following are the results of the Hosmer and Lemeshow Test:

Table 3 – Hosmer and Lemeshow Test Results

Step	Chi-Square	Df	Sig.
1	12,285	8	0,139

Source: Data Processing Results, 2017.

From the results of the Hosmer and Lemeshow Test listed above, it shows that the significance value (probability) is 0, 139 or 13.9% > 5%, so Ho is accepted, meaning fraud that occurs in a company is influenced by DSRI, GMI, AQI, SGI and TATA, this also shows that a binary regression model is appropriate to use for subsequent analysis.

After getting the results of the Hosmer and Lemeshow Test above, the next step is to look at the Output Variables in the Equation to find out the regression coefficients of each of the independent variables and their constants. From the Output Variable in the Equation below shows the regression coefficient value of each independent variable and its constant in this study, namely:

- DSRI variable regression coefficient (X1) = 0,000 significance = 0.714 or 71.4% > 5% means that the DSRI variable does not significantly affect fraud that occurs in a company.
- The variable regression coefficient value of GMI (X2) = 0.002 significance = 0.333 or 33.3% <5% means that the GMI variable does not significantly affect fraud that occurs in a company.
- AQI variable regression coefficient (X3) = 3.691 significance = 0,000 or 0.00% <5% means that the AQI variable significantly influences fraud that occurs in a company.
- SGI variable regression coefficient (X4) = 0.027 significance = 0.747 or 74.7% > 5% means that the SGI variable does not significantly affect fraud that occurs in a company.
- TATA variable regression coefficient (X5) = 0.001 significance = 0.396 or 39.6% <5% means that the TATA variable does not significantly affect fraud that occurs in a company.
- The value of the regression coefficient constant (a) = -4,791 significance = 0,000 or 0,00% <5% means that the constant coefficient value significantly affects fraud that occurs in a company. Here is the Output Variables in the Equation:

Table 4 – Output Variables

	B	S.E.	Wald	Df	Sig.	Exp(B)	
Step 1	DSRI	0	0,001	0,135	1	0,714	1
	GMI	0,002	0,002	0,936	1	0,333	1,002
	AQI	3,691	0,848	18,961	1	0	40,077
	SGI	0,027	0,085	0,104	1	0,747	1,028
	TATA	0,001	0,001	0,72	1	0,396	1,001
	Constant	-4,791	1,005	22,748	1	0	0,008

Source: Data Processing Results, 2017.

Thus, not all five independent variables can be used as predictors of determining fraud that occurred or did not occur in a company. The regression equation is as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5$$

$$Y = -4,791 + 0,000X_1 + 0,002X_2 + 3,691X_3 + 0,027X_4 + 0,001X_5$$

Following research model  $\ln P / 1-P = -5.166 + 3.691$  and the interpretation of the results of this test is that the higher the AQI value, the tendency for fraud to occur in a company will increase.

Correlation is used to measure the relationship between two variables with a certain scale, in this study using Pearson two-tailed correlation because it is a parametric measurement and wants to know the relationship between two variables. The symbol for Pearson correlation "p" if measured in population and "r" if measured in the sample. Pearson correlation has a distance between -1 and +1. If the correlation coefficient is -1, then the two variables studied have a perfectly negative linear relationship. And if the correlation coefficient is +1, then the two variables studied have a perfectly positive linear relationship. If the correlation coefficient shows the number 0, then there is no relationship between the two variables studied. Following is the correlation table that has been processed:

Table 5 – Correlation

	DSRI	GMI	AQI	SGI	TATA
Pearson Correlation	1	,177*	-,294**	-,011	,011
Sig. (2-tailed)		,015	,000	,878	,877
Sum of Squares and Cross-products	343624751,08	35698710,66	-22102,995	-45002,696	4459729,95
Covariance	1837565,514	190902,196	-118,198	-240,656	23848,823
N	188	188	188	188	188

Kecurangan	Pmoney	Pshares	Ptrans	Smoney
,088	-,087	-,105	-,053	-,088
,230	,236	,152	,467	,228
10887,687	-5637113904,128	-4820179629,653	-190175368,824	-3711201,608
58,223	-30144994,140	-25776361,656	-1016980,582	-19845,998
188	188	188	188	188

Sshares	Strans	Nmoney	Nshares	Ttrans
-,107	-,053	-,087	-,105	-,019
,142	,466	,236	,152	,800
-3168418,011	-125161382,930	-15658797,874	-13388867,733	-2877618,870
-16943,412	-669312,208	-83736,887	-71598,223	-15388,336
188	188	188	188	188

Source: Data Processing Results, 2017.

To do the first interpretation done is to see the strength of the relationship between each variable. From the table above, we can see the numbers of Pearson correlation coefficients on DSRI = 1, GMI = ,177\*, TATA = ,011 and cheating = ,086. This means that the correlation between DSRI, GMI, TATA and cheating variables has a correlation or perfectly positive linear relationship because it approaches the number 1. The two-star sign (\*\*) on the GMI variable means a significant correlation in the significance number of 0.01 and has two-way possibilities (2-tailed). But if there are no two stars, then the significance is 0.05.

The second stage is to see the significance of the relationship between the two variables, which figure is seen from its significance, the relationship between the fifteen variables above that have been processed shows the relationship between each variable because the significance is  $GMI = 0.013 > 0,000$ ,  $AQI = 0,000 < 0,001$ ,  $SGI = 0,878 > 0,001$ ,  $TATA = 0,880 > 0,001$ ,  $cheating = 0,230 > 0,001$ ,  $Pmoney = 0,466 > 0,001$ ,  $Pshares = 0,152 > 0,001$ ,  $Ptrans = 0,467 > 0,001$ ,  $Smoney = 0,228 > 0,001$ ,  $Sshares = 0,142 > 0,001$ ,  $Strans = 0,466 > 0,001$ ,  $Nmoney = 0,236 > 0,001$ ,  $Nshares = 0,152 > 0,001$ ,  $Ttrans = 0,800 > 0,001$ . And if there are no two asterisks, then the significance is 0.05. The relationship of each variable has two directions (2-tailed), which can be in the same direction and not in the same direction.

The next step is to look at the direction of the correlation between each variable. The direction of correlation seen from the correlation coefficient results is positive or negative, because the number of correlation coefficients is positive for DSRI = 1, GMI = ,177\*, TATA = ,011 and cheating = ,086, then the correlation of each variable is unidirectional. That is, if the value of DSRI, GMI, TATA is high then the value of fraud will be high too. While the variables AQI, SGI, Pmoney, Pshares, Ptrans, Smoney, Sshares, Strans, Nmoney, Nshares and Ttrans have negative values so that the correlation of each variable is not in the same direction.

*The Influence of DSRI, GMI, AQI, SGI and TATA on Financial Report Fraud.* Based on the results that have been found after processing the data, the significance value for the DSRI variable is 0.714, the value is greater than  $\alpha = 0.05$  so the conclusion taken is accept H<sub>0</sub>, which means the DSRI variable does not have a significant effect on fraudulent financial statements. While for the regression coefficient that produces a number of 0,000 can be interpreted that the greater the value of the DSRI produced will not make fraudulent financial statements that occur in a company increases. These results state things that support previous research as stated by the first hypothesis that the average DSRI does not differ significantly and the pattern of abnormal accruals that are not in accordance with the established null hypothesis, it is possible that the model is not powerful to estimate the prospect signal in the future (Yavida & Indra, 2011).

The significance value for the GMI variable of 0.333 is greater than  $\alpha = 0.05$  so the conclusion taken is accept H<sub>0</sub>, which means that the GMI variable does not have a significant effect on fraudulent financial statements. While for the regression coefficient that produces a number of 0.002, it can be interpreted that the greater the GMI value produced does not make fraudulent financial statements that occur in a company increases. The results of this study support previous studies that these results are consistent with companies that do not face the prospect of poor having smaller incentives for earnings manipulation (Beneish, 1999).

Furthermore, the significance value for the AQI variable of 0,000 is smaller than  $\alpha = 0.05$  so the conclusions taken are accept H<sub>1</sub>, which means that the AQI variable has a significant effect on fraudulent financial statements. While for the regression coefficient that produces a number of 3.691 it can be interpreted that the greater the AQI value generated will make the fraudulent financial statements that occur in a company increases. These results support previous studies that AQI has a significantly positive coefficient because it is consistent with the possibility of earnings manipulation to increase when companies change their accounting treatment from deferred costs (Beneish, 1999).

Significant value for SGI variable is 0.747, the value is greater than  $\alpha = 0.05$  so the conclusion taken is accept H<sub>0</sub>, which means that the variable SGI does not have a significant effect on fraudulent financial statements. And for the regression coefficient produces a number of 0.027 can be interpreted that the greater the SGI value generated will not make cheating financial statements that occur in a company increases. The results of this study support previous research that the SGI variable is consistent with the growth of companies that face slowing growth and have incentives to manipulate earnings (Beneish, 1999).

And finally the significant value for the TATA variable is 0.396, the value is greater than  $\alpha = 0.05$  so the conclusion taken is accept H<sub>0</sub>, which means that the TATA variable does not have a significant effect on fraudulent financial statements. While for the regression coefficient produces a number of 0.001 can be interpreted that the greater the resulting TATA value does not make fraudulent financial statements that occur in a company increases. These results support previous research that negative TATA is significant with fraud that has low cash in addition to accounting income (Beneish, 1999).

The results of this study partly support the research conducted by Beneish (1999), that the AQI variable has a significant effect on fraudulent financial statements that occur in a company, so it can be interpreted that the greater the AQI value generated will make the fraudulent value of the financial statements increase. The study considers that AQI has a significantly positive coefficient because it is consistent with the possibility of earnings manipulation to increase when companies change their accounting treatment from deferred costs. This study also supports the research conducted by Wells (2001) which states that fraud, by its nature, is easy to hide and difficult to detect by an entity that manipulates profits and detects only once which is possible to avoid the discovery of fraud that occurs at all.

*Relationship between Insider Trading and Report Fraud.* The second hypothesis states that insider trading variables that are processed have no correlation or relationship that occurs between insider trading and fraudulent financial statements, this study supports the research conducted by Scott & John (1998) which states that each measure of insider trading activity based on each of the same events, so that the correlation between these variables is not significant. The Nmoney and Pmoney variables do not have a significant correlation, it indicates that insider trading sales activities can overwhelm or multiply purchasing activities.

For financial report variables, DSRI, GMI, TATA and cheating have a correlation or perfectly positive linear relationship because the coefficient numbers are close to number 1. As for the variables AQI, SGI, Pmoney, Pshares, Ptrans, Smoney, Sshares, Strans, Nmoney, Nshares, Ttrans does not have a significant relationship or correlation because the resulting value is negative and not in the same direction.

## CONCLUSION

Based on the results of research obtained from the tests discussed earlier, it can be concluded that:

1. Days sales in receivables index (DSRI), Gross margin index (GMI), Sales growth index (SGI) and Total accruals to total asset index (TATA) do not have a significant effect on fraudulent financial statements. Asset quality index (AQI) has a significant influence on fraudulent financial statements.

2. Insider trading does not have a correlation or positive relationship with fraudulent financial statements.

The limitations of this study are, limited empirical studies that discuss insider trading relationships with fraudulent financial statements, make the insider trading variables used only limited to Pmoney, Pshares, Transfers, Smoney, Shares, Strans, Nmoney, Nshares and Ttrans that make no connection to fraudulent financial statements.

Based on the conclusions and limitations of the research described earlier, there are several suggestions that can be considered for use in future research, namely:

1. The object of research should be to use all companies that are on all IDXs so that the expected results can be maximized.

2. Trying to use other variables such as financial ratios to measure fraudulent financial statements, so that the results of the study are expected to be able to analyze factors that are more significant in influencing and can increase the value of fraudulent financial statements.

3. Further research is expected to be able to use other ways of measuring fraud and insider trading, so that later there will be many choices in measuring fraudulent financial statements and insider trading itself.

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DOI <https://doi.org/10.18551/rjoas.2018-12.09>

## **STRATEGY TO INCREASE THE COMPETITIVENESS OF INDONESIA TIRE INDUSTRY IN THE INTERNATIONAL MARKET**

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### **ABSTRACT**

Natural rubber is one of Indonesia's main commodities. Indonesia, together with Thailand and Malaysia, is one of the world's major producers of natural rubber. One of the rubber-based products is tire products that can take 70% to 80% of the world's total natural rubber production. Indonesia has been able to produce tires domestically. Most of Indonesia's tires are exported to various countries including the United States, Japan, Philippine, Malaysia, Australia, Europe and Middle East. Indonesian tire exports are fluctuated and Indonesia's export share is relatively stagnant compared to other tire producing countries. This study aims to formulate strategic priorities in increasing and developing the competitiveness of Indonesia tire industry. The method used is Analytic Hierarchy Process. Identification of the Analytic Hierarchy Process system uses factors that affect tire competitiveness which refers to the components contained in Porter's Diamond. The findings showed that in increasing and developing the competitiveness of the tire industry, the chosen priority strategy was to increase product promotion, enhance international cooperation, and strengthen the structure of the domestic raw material industry. The main objectives to be achieved are increasing company profits, increasing exports, and increasing tire production. The most important actors are the government, tire industry actors, and suppliers of raw and auxiliary materials.

### **KEY WORDS**

Competitiveness, export, Indonesia, industry, strategy, tire.

Indonesia controls the world's natural rubber production by 25.5% right after Thailand with 36.3% control (Muenthaisong and Leemanonwarachai, 2016). From the total 3.1 million tons of Indonesian rubber production, only around 17% can be used by the domestic rubber-based industry, while the rest is exported in raw form. Commodity export in raw form is very vulnerable to changes in demand and prices. Indonesia must spur more exports of products with high added value and global competitiveness, especially rubber-based industrial products. Indonesia still has the opportunity to increase the added value of domestic rubber products.

One of the rubber-based products is tire products that can take 70% to 80% of the world's total natural rubber production (Erni 2006). Currently, Indonesia has been able to produce tires domestically. There are several companies in Indonesia that produce tires either national and multinational companies. Multinational companies that have factories in Indonesia include PT Bridgestone Tire Indonesia, PT Goodyear Indonesia Tbk., PT Sumi Rubber Indonesia, PT Hankook Tire Industry, PT Maxxis Internasional, and PT Kenda Rubber Indonesia. Meanwhile, national companies include PT Gajah Tunggal, PT Multistrada Arah Sarana, PT Suryaraya Rubberindo, PT Industri Karet Deli, and PT Elang Perdana. The tire products produced by those companies are mostly four-wheeled and two-wheeled passenger vehicle tires.

Domestic tire production continues to increase in which in 2016 Indonesia could produce 70.2 million units of four-wheeled vehicle tires and 61.87 million units of two-wheeled tires. Tires produced by domestic tire companies in addition to being used to meet domestic needs, are also export mainstay products. The main countries for Indonesia's tire product exports are the United States, Japan, Philippine, Malaysia, Australia, Europe and Middle East (Table 1). Indonesia's tire exports are still dominated by the United States with an export value of USD 746.58 million (46.52% of total exports), followed by Japan with an export value of USD 127 million (7.91%), and Philippine with an export value of USD 70.23 Million (4.38%). The market structure of Indonesia's tire exports is strongly influenced by the economic development of developed countries such as the United States and Japan.

Table 1 – Countries of Destination for Indonesia's Tire Exports in 2016

No	Countries	Values (Million USD)	Contribution (%)	Volume (Ton)	Contribution (%)
1.	The United States	746.58	46.52	233,969	45.26
2.	Japan	127.00	7.91	43,835	8.48
3.	Philippine	70.23	4.38	25,567	4.95
4.	Malaysia	70.07	4.37	23,965	4.64
5.	Australia	62.52	3.90	20,341	3.94
6.	Germany	60.12	3.75	10,167	1.97
7.	Saudi Arabia	54.26	3.38	20,127	3.89
8.	Egypt	32.34	2.01	12,423	2.40
9.	United Kingdom	30.80	1.92	10,866	2.10
10.	Thailand	25.49	1.58	8,504	1.64
	Other Countries	325.61	20.28	107,14	20.73
Total Tire Exports to the World		1,605.02	100%	516.906	100%

Source: Trade map (2017a).

Generally, Indonesia's tire exports continue to experience an increase, which peaked in 2011 with a value of USD 1.85 billion. Yet, in recent years the export value has decreased and the volume has fluctuated (Figure 1). The volume of Indonesia's tire exports experienced a decline in 2008 to 2009 which then increased in 2010 to 2011. Furthermore, exports again experienced a decline in 2012 to then rise again. In terms of the value, exports also experienced a similar pattern.

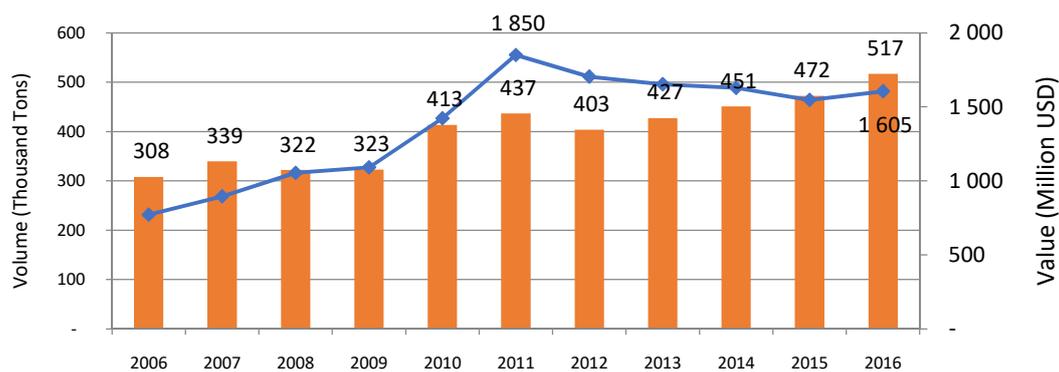


Figure 1 – Development of Indonesia's Tire Exports in 2006-2016 (Source: Trade map, 2017a)

In the international market, Indonesia only contributed 2.28% in 2016. The growth of Indonesia's tire export market share in the world is relatively stagnant compared to China and Thailand. The development of tire exports from China is quite rapid and able to dominate the world market share. China's tire exports continued to increase in which in 2001 it only controlled the export share of 4.43% to 18.34% in 2016. Thailand's export share also experienced a significant increase from 1.49% in 2001 to 5.06% in 2016. On the other hand,

tire producers, for instance: The United States, Japan, Germany and France experienced a downward trend in exports (Figure 2).

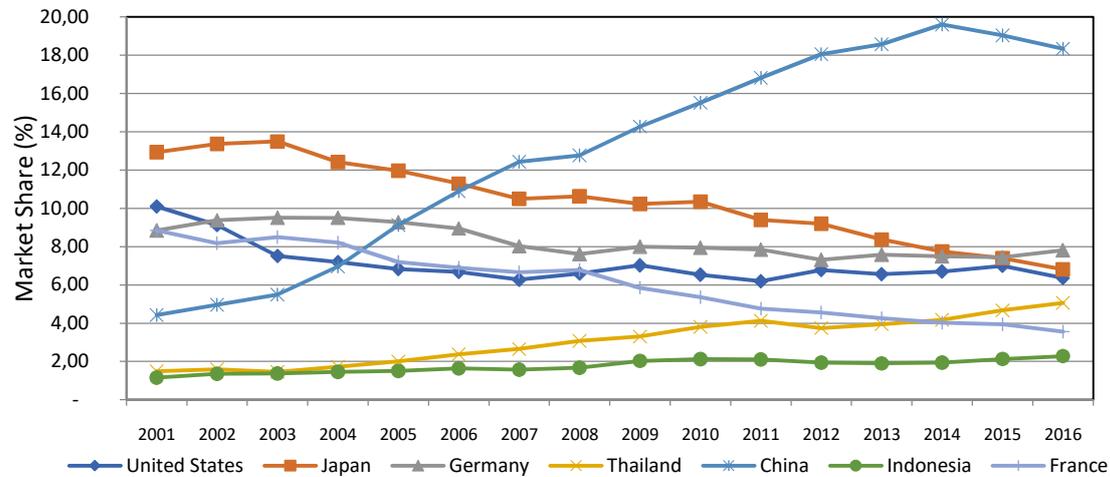


Figure 2 – Developments in the Market Share of Tire Export Value from the World Major Producers in 2001-2016 (Source: Trade map, 2017b)

World tire demand is dominated by global brands produced by multinational tire companies including Bridgestone, Michelin, Goodyear, Continental and Pirelli. The strong brand image of multinational tire products gives consumers the confidence to choose the tire brand. Thus, it is a challenge for tires with other brands to compete in the global market. Multinational tire companies build many factories in various countries to increase production and sales in certain regions. In Indonesia itself, there are several multinational tire companies that build factories domestically.

Regarding to Indonesia's position as the main producer of Indonesia natural rubber and increasing domestic tire production as well as tire demand that tends to increase, Indonesia should be a major player in the world tire market. However, in the reality, Indonesia's tire exports are fluctuated and Indonesia's export market share is relatively stagnant compared to other tire producing countries. Thus, this study needs to be carried out to formulate a priority strategy in increasing and developing the competitiveness of Indonesia tire industry in the international market.

## METHODS OF RESEARCH

In formulating a strategy to improve competitiveness in supporting the development of the tire industry, this study applies Analytic Hierarchy Process (AHP) to model the problems faced by tire industry companies. The decision-making process using AHP follows a process flow that supports each other. The stages carried out in the AHP are system identification, hierarchy preparation, questionnaire compilation and calculation of the consistency of individual opinion ratios, combined matrix compilation, and vertical processing (Saaty 1990). The system identification, carried out in analyzing the factors that influence tire competitiveness, refers to the elements contained in Porter's Diamond (Porter 1990). The use of Porter's Diamond component in formulating industrial competitiveness strategies was carried out by Syahresmita (2000) and Setyawan (2016) for the rattan processing industry.

System identification is carried out through literature studies to study the system and conduct in-depth interviews with tire industry experts to obtain input on subfactors, actors, objectives, and alternative strategies. The hierarchy is made from the highest to the lowest level. The highest level is the main target that is followed by influential factors and subfactors, actors who are involved, objectives of each actor, and alternative strategies

which are considered to achieve the target. Assessment of the importance of each element is carried out through pairwise comparisons.

Respondents were selected using the purposive sampling method by determining which respondents were expected to answer the research problems. The respondents were 5 (five) people who were experts in the development of the tire industry; both representing the functions of the government and business actors.

## RESULTS AND DISCUSSION

Competitiveness has become the key for a country to excel in cross-country economic activities. Competitiveness is a major issue that is considered in conducting international trade. Competitiveness is not only noticed by tire companies, but also becomes one of the bases for the government to issue policies in supporting economic performance.

In determining policies, it is necessary to formulate strategies that are capable of increasing and developing competitiveness. The formulation of the right competitive strategy in increasing and developing the daytime power of the tire industry is based on a preliminary review of the factors that influence the competitiveness of an industry and the study of literature to obtain the initial hierarchy. The initial hierarchy that was compiled was carried out confirmation of opinion to competent and related parties in the development of the tire industry through in-depth interviews and questionnaire assistance. Based on the results of the first stage of the questionnaire, 19 subfactors, seven actors who are involved, five objectives, and five alternative strategies in increasing the competitiveness of the tire industry were identified.

Based on the results of system identification as shown in Figure 3, from the six main factors based on Porter's Diamond elements, there are several sub-factors that influence efforts to improve and develop the competitiveness of Indonesia tire industry: (1) Condition of natural rubber owned by Indonesia, HR capability, technology, infrastructure in supporting the smooth flow of raw materials and products, and energy; (2) Demand conditions: ability of people's purchasing power and market desires; (3) Related industries and supporting industries: strength of raw material suppliers and strength of auxiliary material suppliers; (4) Structure and competition strategies: trade barriers, quality, brand image, price, and distribution channels; (5) Government's role: investment policy, export and import policies, and standardization policies; (6) Opportunities: free trade and currency rates.

Actors who are involved in increasing and developing the competitiveness of Indonesia tire industry are (1) tire industry actors, (2) suppliers of raw and auxiliary materials, (3) government, (4) tire industry associations, (5) labors (6) researchers, and (7) exporters/traders. In an effort to increase and develop the competitiveness of Indonesia tire industry, the objectives to be achieved are: (1) increasing tire production, (2) increasing brand image, (3) increasing company profits, (4) expanding export markets, and (5) increasing exports to increase the country's foreign exchange.

To achieve the above objectives, the proposed alternative strategies include:

- Increasing product promotion:

Tires produced by tire factories in Indonesia are still not widely known in the international market, especially tires with local brands that are intended for export markets.

- Strengthening domestic structure of raw material industry:

The raw material industry in Indonesia is still limited to meeting the needs of the tire industry. Although Indonesia has abundant natural rubber raw materials, it is still limited to other raw materials such as synthetic rubber, carbon black and other raw materials.

- Enhancing international cooperation:

To encourage the penetration of the export market, it is expected to expand market access to Indonesian tire products. Indonesia has free trade cooperation with various countries either bilaterally or regionally such as the ASEAN Free Trade Area (AFTA), the ASEAN Korea Free Trade Area (AKFTA), the Indonesian Japan Economic Partnership Agreement (IJEPA), the ASEAN China Free Trade Area (ACFTA) and several other trade agreements that have been or are under discussion.

- Increasing product innovation:  
Product innovation continues to be carried out to produce products with better quality, according to market tastes, and competitive prices which are expected to increase Indonesia's tire competitiveness.
- Creating a conducive business climate through government policy support:  
The policies issued by the government greatly influenced the development of Indonesia tire industry. The investment incentive policy in the tire industry and raw material industry is very much needed by the tire industry sector. The trade system policy that regulates exports and imports also influences the development of domestic industry competition.

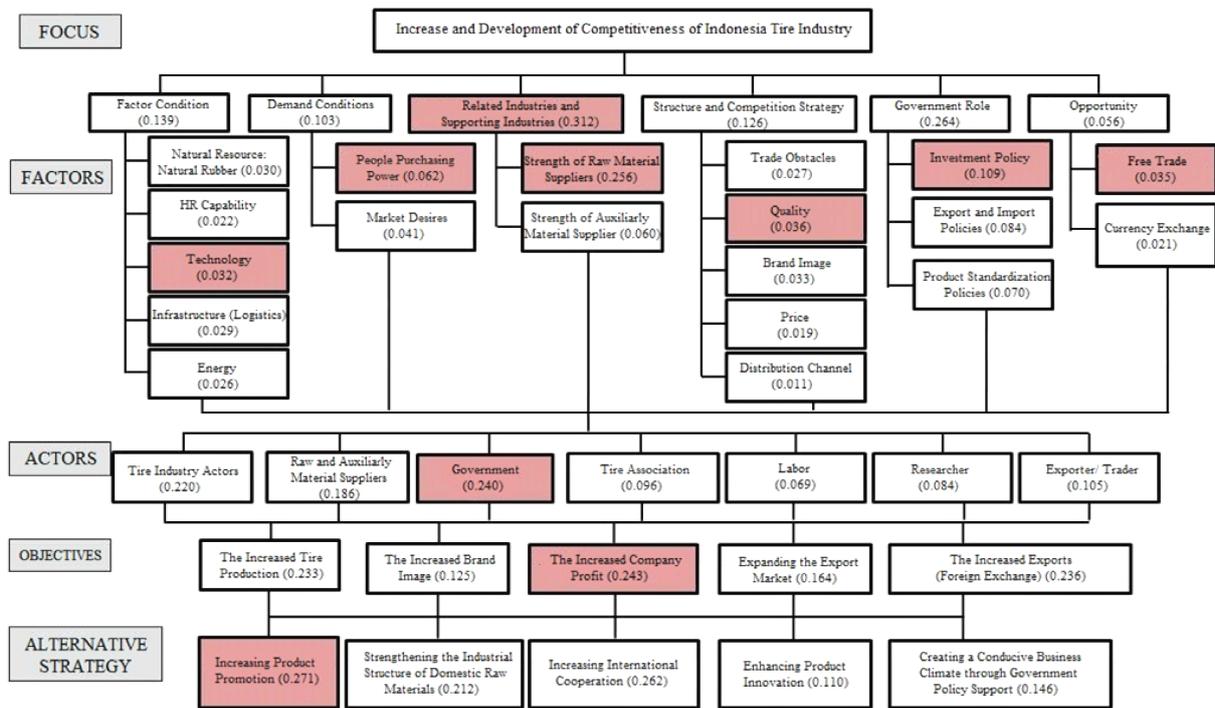


Figure 3 – The hierarchical structure of the strategy for increasing and developing the competitiveness of Indonesia tire industry

*Priority Factors in Increasing and Developing the Competitiveness of Indonesia Tire Industry.* The decisive factors affecting the competitiveness of Indonesia tire industry are based on six elements in Porter's Diamond theory. To facilitate the decision of prioritization, each factor is divided into several smaller and specialized subfactors. The results of the AHP analysis show that the elements of related industries and supporting industries are the factors that most influence the competitiveness of the tire industry (0.312). The sub-factor of strength of raw material supplier is the most influential with a weight of 0.252. Then, the strength of auxiliary material supplier has a weight of 0.06. The structure of tire raw materials consists of several components, such as rubber (natural rubber and synthetic rubber), carbon black, steel cord, textile (tire cord), and other raw materials (Anne and Evans 2006). Currently, Indonesia is the second largest producer of natural rubber. Meanwhile, for synthetic rubber and carbon black, domestic production is still limited and not sufficient for the domestic tire industry; thus, most of them are still imported.

The second priority factor is the role of government with weight of 0.264. The role of government is an element that does not directly influence the improvement of a country's competitiveness, but greatly influences other competitiveness determinants (Porter 1990). Government policy greatly influences the development of the competitiveness of Indonesia tire industry. Investment policy has the highest weight (0.109), then the export import policy (0.084), and product standardization policy (0.070). The tax allowance policy for industrial investments issued by the government encourages domestic tire companies to increase their

production capacity. The role of the government is also a priority factor for attracting investment in the upstream tire sector; for instance, for the synthetic rubber industry, the carbon black industry in which until now it has limited supply capability.

The next priority factor is the condition of the factor (0.139) in which the production technology (0.032) is a subfactor that is considered as most priority factor. Current technological developments in the tire industry lead to technologies that produce eco-tire and green tire that are eco-friendly in terms of noise level, usage time, fuel efficiency level, safety and comfort level.

The fourth priority factor that is considered important is strategy, structure and competition with a weight of 0.126. In this factor, the subfactors which are sorted by the highest priority are product quality (0.036), brand image (0.033), trade barriers (0.027), and price (0.019) and distribution channels (0.011). The quality of tire products produced by companies in Indonesia is generally regulated in the applicable SNI (Indonesian National Standard); in addition to other standards that must be met during the export to destination countries such as DOT (United States), CE-mark (Europe), BPS (Philippine), GSO (Middle East), SASO (Saudi Arabia), In-Metro (Brazil). The quality tire products will create a good image for customers. A good brand image needs to be built so that it can generate customer confidence and trust in the quality of the product.

The fifth priority factor is the demand condition (0.103) in which the subfactor of the people's purchasing power is the most important with a weight of 0.062 and the market desire subfactor with a weight of 0.041. Tire products can be categorized as elastic products in which price changes will have an impact on supply. The last priority factor is opportunity (0.056). In this factor, the currency rate has the highest priority (0.035) compared to the free trade sub-factor (0.021).

*Priority Actors in Increasing and Developing the Competitiveness of Indonesia Tire Industry.* AHP calculation results show that the most influential actor in increasing and developing the competitiveness of Indonesia tire industry is the government with a weight of 0.240. In line with the results of the analysis at the factor level, the role of the government through various policies is expected to encourage increase and development of competitiveness. Investment policy support, both the tire industry and in the raw and auxiliary material industries, is needed to strengthen the structure of the domestic tire industry.

As the main actor in the production process, the tire industry has the second highest priority weight, which amounted to 0.220. Business actors play a role in increasing added value in the country, absorbing labor, increasing state tax revenues, and increasing foreign exchange for export-oriented products.

The third priority actor is the raw and auxiliary material supplier with a weight of 0.186. The presence of domestic raw and auxiliary materials industries is important in the tire industry, especially when there are currently main raw materials for tire manufacturing which are still limited in domestic supply. Indonesia's natural rubber is abundantly available. However, synthetic rubber, carbon black and other raw materials are still imported.

Exporters or traders (0.105) in this case play a role in facilitating product marketing, especially abroad marketing. The exporter or trader helps to facilitate the distribution and sale of products to the destination countries. The tire association (0.096) is a forum for tire companies to speak out their aspirations. Researcher (0,084) has a role in continuing the innovation of production process and products. The results of this investment can produce products that are in line with market developments and have better quality and efficient processes. Labor has a weight of 0.069. The tire industry is a capital-intensive industry, so the production process uses a lot of high-tech machinery. Collaboration of labor with machinery will increase labor productivity.

*Priority Objectives in Increasing and Developing the Competitiveness of Indonesia Tire Industry.* The strategy for increasing and developing the competitiveness of Indonesia tire industry has several objectives to be achieved. From the calculation of weights and priorities, the findings show that the highest priority is increasing company profits (0.243), then increasing exports to gain foreign exchange (0.236), and increasing tire production (0.233).

Many people believe that the main objective of a business company is to get maximum profits (Hussain 2012). By the increase in company profits, the company will have enough working capital to produce its products. Indonesia tire production is mostly intended for exports, so that the increased tire production will be followed by the increased exports. Exports are a source of foreign exchange. Lots of foreign exchange will have a major influence on the success of a country's development (Oktaviani and Novianti 2009).

Generally, Indonesia tires can be categorized into two. First is a global brand tire produced by multinational companies in the country. Examples of global tire brands are Bridgestone, Goodyear, Dunlop, Pirelli, and Hankook. Meanwhile, local brand tires are tires produced by domestic producers such as GT, Accelera, Achilles, Federal, and Mizzle. Global tire brands have relatively little difficulties in the international market, because besides having a strong brand image, the composition of exports has also been regulated globally. Meanwhile, local tire brands require more aggressive promotions to compete with other brands although their quality is not inferior to global brand tires. As an export-oriented product, Indonesia tires, especially local brand tires, are still unable to compete with global brands. Therefore, one of the objectives that will be achieved is increasing brand image of tires made in Indonesia on the global market; especially local brand tires.

*Alternative Strategy for Increasing and Developing the Competitiveness of Indonesia Tire Industry.* The main strategy that becomes a priority in increasing and developing the competitiveness of Indonesia tire industry is to increase product promotion with a weight of 0.271, followed by a strategy to increase international cooperation with a weight of 0.262. By the promotion and trade cooperation, in addition to increase exports, it can also increase access to more competitive raw materials. Promotion and trade cooperation are very important especially that are supported by improving product quality so that penetration in export to the destination countries will be easier and able to compete with other countries. Indonesia has also established a number of trade cooperation with various countries such as ASEAN, China, Japan, South Korea, Australia and New Zealand. In addition, there are several trade cooperation agreements that are still under discussion.

As explained earlier that one of the priorities of the objectives to be achieved is an increase in brand image. To improve the brand image, national tire companies carry out various promotional strategies, including sport branding, brand concept stores, participation in international scale exhibitions.

The third priority strategy is to strengthen the structure of the domestic raw material industry (0.212). The role of the raw material industry is very important. It is seen from the results at the factor level placing the related industries and supporting industries as the top priority. The presence of domestic raw material producers is not only to strengthen the structure of the domestic industry, but also to increase domestic added value, reduce import dependence, facilitate access to raw materials, save foreign exchange, absorb labor, and increase state revenues through taxes.

A conducive business climate needs to be created by the role of government through various policy products. The government has issued a policy to encourage investment in the tire industry and the raw material industry through the provision of tax incentives. The perceived benefits are the establishment of new domestic tire factories and domestic synthetic rubber raw material factories. Standardization policy also encourages the improvement of the quality of the production process and the quality of the products produced by the tire factory. Good tire quality will increase customer trust that the products are in accordance with safety, comfort and safety standards for driving.

## **CONCLUSION AND SUGGESTIONS**

The priority strategy chosen in increasing and developing the competitiveness of Indonesia tire industry is to increase product promotion, followed by to increase international cooperation, and strengthen the structure of the domestic raw material industry. The increased promotion of products is intended to increase the brand image of Indonesia tires in the international market; therefore, it is expected to increase consumer confidence in

Indonesia tire products. The increased international cooperation is intended to facilitate market access for Indonesia tire products in export destination countries, as well as access to more competitive raw materials. Strengthening the structure of the raw material industry in the country can be carried out through various government policies through policies on investment incentive as well as policies on the import trade system.

The role of the government in building a brand image of domestic tire products is also still needed. The participation of various global marketing channels such as international level exhibitions and sponsorships in global scale activities is expected to increase customer knowledge of Indonesia tire products. The government is also expected to encourage the strengthening of the domestic raw material industry structure through tax relief facilities and ease of domestic investment such as tax allowance and tax holidays facilities to investors who are developing the tire raw material industry.

The ease of access for marketing Indonesia tire products, especially to European countries, the Middle East and other non-traditional countries, to increase export penetration, is very necessary. The cooperation among FTA Indonesia, Europe and Middle Eastern countries is expected to increase Indonesia's exports; regarding the large tire market in the country.

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DOI <https://doi.org/10.18551/rjoas.2018-12.10>

## **STRATEGY COMPILE FOR CLUSTER OF BATIK TULIS WARNA ALAM SMALL INDUSTRIES: OPPORTUNITY, THREAT AND STRATEGY**

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### **ABSTRACT**

Drafting the strategy involves internal factors and external factors is the way to develop a cluster of small Batik industries natural colors Kebon, Klaten Regency, Central Java. Drafting the strategy done with SWOT analysis approach. Identify the strengths and weaknesses as internal factors as well as opportunities and challenges as the external factors are very important. Because this will help determine the strategic step for Small Industrial based Cluster to face the challenges and grab the opportunity by strengthening the strengths and minimize the weaknesses.

### **KEY WORDS**

SWOT, small industrial cluster, strategy, batik the natural color.

The vision of Klaten Regency is realizing a city forward, independent and competitive power with one strategic mission is the empowerment of the competitiveness of small and medium industry-based cluster. One of the cluster of small industry flagship Klaten i.e. small Batik industries cluster with natural colors. This became one of the flagship products typical of the Klaten Regency. Empowerment and strengthening the cluster-based industry can increase competitiveness in the era of the ASEAN economic community, where the challenges of business competition is getting heavier and require more governance professionals. This is one of the alternatives assessed right in an attempt to boost the local economy because of Indonesia's small and medium industries already proven as one of the supporters of the economy that is able to survive during the economic crisis. A significant small industry contributions towards the country will strengthen the country's economy in the long run. Since the year 2010 have been mapped the potential of small and medium industrial cluster. Medium-term Regional development plan 2015-2020 Klaten Regency is the excellence cluster-based economy and agropolitan. The goal was to improve and develop the regional economy more productive, creative, innovative and competitive power based on the people's economy based on local potential. With the construction of the local economy are expected to stimulate the opening of local employment opportunities in the region in sectors that make use of human resources, natural, institutional and local (Blakely and Bradshaw, 2002). The emphasis on the utilization of local resources and the use as a competitive advantage is an interesting issue, both in the academic field as well as practical (Barney, 2001). The local Government of Klaten Regency alignments against the small Batik industries is manifested in the form of the assignment policies over the implementation of the working uniform of Batik on Thursday and Friday for its officers. The policy is expected to boost the growth of small industries of Batik, which can further improve the competitiveness of business entities ranging from craftsman, trader up to tailor business group. Another policy in the form of the people's business credit programs with low interest rates and without collateral and programs Division of the card business license for medium and small businesses in the Klaten Regency.

Characteristics of small industries in Indonesia as stated in Act No. 20 of the year 2008 with the term small business, namely economic productive effort that stands on its own, which is done by the individual or business entity that is not a subsidiaries or branches of the company not owned, controlled or being part of either directly or indirectly from medium or large businesses. On the basis of wealth and yield sales, an industry belongs to the category

of small industries if it has a wealth of 50 up to 500 million with sales of 300 million sales results up to 2.5 billion.

Every small industry as a company face many opportunities and challenges that will interact with the strengths and weaknesses that are owned small industries. Identify internal strengths and weaknesses, and external opportunities and challenges, also known as SWOT analysis. The length of the SWOT strengths, industry, opportunities and threats (Swapna, 2018). There is no list of standards relating to the essential factors that apply to all companies due to its special (Houben et al., 1999). The study was done because there has been no specific study with a focus on small Batik industries cluster Color Natural Kebon, Klaten Regency, Central Java, Indonesia by using SWOT analysis approach. A study done by identifying strengths and weaknesses as well as opportunities and challenges facing the small industry cluster using SWOT analysis.

Drafting the strategy is done to determine a strategy based on an analysis of internal factors and the factors eksternal the object of research. Drafting the strategy conducted using SWOT analysis approach, covering strengths, weaknesses, opportunities and challenges facing an object of research. The SWOT analysis is used to identify the strengths and weaknesses of an organization as well as the opportunities and challenges faced by organizations that appeared from the environment. The next strategy was developed to build on strengths, eliminate weaknesses, take advantage of opportunities or challenges. The strengths and weaknesses identified by assessing the internal conditions and opportunities as well as challenges with assessing the condition of the eksternal organization. Internal assessment test all aspects of the Organization, such as human resources, facilities, locations, products and services, in order to identify the strengths and weaknesses of the organization.

Table 1 – SWOT Matrix (Ghazinoory et al., 2011)

n/n	Strengths	Weaknesses
Opportunities	SO Strategies	WO
Threats	ST	WT

Strength-Opportunity strategies using internal forces the company to take advantage of opportunities. The marketers will usually like in position using the internal strength to capitalize on trends and external event (Lane and Piercy, 2009). Weakness-Opportunity strategies geared to improve internal weaknesses by utilizing external opportunities. Sometimes opportunities arise demanding the improvement of a company's internal weaknesses if like to exploit it. Strength-Threat strategy used a company to reduce the impact of external challenges. This does not mean that a strong organization will always be dealing directly with the challenges in the external environment. In addition, by adjusting the internal factors with external Weakness, strategies – Threat is enduring tactics directed by reducing internal weaknesses and avoid external challenges (Hunger and Wheelan, 2011)

## METHODS OF RESEARCH

Batik industry with natural colors located at Kebon, Klaten Regency, Central Java. There are 19 batik craftsmen who are members of the cluster which become respondents in this research. Sri Windarti was the Chairman of the Association. Data collection research using a questionnaire with structured model with score likert scale using the respondents answer 5 points. For the preparation of the strategy for object research, research data obtained further analyzed using SWOT analysis.

## RESULTS OF STUDY

The following are the highest average rating from the results of the identification and assessment of batik artisans group natural colors Kebon Klaten Regency against internal

factors (strengths and weaknesses) are shown in table 2 and the average value of the highest factor (include opportunities and challenges) are shown in table 3.

Table 2 – Means Value of Internal Factors

*Identification of Internal factors: Strength vs. Weakness*

Strength	Weakness
Has a varied motives	Weak promotion.
Natural coloring	Less utilizing information technology
Marketing associations exist a wide	Management and business administration have not been fullest.
Has a competitive price	Have no patents and intellectual property yet
Accept orders	
Has a Geobatik as a characteristic	
Good packaging	
Solid group	

*Identification of external factors: Opportunities vs. Challenge*

Opportunities	Challenge
Increasing order	many imported products
The extent of market opportunity	competition of similar products of high
Application IT is increasingly easy to developed.	competitors are already using information technology in marketing.
the existence of local government support for the development of small and medium industry	unstable economic conditions

No.	Internal Factors	Mean Value
1.	Strengths	
	Excellent products	4.74
	Varied motives	4.42
	Using natural dyes	4.47
	Solid Group / community	3.00
	Marketed in other areas	4.21
	Good Packaging	2.95
	Good Price	4.84
	Accept Order	3.79
	Has a Geobatik as a characteristic	3.16
2.	Weaknesses	
	Weak promotion.	2.16
	Less utilizing information technology	3.47
	Management and business administration have not been fullest.	2.47
	Have no patents and intellectual property yet	2.25

Table 3 – Means Value of External Factors

No.	External Factors	Mean Value
1.	Opportunity	
	Increasing order	4.32
	The extent of market opportunity	4.53
	Application IT is increasingly easy to developed.	3.89
	the existence of local government support for the development of small and medium industry	4.16
2.	Threat	
	many imported products	2.53
	competition of similar products of high	2.84
	competitors are already using information technology in marketing.	2.95
	unstable economic conditions	3.26

Based on table 2, batik the natural color is the main strength of this research object. In addition, the use of natural dyes, the motives vary, and it is marketed to the outside area can also be used as power to the object of research. The limitations of knowledge in utilizing information technology is a major weakness followed by limitations in management and

business administration. Table 3 shows that the main opportunity for the object of the research is the market is still wide open and the presence of increased product demand. Unstable economic conditions is a major challenge which is followed by the utilization of information technology by competitors in marketing its products. Based on table 2, batik the natural color as superior product is the main strength of this research object. In addition, the use of natural dyes, the motives vary, and it is marketed to the outside area can also be used as power to the object of research. While the limitations of knowledge in utilizing information technology is a major weakness followed by limitations in management and business administration. Table 3 shows that the main opportunity for the object of the research is the market is still wide open and the presence of increased product demand. Unstable economic conditions is a major challenge which is followed by the utilization of information technology by competitors in marketing its products.

Table 4 – Strategy Compile Based On SWOT Analysis

*SWOT analysis: interaction between Power and opportunities*

<b>Strengths</b>	<b>SO Strategies</b> Increases production capacity. Adoption of information technology
Varied motives; Using natural dyes; Solid Group / community; Marketed in other areas; Good Packaging; Good Price; Accept Order; Has a Geobatik as a characteristic	
<b>Opportunities</b>	
Many imported products Competition of similar products of high Competitors are already using information technology in marketing. Unstable economic conditions	

*SWOT analysis: interaction between the strengths and Challenges*

<b>Strengths</b>	<b>ST Strategies</b> Online marketing Follows the exhibition Strengthens the Association/group
Varied motives; Using natural dyes; Solid Group / community; Marketed in other areas; Good Packaging; Good Price; Accept Order; Has a Geobatik as a characteristic	
<b>Threats</b>	
Many imported products Competition of similar products of high Competitors are already using information technology in marketing. Unstable economic conditions	

*SWOT analysis: interaction between the weaknesses and Opportunities*

<b>Weaknesses</b>	<b>WO Strategies</b> Improve promotion Increasing knowledge of information technology.
Weak promotion. Less utilizing information technology Management and business administration have not been fullest. Have no patents and intellectual property yet	
<b>Opportunities</b>	
Increasing order The extent of market opportunity Application IT is increasingly easy to developed. the existence of local government support for the development of small and medium industry	

*SWOT analysis: interaction between the weaknesses and Challenges*

<b>Weaknesses</b>	<b>WT Strategies</b> Strengthen management and business administration  Patented a new motif as the characteristics
Weak promotion. Less utilizing information technology Management and business administration have not been fullest. Have no patents and intellectual property yet	
<b>Threats</b>	
Increasing order The extent of market opportunity Application IT is increasingly easy to developed. the existence of local government support for the development of small and medium industry	

## CONCLUSION

Small industries should be opportunities and challenges. The condition cannot be avoided any longer, therefore recognizing factors of organization is essential to face the opportunities and challenges. SWOT Analysis used to know the strengths and weaknesses of the analysis results are used in the preparation of a strategy for the industry. The SWOT analysis is done by the identification of internal and external factors which were then carried out an assessment to determine the average score each factor. Based on the average score obtained, for both internal and external factors of the object of study, shows that internal power is owned by the main product produced is a superior product, whereas the main internal weaknesses is the limitation of knowledge in utilizing information technology. On the other hand, the market is still wide open is the main opportunity with a major challenge is the country's economic conditions are not stable.

The interaction between the weaknesses with the opportunities and challenges to strategize WO and WT. As for the results of the drafting of the strategy with the SWOT analysis has been performed in this study suggests a strategy SO that it can be used is to increase the production and adoption of information technology. For strategy ST can be used is to apply online marketing, increase the intensity following the exhibition, and strengthen the Association. While the strategy WO can be used is to enhance the promotion and increase of knowledge about information technology, and to the strategy of WT can be used is to strengthen the management and administration of business and register a motif characterizes (geobatik) to obtain patent/intellectual property.

The effects of the strategy that has been compiled against the performance of the cluster of small industry become the objects in this study will be known once implemented. Therefore, in future evaluation strategy is needed to find out the effect as a form of feedback from the results of the drafting of the strategy that has been done in this study. Thus, a small industry group will be able to determine which strategies are effective and ineffective in reaching for opportunities and overcome challenges that emerge from the external environment.

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DOI <https://doi.org/10.18551/rjoas.2018-12.11>

**ANALYZING COMMUNITY'S PERSPECTIVES TOWARD THE COASTAL RESOURCES  
IN MUNJUNG AGUNG VILLAGE, KRAMAT REGENCY, TEGAL DISTRICT  
OF INDONESIA**

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**ABSTRACT**

Coastal areas have typical natural resources that should be well-managed in order to provide give economic benefits for the community. Analyzing community's perspectives toward the condition of the coastal resources around them to plan effective management which will reserve the environment and improve the welfare of the community. The result of this research showed that the community shared positive perspectives toward mangrove and reef resource seen from the aspects of knowledge, condition, support and regulation. This research also indicated that community-based management was the most appropriate management to manage the mangrove and reef resources. Community-based management involves active participation form the society in the planning up to the monitoring activities. The outcome of this management will not only give positive contribution to the environment but it also improves the welfare of the community.

**KEY WORDS**

Community's perception, resource, coastal area, public service.

Coastal areas have typical characteristics and potential varied resource that positively contribute to the ecology, economy and social domains. According to Nelson (2018), coastal areas connect the land and the water. They also hold a considerable role as the majority of people around the world live in coastal areas. In addition, coastal areas often face rapid changes due to dynamic interaction between the land and the water.

The ecosystem of coastal areas brings a set of essential ecosystem functions both for the terrestrial and the marine system (Granek, et al., 2010). In relation the availability, the potentials of coastal resources can be categorized into three categories; renewable resources, non-renewable resources, and environmental services (Dahuri, et al., 2004).

Perception refers to active process of seeing, regulating and interpreting something that happens to some body. Interpretation occurs based on the observation done in the past, experience, assumption upon human behavior, others' behavior, condition, atmosphere, willingness and hopes (Tubbs and Moss, 2006). Within social context, perception is the assessment of a person or a group of people upon certain object, event or stimulus which involves relevant experience related to the object that is formed out of cognitive and affective processes (Dimiyati, 1989). Every individual has different perception based on how they interact with the environment around. Hence, environmental condition one of factors that affects one's perception.

Exploration and utilization of natural resources have been done by the community living in Munjung Agung village such as fishing and fish cultivation. Unfortunately, in fact, the focus of the exploration is often to obtain the maximum profit while the environment sustainability is set aside. In the long term, this kind of exploration will certainly threaten the sustainability of the resource and the environment. Therefore, it is necessary to design an integrated and responsible coastal resource management. In order to design effective coastal resource management, community's perceptions toward the condition of the resource should be taken into consideration.

## METHODS OF RESEARCH

This research was conducted using a descriptive method. Research data were collected through surveys in the form of direct interviews with respondents to picture out community's perception toward the current management of the coastal resources. This research was administered from April – May 2018 in Munjung Agung Village, Kramat Regency, Tegal District.

In order to analyze community's perception toward mangrove and coral reef resources in Munjung Agung village, interviews were done to respondents using a set of questionnaires. The answer of each item in the questionnaires was scored and scaled using a four-point Likert scale.

## RESULTS AND DISCUSSION

*General Overview of Research Setting.* Munjung Agung is a village located in Kramat Regency, Indonesia, that borders with north Java sea at < 100 m above the sea level. The village spreads in 197 ha land consisting of 90 ha rice field land, 48 ha fish pond, and 59 ha of other types of land. The community living in the village mostly works in fisheries field as fishermen, cultivator, producer, and salesperson of fish and some of them work as *pokmaswas (Kelompok Masyarakat Pengawas)*. There were 6.171 population and 1.599 families living in the village, which 744 of them work in fisheries sector. Munjung Agung is located 3.0 miles on a line with the Larangan fishermen village and it has Orange Cup Coral area which was declared as a conservation area in 2010. The Orange Cup Coral area is geographically located in the coordinate point of 109° 11' 85"-109° 12' 15" East Longitude and 06° 48' 75" - 06° 48' 80" South Latitude. The waters around the Orange Cup Coral Area are where tiny anchovies are widely found and fishing can be done throughout the year.

*Respondents' Characteristics.* Respondents' characteristics were analyzed to see the variety of respondents' socio-economic conditions which were closely related to research problems and objectives. The respondents of this research included 97 fishermen and cultivators who utilized mangrove and coral reef resources in Munjung Agung Village.

Table 1 presents the data about respondents' age, vessel ownership, fish pond ownership and experience working as fishermen and fish cultivators. Respondents' age and work experience are closely related to their understanding about the condition of coastal resources in the past and how people have been utilizing them. In addition, age also showed whether respondents were in their productive age in running their business activities. Whereas, the ownerships of vessels and land relate with the ownership of production factors among the community. Table 1 presents respondents' characteristics that determine the perception and responses of the community upon the condition of the coastal resources in Munjung Agung Village.

Table 1 – Respondents' Characteristics

No	Respondent	Age		Ownership Status		Experience (year)		
		< 45	≥ 45	Private	Rent/Crew	< 5	5 – 10	> 10
1.	Fishermen	22	50	28	50	8	17	53
2.	Fish Farmer	9	16	19	-	4	5	10
	Total	31	66	47	50	12	22	63

There were 66 people (68.04%) out of 97 respondents aged over 45 years. The average age of the respondent is 49 years. At this age it can be assumed that the respondents have adequate knowledge about the condition of mangrove and coral reefs resources in the past. Those respondents still use the resources in traditional ways by only taking the resources to fulfill their daily needs.

Out of 78 fishermen, 35.90% of them owns vessels while 64.10% are crew members who fish around the waters of Karang Jeruk. 10.26% of the respondents are fishermen with

working experience of <5 years while 21.79% of them have work experience between 5 - 10 years and the rest 67.95% have been working as fishermen for > 10 years.

The ownership of land, fishpond and mangrove users data show that all of 19 fish farmers (100%) are land owners. 21.05% of them have <5 years of cultivation experience, 26.32% with experience of 5 - 10 years and 52.63% with experience of > 10 years.

The ownership of the ship / farm land and business experience / work are assumed to be the period or length of time the fishermen and farmers started to take the benefits from the mangrove resources and coral reefs in the village of Munjung Agung. In addition, the data also show that great amount of coastal resources can increase people's income.

*Community's Perception upon the Condition of Coastal Resources.* The data analysis done in this research shows fishermen and fish farmers' perception on mangrove and coral reef resources in Munjung Agung as presented in Table 2.

Table 2 – Community's perceptions towards the coastal resource condition

No	Aspect	Assessment Percentage	Scoring Criteria
A	Knowledge		
1.	Knowledge about the benefits of mangrove for daily life	57.52	Know
2.	Knowledge about the function of coral reef	62.39	Know
3.	Knowledge about how to preserve the environment	52.65	Know
B	Resource Condition		
1.	The declining amount of natural resource	56.86	Know
2.	Causes of the decline in the number of mangrove	63.50	Know
3.	Causes of coral reef damages	82.96	Truly Know
4	Opinions about pollution to the resources	56.64	Know
5	Transfer function of mangrove land for aquaculture	48.89	Disagree
C	Support		
1	Willingness to preserve the coastal resources	64.16	Agree
2	Community's support to coastal resource preservation	54.65	Important
3	Government support	60.40	Important
4	Supports from NGOs	56.42	Important
D	Regulation		
1	Village regulation on resources	54.20	No Idea
2	Imposing sanctions on violation of coastal resource exploration	53.54	Important

Table 2 shows that 57.52% of the respondents understand the benefits of mangroves and coral reefs and how to preserve these resources. Community knowledge about the importance of mangrove resources and coral reefs is seen in the planting of mangroves in milkfish ponds, along embankments, waterways and river mouths in Munjung Agung Village.

Seen from the aspect of resource conditions, 64.99% of the respondents knew that mangrove resources and coral reefs in Munjung Agung Village decreased in size and 48.89% of them did not agree with the conversion of mangrove land for aquaculture. The reduction of mangrove area occurred due to the transition of milkfish ponds owned by the community into shrimp ponds. The embankment and waterways of milkfish ponds were planted with mangrove trees in the ponds to strengthen the embankment from landslides caused by tidal flood and improve the quality of water. In addition, lush mangrove trees serve as a guardrail to keep fish in the pond. Whereas, intensive shrimp ponds do not allow the presence of mangroves around the ponds. This condition reduced the width of mangrove area in Munjung Agung Village.

In the aspect of support, 58.91% respondents consider support from the government important, including the one form educational institutions and NGOs as well as the willingness of the community to help maintain the preservation of resources for better resource management. The government and educational institutions provide support through socialization of activities to the community, especially fishermen and farmers related to the importance of coastal sustainability, planting mangrove trees along the coast and river estuaries on a regular basis and the introduction of coastal resources from an early age.

In the aspect of regulation, 53.54% of respondents considered it important to impose sanctions on violations committed, but as much as 54.20% of respondents were not aware of the regulations set by the local village regarding resource management. Regulations on how to use resources need to be made because there are still violations committed by the community such as using *arad* or *cantrang* in fishing which can damage the bottom of the waters.

Community's perception on the management of mangrove area has also been influenced by their level of education and knowledge. The resources in coastal area should be well-managed as it will support the sustainability of the resources (Nanholy, 2014). Analyzing community's perception on the resource condition is also important as it reflects how the community perceives the existence of coastal resources around them and how to utilize the resource and keep them sustainable.

The results of analysis on community's perception toward the management of mangrove and coral reef resources showed that the majority of the community have positive attitude and insights. This result is a positive beginning for the sustainable management of mangrove and coral reef resources (Ayunita, 2012). The government is expected to engage the community in the activities related to sustainable management of coastal resources because effective management of coastal resource will not only benefit the environment but it will also provide economic benefits for the community.

*The Role of Community in Resource Management.* According to Nikijuluw in Zaman and Darmawan (2000), community-based coastal resource management is an appropriate approach that involves cooperation between the community and the government in managing the resource together. In this context, the community will have active participation from the planning process up to the implementation process as follows.

- Improvement of social welfare through massive employment and business opportunities;
- Development of programs and activities that lead to optimal and sustainable utilization of coastal resources in coastal areas and in the sea;
- Enhancement community's participation in maintaining the sustainability of the coastal resources and environment;
- Improvement of education, workshop, research and regional development in coastal areas.

Community-based resource management implies that the management should not be only administered by the community as the ones that take the most benefits or only done by the government as policy makers, but it should engage all relevant parties and other local resources to give the community more benefits.

## CONCLUSION

It can be understood from the results of this research that 57.52% of the respondents from Munjung Agung village were aware of the benefits of mangrove and coral reef as well as how to maintain the sustainability of those resources. Seen from the condition of the resources, 64.99% of the respondents were aware that mangrove and coral reef resources in Munjung Agung keep decreasing in number. In addition, 48.89% respondents disagreed upon the plan to transform mangrove area into embankment. For the aspect of support, 58.91% respondents perceived the supports from government, educational institutions and NGOs as well as the ones from community highly important in supporting the sustainable coastal resource management. In the aspect of regulation, 53.54% respondents also found it important to apply sanctions for violations, yet 54.20% of them had limited knowledge of the current regulations set by the village related to resource management.

Community-based coastal resource management has been found as the most effective way in managing the coastal resources of Munjung Agung Village. This management involves the participation of the community as the users of the resources and the government as policy makers to work together and actively participate in the planning stage up to the

implementation stage. This management model is also expected to preserve the sustainability of the coastal resources and improve the community welfare at the same time.

### SUGGESTIONS

Regarding to the conclusions of this research, several recommendations that support the effectiveness of coastal resource management in Munjung Agung village are proposed as follows:

- Regulations should be set by local government related to enhance the responsible utilization of coastal resources that will reduce the probability of violations done by the community such as using non-environmentally friendly fishing tools;
- Counseling and trainings should be given to the community related to the importance of mangrove and coral reef resources for the sustainability of coastal areas in order to increase their awareness and willingness to participate preserving the environment;
- It is considered important to form a forum that connects the community, government, educational institutions, and NGOs related to the management of coastal areas;
- Cooperation with the stakeholders in coastal areas should be enhanced in order to find a red line in managing the sustainability of coastal areas.

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DOI <https://doi.org/10.18551/rjoas.2018-12.12>

## **THE EXISTENCE OF EXPECTATION GAP BETWEEN FINANCIAL STATEMENT USERS AND AUDITORS FROM VARIOUS ASPECTS IN SURABAYA**

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### **ABSTRACT**

This research will discuss about the problems of expectation gap, including expectation gap on the issue of the auditor and the audit process, and the expectation gap on the issue of the role of auditors. Expectation gap is the difference in expectation between what people and users of financial reports from the auditors with what auditors believe to be their responsibility. This research aimed to examine whether or not there's a significant difference in perceptions between financial report users and auditors regarding the expectation gap on the issues of auditors and audit process, and some role which is included as an auditor's role or not. This research uses purposive sampling; the samples were financial report users (corporate accountant, investment analysts, banker, and tax people) and auditors which conduct practices as public accountants located in Surabaya. The questionnaire used in this research to collect data, and data is analyzed by using ANOVA one way test. In line with these objectives formulated hypothesis is that there are different perceptions about the expectation gap on the issue of the auditor and the audit process and the role of auditors. The results of this research show that there are differences in perceptions between financial report users (corporate accountant, investment analysts, banker, and tax people) and auditors regarding the expectation gap on the issues of auditors and audit process, auditor's role. Based on these results it is proposed that suggestions such as the expanded scope of the study area, samples and other issues such as the expectation gap independence, competence, or performance attributes.

### **KEY WORDS**

Expectation gap, perception, auditors, audit process, auditor's role.

The demand of a company's financial statement is getting higher and public accountants are expected to fulfill one of its duties which is provide audited reports of a financial statements published by the company. The published financial statements will not only be used by the publishing company's management but also will be used by all users both internal and external users. The management team of the company is responsible to the published financial statement while the public accountant (auditor) is responsible for the audit opinion from the conducted audit process. This audit opinion will be used by all financial statement users such as investors and other companies to believe that the published financial statement is presented correctly and provides the real condition of the company. The audit opinion will also be used as an input and comparison by the investors to invest their capitals to the company. External parties from the company will also need to use the information provided by financial statements for their decision making process related to the company. External parties generally conclude their decisions based on the information provided by the management in the financial statement. Therefore, two different sides in the described situation. In one side, the company's management wanted to provide information related to their responsibilities in managing the capitals from their investor while also attracting more investors while the external parties need to get reliable information from the company. Both the management and the external parties will need an independent party to ensure the reliability of the provided financial statements. Should there be no independent party providing their opinion on the financial statements, the management will not be able to ensure the external parties and in the other hand the external parties will question about the

reliability of the financial statements due to the underlying motivation of the company publishing the financial statement.

In the current business environment with increasing competition and global changes, accountant will face more difficult challenges in both present and the future. Many auditors are sued or if it no legal action was taken, some of the society thinks that auditor work is irrelevant and cannot be expected to be helpful. Cases have been found abroad and in the current time, the existence of such case in Indonesia is growing. On the other end, many cases still need the service of public accountants. This shows that auditors are still recognized and needed. Epstein and Geiger (1994) in their research stated that investors and financial statement users recognize benefit of auditing in financial reporting process.

The stated condition is the expectation gap phenomenon which is the difference in expectation between the users and the auditor related to the roles and responsibilities of auditors (Humphrey, 1993). Roles and responsibilities of auditor have been managed in the Public Accountant Professional Standard (SPAP) which governed by Indonesian Board of Accountant (IAI) or Statement on Auditing Standards (SAS) published by Auditing Standards Board (ASB). The enforcement of the standards in many occasions is the cause of expectation gap emergence.

### **THEORY AND HYPOTHESES DEVELOPMENT**

Perception is the process in which an individual chooses, organizes, and interpret the information inputs to create a meaning from the world (Kotler, 2006:193). Perception is a process in which someone chooses, organizes, and interpret using their senses to get a grasp of understanding what happens around that individual (Baron & Greenberg in Kustono, 2001).

Expectation is an observation on time variation and development of scientific development in various disciplines (Wahba and House, 1974). Related to expectation, an individual's behavior represents a conscious decision based on n comparison evaluation about different behavior alternatives and everyone will chose one behavior alternatives which for every alternative will results in favorable consequences (Wexley and Yukl, 1977). Gap exists due to the difference between perception and reality. One individual's expectation will be different from another individual's reality. This thing will happen in every aspect. Problem occurs when those expectations collides with the reality. According to Guy and Sullivan (1988) expectation gap is the difference between what the society and financial statement users believe or hope from the auditors and what the auditors believe as their responsibility.

Assurance services are independent professional service which increases the information quality for the decision makers (Boynton, Johnson, and Kell, 2006). Decision makers needed reliable and relevant information as the base for decision making. These services are provided by public accountant in form of attestation services.

Indrarto (2009) reveals expectation gap exists between the auditor and the financial statement users regarding the auditor issues and audit process. Auditor has more positive perception regarding the auditor issues and audit process compared to the government audited financial statement users which are caused by education and experience. The education of the auditor, both formal and informal, enhances the correct knowledge of the role and responsibilities of auditor in auditing. Other than that, the experience possessed by the auditor also increases auditing abilities so the auditor will have a full understanding of their roles and responsibilities. The financial statement users in the other hand have negative perception on roles and responsibilities auditor due to the limited knowledge and not having full understanding of the audit process, shown by taking auditing and accounting is one, not separate process. Based on the description above, we propose the following hypothesis:

H1: Expectation gap exists between financial statement users and auditor in auditing process and the auditor itself.

Indrarto (2009) reveals expectation gap exists between the auditor and the financial statement users regarding the auditor issues and audit process. Auditor has more positive perception regarding the auditor issues and audit process compared to the government

audited financial statement users which are caused by education and experience. The education of the auditor, both formal and informal, enhances the correct knowledge of the role and responsibilities of auditor in auditing. Other than that, the experience possessed by the auditor also increases auditing abilities so the auditor will have a full understanding of their roles and responsibilities. The financial statement users in the other hand have negative perception on roles and responsibilities auditor due to the limited knowledge and not having full understanding of the audit process, shown by taking auditing and accounting is one, not separate process. Based on the description above, we propose the following hypothesis:

H2: Expectation gap exists between financial statement users and auditor in auditor's role.

## METHODS OF RESEARCH

Population in this research is financial statement users, auditors in Surabaya and this population is considered as infinite. Meanings are a population with unknown number. In determining the sample researchers use purposive sampling techniques. Purposive sampling technique according to Sugiyono (2009:300) is a sampling technique by using certain criteria. The confidence level is 95%. The sampling criteria set in this research are:

- Financial statement users consists of corporate accountant (CA), investment analysts (IA), bankers (B) , and tax people (T) in Surabaya;
- Auditors (A) which conducts their activities in Surabaya based Accounting Firms.

Formula for infinite sample (Zainudin,2000):

$$n = \frac{(Z^{1/2} \alpha)^2 \cdot p \cdot q}{d^2} = \frac{(1,96)^2 \cdot 0,5 \cdot 0,5}{(0,10)^2} = 96 \approx 100$$

Where: n = number of samples; p = estimator; q = 1-P;  $Z\alpha^2$  = normal curve with  $\alpha=0,05$ ;  $d^2$  = normal curve on 0,1.

In this research the number of sample is 100 for every variables and variable 1 is divided into four groups. The number of samples for each group is 25 while variable 2 also consists of 100 samples to balance the number of samples for variable 1 and variable 2.

The data used in this research is qualitative data. Qualitative data is a data which could not be measured in numeric scale (Kuncoro, 2003). But due to in statistic form, all data have to be able to be measured in form of number, the qualitative data in this research is quantified for further processing by classifying in categories. Based on the sources, the used data in this research is primary data. The primary data in this research is respondent's answers to questionnaire sent by the researcher.

Based on the identification of the variables previously performed, the operational definitions of the variables are:

Expectation gap on auditor issues and audit process is the different perception between the financial statement users and auditor in the evidence gathering and evaluation process of the measurable information related to an economic entity by the auditor to be able to determine and reports the compatibility of the information with the set criteria. This variables is measured by using thirteen questions, the questions are the instrument of the previous research. Answer from the respondents is measured by using seven points likert scale. There are seven available answers for the respondents which are: "Strongly Disagree", "Disagree", "Somewhat Disagree", "Neutral", "Somewhat Agree", "Agree", and "Strongly Agree". The indicators of auditor issues and audit process (Humphrey, 1993) are:

- Audit quality have improved in the last previous years;
- Investors expects too much from the auditors;
- Auditors focuses on fulfilling the company's management demands;
- Audit process is weakened by inappropriate accounting standards;
- Auditor is willing to settle the legal actions for their negligence outside the court;
- Audit provides little benefit to the audited company;

- The completion of an audit need a long time;
- Auditor did not understand the business problems of the auditee;
- Audit provides significant protection to frauds;
- Auditor reports the efficiency of company's management to shareholders;
- Auditors identifies the needed means to increase the company's management efficiency;
- Audit committee consists of non-executive directors increases auditors independency;
- Audit work quality have been set by the accountant profession.

Expectation gap on auditor's role is the different perception between the financial statement users and auditor in the tasks or services provide by the auditor in their work. This variables is measured by using ten questions, the questions are the instrument of the previous research. Answers from the respondents are measured by using seven points likert scale. There are seven available answers for the respondents which are: "Strongly Disagree", "Disagree", "Somewhat Disagree", "Neutral", "Somewhat Agree", "Agree", and "Strongly Agree". The indicators of auditor issues and audit process (Humphrey, 1993) are:

- In line with company's rules;
- In line with financial accounting standards;
- Consistent with the current accounting practices;
- No material deviations;
- No material misstatements;
- All material wrong doings can be detected;
- The internal control process of the auditee is satisfying;
- Company's going concern is undoubtable;
- The company is running efficiently;
- All wrongdoings have been confirmed significantly to the correct entities.

## RESULTS AND DISCUSSION

Validity test is used to measure the validity of a questionnaire. Questionnaire is considered to be valid if the questions in the questionnaire can reveal something to be aware of.

Table 1 – Respondents Characteristics

Remarks	CA	%	B	%	T	%	IA	%	A	%
Length of service:										
< 1 Year	1	4%	3	12%	1	4%	2	8%	41	41%
1-5 Years	16	64%	17	68%	4	16%	21	84%	47	47%
5-10 Years	5	20%	5	20%	7	28%	2	8%	11	11%
>10 Years	3	12%			13	52%			1	1%
Total	25	100%	25	100%	25	100%	25	100%	100	100%
Education Level:										
Diploma			2	8%	3	12%	1	4%	12	12%
Bachelor Degree	23	92%	23	92%	19	76%	22	88%	79	79%
Master Degree	2	8%			3	12%	2	8%	9	9%
Doctoral Degree										
Total	25	100%	25	100%	25	100%	25	100%	100	100%
Sex:										
Male	10	40%	7	28%	16	64%	17	68%	33	33%
Female	15	60%	18	72%	9	36%	8	32%	67	67%
Total	25	100%	25	100%	25	100%	25	100%	100	100%
Age:										
<25	1	4%	9	36%			2	8%	47	47%
25-35	19	76%	16	64%	15	60%	17	68%	51	51%
36-45	2	8%			6	24%	6	24%	2	2%
46-55	3	12%			4	16%				
>55										
Total	25	100%	25	100%	25	100%	25	100%	100	100%

Source: Processed Primary Data.

Table 2 – Validity Test

Validity Test	Results	Notes
Auditors, audit process, and auditor role variables	Corrected item – Questions Total Correlation - All questions are scored more than 0,138.	All questions is valid except for variable 1 P1,P2,P13

Reliability test is used to find out is the conducted tests is reliable. In this research the questionnaire reliability is measured by the reliability test. A questionnaire is considered reliable if an individual in the questionnaire is consistent from time to time.

Table 3 – Reliability Test

Validity Test	Results	Notes
Auditors, audit process, and auditor role variables	Questions Cronbachs Alpha –All questions are scored more than	All questions is the questionnaire is reliable.

Table 4 – F Anova Test Results

Hypothesis	Variable	Respondent	N	Mean	Anova		Result
					F	Sig	
H1	Auditor and Audit Process	Auditor	100	3,474	30,337	0,000	H1 accepted
		Taxation	25	4,396			
		Corporate Accountant	25	4,692			
		Banker	25	4,504			
		Investment Analysts	25	4,304			
H2	Auditor Role	Auditor	100	4,954	12,942	0,000	H2 accepted
		Taxation	25	4,568			
		Corporate Accountant	25	5,4			
		Banker	25	5,916			
		Investment Analysts	25	5,788			

Due to ANOVA Test shows the existence of statistically significant expectation gap, the follow up test Tukey HSD is conducted. Tukey HSD is the follow up test to determine the existence of difference between every individual for the Gasperz treatment.

Table 5 – Comparative test between auditor variable and audit process subject

Subject	Auditor	Tax people	Corporate accountant	Banker	Investment analysts
Auditor	-	0,000*	0,000*	0,000*	0,000*
Tax people	0,000*	-	0,501	0,977	0,977
Corporate accountant	0,000*	0,501	-	0,848	0,227
Banker	0,000*	0,977	0,848	-	0,817
Investment analysts	0,000*	0,988	0,227	0,817	-

\*Significant on 0,05.

Table 6 – Comparative test for auditor role subject

Subject	Auditor	Tax people	Corporate accountant	Banker	Investment analysts
Auditor	-	0,269	0,145	0,000*	0,000*
Tax people	0,269	-	0,007	0,000	0,000
Corporate accountant	0,145	0,007	-	0,217	0,505
Banker	0,000*	0,000	0,217	-	0,985
Investment analysts	0,000*	0,000	0,505	0,985	-

\*Significant on 0,05.

Expectation gap on auditor issues and audit process is the different perception between the financial statement users and auditor in the evidence gathering and evaluation process of the measurable information related to an economic entity by the auditor to be able to determine and reports the compatibility of the information with the set criteria.

The results of the hypothesis test shows that the first hypothesis is accepted. This is shown statistically that the significance of the ANOVA F Test is 0,000 lower than  $\alpha = 0,05$ . This indicates that expectation gap between the auditor, tax people, corporate accountant, banker and investment analyst in the auditor and audit process issues.

One of the cause for the different perception regarding the auditor and audit process between auditor, tax people, corporate accountant, banker and investment analyst in the auditor and audit process issues is caused by education and experience. Auditor have the perception that auditor can only provide reasonable assurance while the financial statement perception is auditor should be able to provide absolute assurance. Reasonable assurance is the degree of confidence to certain limits provided by the auditor due to the time and cost restraints. Reasonable assurance is achievable by using the materiality level in the audit process, which is the filtering for the values which will be ensured for its fairness. Reasonable assurance will results in audit which detects material misstatements while absolute assurance is a definite guarantee that even immaterial misstatement does not exist in the financial statements. This level of assurance can be given only if the auditor does not have any costs or time constraint. Due to the constraints in costs and time, auditor can only provide 60% assurance instead of 100% which is based on the AICPA Audit guide which states that the number of correct stated number is 60% of the transaction above the materiality with the number of minimum transaction is 250.

This hypothesis test supports previous research conducted by Dudy S. Ramdhany (2012) in Semarang, which shows that expectation gap exists between the financial statement user group and the auditor group in the auditor and audit process issues. Indrato (2008) in his research also shows the same result, expectation gap exists between the auditor and financial statement users in auditor and audit process issues.

Expectation gap in auditor role is the different perception between the financial statement user and auditor in the roles or services provided by the auditor in their respected departments. Roles of auditor according to Prihanto (2000) covers: Business assurance (Audit and Review), Consulting, Financial Advisory Service (financial Forecast and Projections, Merger and Acquisition), Human Resources Advisory (Other Employee Benefit, Recruitment), Others (International Services, Litigation Service).

The result of the hypothesis test shows that the second hypothesis is accepted. This is shown statistically that the F Anova test significance is 0,000 which is lower than  $\alpha = 0,05$ . This indicates that expectation gap exists between the auditor, tax people, corporate accountant, banker and investment analyst in the auditor role issues.

One of the causes for the different perception regarding the auditor and audit process between auditor, tax people, corporate accountant, banker and investment analyst in the auditor and audit process issues is caused by education and experience. This shows the existence of expectation gap, stated by Guy and Sullivan (1988) the expectation gap exists due to the difference of what the society and financial statement user believe as auditor's responsibility and what the auditors believe as their responsibilities. The expectation of the financial statement user and society to auditors about financial statements exceeds the auditor role and their audit opinion.

Due to the rules set and known by the auditor, auditor thinks that their role is providing Business assurance (Audit and Review), Consulting, Financial Advisory Service (financial Forecast and Projections, Merger and Acquisition), Human Resources Advisory (Other Employee Benefit, Recruitment), or other services (International Services, Litigation Service) while the financial statement users based on Porter (2008) is to detect thefts and misuse of company assets. The financial statement users perceive that the misuse of company assets, even the smallest scale, will be detected by the auditor this also includes detecting the deviated accounting procedure for the financial statement and detecting errors in the financial statements for all transactions. It is already stated in the auditor and audit process

expectation gap that auditors conduct their process based on the materiality concept. Detecting and reporting illegal actions by the employees is also expected to be done by the auditor while the rule states that the auditor's role is only related to illegal actions by the directors/managements which directly affects the company's financial statement such as doing bribery. Society also thinks that auditor's role is also related to non-financial information such as the company's internal control, checking the effectivity and efficiency of the company's management, and evaluating the impact of the company's operation to the environment.

This hypothesis test supports the previous research done by Dudy S. Ramdhany (2012) in Semarang, which shows that expectation gap exists between the financial statement user group and the auditor group regarding the auditor's role. Indrato (2008) in his research also shows the same result, expectation gap exists between the auditor, financial statement users, accountant lecturers, and accounting students regarding the auditor's role.

## CONCLUSION

Based on the research objective, hypothesis, and the conceptual framework, the conclusion of the research is as follows:

The first hypothesis is accepted, which is the statistically significant existence of expectation gap between the users of financial statement and auditor in the auditor and audit process issues. This is caused by the difference in education and experience factors between the auditors and financial statement users. Auditors perceive that auditor can only provide reasonable assurance, not absolute assurance as expected by the financial statement users.

The second hypothesis is accepted, which is the statistically significant existence of expectation gap between the users of financial statement and auditor related to auditor's role. This is caused by the difference in education and experience factors between the auditors and financial statement users. Auditor's role according to auditors is providing Business assurance (Audit and Review), Consulting, Financial Advisory Service (financial Forecast and Projections, Merger and Acquisition), Human Resources Advisory (Other Employee Benefit, Recruitment), or other services (International Services, Litigation Service) while the expectation of financial statement users are beyond those scopes.

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DOI <https://doi.org/10.18551/rjoas.2018-12.13>

## **THE EFFECT OF ASSET STRUCTURE, LIQUIDITY, SALES GROWTH AND CAPITAL STRUCTURE ON PROFITABILITY**

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### **ABSTRACT**

This study aims to determine the structure, liquidity, growth and capital structure of profitability in companies listed on the Indonesia Stock Exchange. The study also aims to develop the structure, liquidity and sales growth of profitability through the capital structure. The research population is companies listed on the Stock Exchange during 2010-2016 and the issuance of financial statements for the 2009-2016 period. This study uses a census with a sample of 28 companies. Research uses secondary data in the form of financial report data obtained through the IDX website. The method used to predict the relationship of exogenous variables with endogenous variables. The results of the study found that the asset structure did not have a significant effect on profitability. Liquidity, growth and capital structure are significant to profitability. Research also finds structure, liquidity and growth that have a significant effect on capital structure. Capital structure can be used as a mediating variable in influencing structure, liquidity and sales growth on profitability.

### **KEY WORDS**

Asset structure, liquidity, sales growth, capital structure, profitability.

Brigham and Daves (2010: 265) define profitability as the end result of various company policies and decisions. Profitability is one indicator that shows the company's operational effectiveness and the combined impact of liquidity, asset management and the end result of the use of corporate debt (Brigham and Daves, 2010: 265). Andawasatya et al. (2017) stated that profitability is one of the capitals besides debt to maintain the sustainability of the company.

Yazdanfar (2013) states that companies face greater challenges in obtaining profitability due to increased competition in product prices and company efficiency. These conditions encourage the determinants of profitability to be a priority that is considered very well for researchers and practitioners such as managers, investors, creditors and policy makers. Isik and Tasgin (2017) stated that a determinant analysis of the profitability of a company in an industry is very important related to the economic conditions and industrialization of the country.

Niresh (2012) stated that liquidity has a close relationship with profit because liquidity indicates the amount of working capital needed by the company to fund operational activities. Liquidity planning and supervision is very important for the company to avoid the company from the risk of not meeting the payment of short-term obligations and the excess of current assets (Niresh, 2012). Barus and Leliani (2013) state that companies with too high liquidity are not good because they show the amount of idle funds or uncollectible accounts. The amount of idle funds or uncollectible receivables can ultimately reduce the ability to generate profits because it reduces the opportunity for investment companies.

The company's ability to generate profits is also related to sales growth. Barus and Leliani (2013) state that there is a close and dynamic relationship between sales growth and profitability. Companies with improved performance reflected in net sales growth will encourage greater gross profit (Barus and Leliani, 2013). The increase in gross profit encourages the growth of corporate profitability with the practice of operational process efficiency (Yoo and Kim, 2015). Yoo and Kim (2015) revealed that companies will make investments based on this year's earnings rather than estimates of next year's earnings,

companies with high sales growth tend to reinvest profits to support their operational activities.

Mule and Mukras (2015) and Mehari and Aemiro (2013) research found that asset structure has a significant positive effect on profitability. Companies with large fixed assets tend to have high profitability due to an increase in the value of assets in the future (Mule and Mukras, 2015). This opinion is contrary to Pratheepan's research (2014), Boadi et al. (2013) and Asimakopoulos et al. (2009) who found asset structure to have a negative effect on profitability. Pratheepan (2014) found that companies with large fixed assets tend to be less innovative in improving human resources that can create long-term investment opportunities.

Isik and Tasgin (2017) research on the effect of liquidity on profitability found a significant positive relationship, the greater the company's liquidity ratio, the higher its profitability. These findings are in line with the research of Rehman et al. (2015), Boadi et al. (2013) and Mehari and Aemiro (2013). Rehman et al. (2015) found managers of companies listed on the Saudi Arabian Stock Exchange trying to design strategies to achieve optimal liquidity ratios in order to maximize profits.

The study of capital structure was initiated by David Durand in 1952. David Durand developed a capital structure theory based on investor behavior, then Franco Modigliani and Merton Miller (MM) introduced mathematical capital structure theory and based on 1958 research (Sartono, 2014: 230). MM's theory assumes that capital markets are perfect, investors have homogeneous expectations, there are no taxes and transaction costs so the capital structure is not relevant in determining the value of the company (Ghazouani, 2013).

MM again developed his study in 1963 by including corporate tax in the study of capital structure. MM assumes that companies tend to use debt as a source of funding to get tax savings from debt interest. Miller (1977) refuted previous studies that overestimated the benefits of taxes from debt but did not consider individual taxes and the absence of bankruptcy fees. Miller (1977) found that bankruptcy costs limit the potential benefits of interest tax protection and the amount of debt. These conditions encourage the development of trade-off theory. Other modern capital structure theories then develop such as signaling theory, pecking order theory, free cash flow theory and market timing theory.

## LITERATURE REVIEW

The last measurement of profitability ratio is with return on equity (ROE). ROE measures the company's ability to generate net income based on certain capital (Hanafi, 2013: 42). The ROE ratio is a measure of profitability seen from the perspective of shareholders. High ROE ratio indicates high profitability. Hanafi (2013: 43) states that the ROE ratio does not take into account dividends and capital gains for shareholders so that the ROE ratio is not to measure the actual shareholder return.

Brigham and Houston (2010: 124) stated that companies with adequate asset structure or fixed assets have a greater ratio than current assets tend to use external funding sources in the form of long-term debt. This condition is caused by companies being able to use fixed assets as collateral for debt. The asset structure can be used to determine how much long-term debt a company can get. Brigham and Houston (2010: 126) stated that companies that have large amounts of assets in the form of accounts receivable and inventory that are highly dependent on permanence the level of profitability of each company will depend more on short-term financing.

The calculation of the quick (acid ratio) ratio will issue the inventory component of current assets. Inventories are considered as the most illiquid assets compared to cash or trade receivables (Hanafi, 2013: 37). Inventories are also considered to have a high risk of uncertainty because of the large possibility of inventory value falling. Decrease in inventory value can be due to the presence of damaged products or decreased quality. Based on these two reasons, inventory is removed from the calculation of the current ratio. Quick ratios are calculated by dividing current assets less inventory with current debt (Hanafi, 2013: 38). A high quick ratio reflects high liquidity and vice versa.

Sales growth will encourage increased investment in company assets and ultimately require the provision of funds for asset purchases (Helfert, 2000). Helfert (2000) states that the growth rate is based on the company's financial ability. The level of growth that is determined by only looking at financial capabilities can be divided into two, namely the level of growth on one's own strength and the level of sustainable growth (Helfert, 2000). The rate of growth on one's own strength is the level of growth achieved by the company without external funds but comes from the addition of retained earnings. The sustainable growth rate is the level of growth that can be achieved by maintaining the balance between debt and capital. Machek and Machek (2014) stated that sales growth is an important indicator of market acceptance of company products and services. Companies are required to have the right strategy to win the market. Positive sales growth reflects an increase in the company's performance where the company's sales after the year exceeded the previous year's sales.

Hanafi (2013: 150) states that there are several criteria that can be used to evaluate the investment plan, namely the payback period, discounted payback period, accounting rate of return, net present value, internal rate of return and profitability index. Payback period is used to find out how long investment can return. The shorter the payback period for investment, the better an investment will be. The Discounted payback period method calculates the time value of money in the investment return period. Only the net present value method, internal rate of return and profitability index that takes into account the time value of money, focuses on cash flow and calculates all relevant cash flows.

Determination of optimal capital structure is an important decision because it is closely related to the value of the company. Paramasivan and Subramanian (2009: 49) argue that optimal capital structure is a capital structure in which the average capital cost is weighted minimum and obtains maximum firm value. An optimal capital structure is a capital structure or a combination of debt and equity that leads to the maximum value of the company (Paramasivan and Subramanian, 2009: 49). The capital structure decision has two important objectives, namely maximizing the value of the company and minimizing the overall cost of capital.

*Hypotheses:*

- H1: Asset structure has a significant positive effect on profitability;
- H2: Liquidity has a significant positive effect on profitability;
- H3: Sales growth has a significant positive effect on the structure of profitability;
- H4: Capital structure has a significant positive effect on profitability;
- H5: Asset structure has a significant positive effect on capital structure;
- H6: Liquidity has a significant positive effect on the capital structure;
- H7: Sales growth has a significant positive effect on the capital structure.

## **METHODS OF RESEARCH**

The research population is mining companies listed on the Stock Exchange during the period 2010 - 2016. Determination of the research sample using census method is to use the entire population to be analyzed. There were 28 mining companies that were consistently registered throughout 2010 - 2016. This study used path analysis techniques to determine the effect of exogenous variables, namely asset structure, liquidity and sales growth and endogenous variables, namely capital structure and profitability. Data collection with non-participant observation is observing documents relevant to the topic or problem being studied. The published annual financial report data can be obtained through the official website of the IDX ([www.idx.co.id](http://www.idx.co.id)).

## **RESULTS AND DISCUSSION**

The first hypothesis states that the asset structure has a significant positive effect on profitability. Based on the results of regression of the effect of asset structure (X1) on profitability (Y) obtained a beta coefficient of 0.087 with a significance of 0.222. The results show the significance value is greater than 0.05 and the beta coefficient is positive, it means

that the asset structure has no significant positive effect on profitability. The research findings are in line with previous studies by Mule and Mukras (2013) and Mehari and Aemiro (2013) who found no significant positive effect on asset structure on profitability.

The second hypothesis states that there is a significant positive effect on liquidity on profitability. The results of liquidity effect regression (X2) on profitability (Y) obtain a beta coefficient of 0.218 with a significance of 0.003. The results show the significance value is less than 0.05 and the positive beta coefficient indicates that liquidity has a significant positive effect on profitability. The research findings are in line with the results of previous studies by Isik and Tasgin (2017), Rehman et al. (2015) and Boadi et al. (2013) which states that there is a significant positive effect on liquidity on profitability.

Table 1 – Hypothesis Result

	Standardized Coef. Beta	Standard Error	t	Sig.	
X <sub>1</sub> → Y	0,087	0,044	1,225	0,222	Not. Sig.
X <sub>2</sub> → Y	0,218	0,001	2,974	0,003	Sig.
X <sub>3</sub> → Y	0,237	0,008	2,778	0,006	Sig.
X <sub>4</sub> → Y	0,334	0,026	2,387	0,040	Sig.
X <sub>1</sub> → X <sub>4</sub>	0,175	0,033	3,075	0,002	Sig.
X <sub>2</sub> → X <sub>4</sub>	0,255	0,022	4,481	0,000	Sig.
X <sub>3</sub> → X <sub>4</sub>	0,579	0,018	1,374	0,000	Sig.

Source: Primary Data, 2018

The third hypothesis states that sales growth has a significant positive effect on profitability. Based on the regression results of the effect of sales growth (X3) on profitability (Y) obtained the beta coefficient of 0.237 with a significance of 0.006. The results show a significance value less than 0.05 and a positive beta coefficient, it means that sales growth has a significant positive effect on the capital structure. Research findings are in line with the results of previous studies by Isik and Tasgin (2017), Fareed et al. (2016) and Yazdanfar (2013) which states that there is a significant positive effect on sales growth on profitability.

The fourth hypothesis states that there is a significant positive effect on the capital structure on profitability. The results of regression of the effect of capital structure (X4) on profitability (Y) obtain a beta coefficient of 0.334 with a significance of 0.040. The results show the significance value is less than 0.05 and the positive beta coefficient indicates that liquidity has a significant positive effect on the capital structure. Research findings are in line with the empirical research by Negasa (2016), Salehi and Moradi (2015) and Fosu (2013) who found a significant positive effect on capital structure on profitability.

In the fifth hypothesis, the asset structure has a significant positive effect on the capital structure. Table 1 shows that the beta coefficient of the regression of the effect of the asset structure (X1) on the capital structure (X4) is 0.175 with a significance of 0.002. The results show that the significance is less than 0.05 and the beta coefficient is positive so that the asset structure can be interpreted to have a significant positive effect on the capital structure. Significant positive effect of asset structure with capital structure in line with empirical research by Nhung et al. (2017), Shambor (2017), Berkman et al. (2016), Thippayana (2014), Handoo and Sharma (2014), Mostarac and Petrovic (2013) and Matemilola et al. (2013) who found that asset structure had a significant positive effect on capital structure.

The sixth hypothesis states that liquidity has a significant positive effect on the capital structure. The regression results show that the beta coefficient of the effect of liquidity regression (X2) on the capital structure (X4) is 0.255 with a significance of 0.000. The results show the significance value is less than 0.05 and the beta coefficient is positive, so the regression results show that liquidity has a significant positive effect on the capital structure. Significant positive effect of liquidity on capital structure in line with research by Pujiharjanto et al. (2014) and Cekrezi (2013).

The seventh hypothesis states that sales growth has a significant positive effect on the capital structure. Based on the regression results of the effect of sales growth (X3) on the capital structure (X4) obtained the beta coefficient of 0.579 with a significance of 0.000. The

results show the significance value is less than 0.05 and the beta coefficient is positive, so the regression results show that sales growth has a significant positive effect on the capital structure. Significant positive effect of sales growth on capital structure is in line with previous empirical research by Enakirerhi and Chijuka (2016), Pratheepan and Banda (2016), Rehman and Rehman (2016), Thippayana (2014), Proenca and Laureano (2014) and Daskalis et al . (2014).

Table 2 – Direct Effect, Indirect Effect and Total Effect

Correlation	Direct	Indirect	Total
X <sub>1</sub> -Y	0,087	0,058	0,145
X <sub>2</sub> -Y	0,218	0,085	0,303
X <sub>3</sub> -Y	0,237	0,193	0,430
X <sub>4</sub> -Y	0,334	-	0,334
X <sub>1</sub> -X <sub>4</sub>	0,175	-	0,175
X <sub>2</sub> -X <sub>4</sub>	0,255	-	0,255
X <sub>3</sub> -X <sub>4</sub>	0,579	-	0,579

Source: Primary Data, 2018.

Table 2 shows the indirect coefficient of effect of asset structure variables on profitability through a capital structure of 0.058. This means that the asset structure indirectly through the capital structure has a positive effect on profitability. It can also be seen that the indirect effect coefficient of liquidity variable on profitability through the capital structure is 0.085. This means that indirectly liquidity through the capital structure has a positive effect on profitability. The coefficient of indirect effect of sales growth variables on profitability through the capital structure is 0.193. This indicates that indirect sales growth through the capital structure has a positive effect on profitability.

Table 2 also shows the total effect coefficients for the relationships between variables. Total effect is calculated by adding up between direct and indirect effects. The coefficient of the total effect of the asset structure on profitability through the capital structure is 0.145. The coefficient of the total effect of liquidity on profitability through the capital structure is 0.303. The coefficient of the effect of the total sales growth on profitability through the capital structure is 0.430. The coefficient of the effect of the total asset structure, liquidity and sales growth on the capital structure is respectively 0.175; 0.255 and 0.579. The total effect coefficient is the same as the direct effect because there is no intermediate variable.

Table 3 – Sobel Testing Result

Correlation	Indirect	Standard Error	t statistic
X <sub>1</sub> -Y	0,0585	0,0282	2,0744
X <sub>2</sub> -Y	0,0085	0,0099	8,5913
X <sub>3</sub> -Y	0,1934	0,0162	11,9250

Source: Primary Data, 2018.

Table 3 shows the results of the t statistics calculation. The significance of indirect influence can be known by comparing the t statistics with t tables (Ghozali, 2011: 255). The value of t table is for the significance level of 0.05 with where df = 191 is 1.960. Table 5.10. shows the asset structure, liquidity and sales growth variables have a significant effect on profitability through the capital structure because the t value of the statistics is greater than the value of t table.

## CONCLUSSION AND SUGGESTIONS

Based on the results of data analysis and the previous discussion it can be concluded as follows:

- The effect of asset structure is not significant on profitability. Changes in asset structure will not affect the profitability of mining companies in Indonesia.

- Liquidity has a significant positive effect on profitability. Increased liquidity can increase the profitability of mining companies in Indonesia.
- Sales growth has a positive effect on profitability. Increased sales growth can increase the profitability of mining companies in Indonesia.
- Capital structure has a significant positive effect on profitability. Improving capital structure will increase the profitability of mining companies in Indonesia.
- Asset structure has a significant positive effect on capital structure. The increasing structure of the company's assets will improve the capital structure of mining companies in Indonesia. The results of the research are in line with the perspective of the trade-off theory.
- Liquidity has a significant positive effect on the capital structure. Increased liquidity can improve the capital structure of mining companies in Indonesia. The research results are in line with the pecking-order theory perspective.
- Sales growth has a significant positive effect on the capital structure. Sales growth can improve the capital structure of mining companies in Indonesia. The positive influence of sales growth is in line with the perspective of the pecking order theory.
- Capital structure can function as a mediating variable in the influence of asset structure, liquidity and sales growth on profitability.

Suggestions that can be submitted by researchers are as follows:

- For issuers. Mining companies should pay attention to the influence of liquidity, sales growth and capital structure on profitability because changes in the three variables can affect the company's ability to generate profits. Mining companies also need to consider the effect of asset structure, liquidity and sales growth on the capital structure. Policy changes related to asset structure, liquidity and sales growth can affect the capital structure which in turn affects profitability. Mining companies are required to have an investment strategy in conditions of low international demand and low prices of mining commodities.
- For investors and creditor. Investors are expected to pay attention to changes in liquidity ratios, sales growth and capital structure because it affects the opportunity of issuers to generate profits. The company's ability to generate profits reflected in the profitability ratio is an indicator of the company's financial performance. Investors are advised to invest their capital in companies that have liquidity control, high sales growth and good asset investment strategies. Creditors need to pay attention to the capital structure policy of mining companies because the composition of the capital structure will affect the profitability of the company. Profitability has an important role in ensuring the payment of obligations by the company. Creditors also need to pay attention to variables that affect the capital structure of mining companies, namely asset structure, liquidity and sales growth.
- Further Research. It is recommended to use the same endogenous variables as different proxies. Research only uses return on assets (ROA) to measure profitability ratios. Return on equity (ROE) can also be added in future research to calculate profitability ratios. ROE is able to demonstrate the company's ability to generate net income with its own capital. The scope of the research can be expanded by extending the research period or adding issuers in different industries.

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DOI <https://doi.org/10.18551/rjoas.2018-12.14>

## IDENTIFYING WARUNG TEGAL DEVELOPMENT FACTORS: A PRELIMINARY ANALYSIS ON WARUNG TEGAL IN JABODETABEK, INDONESIA

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### ABSTRACT

The objective of this study is to identify factors affecting development of *Warung Tegal* (small gastronomic business) located in Jakarta, Bogor, Depok, Tangerang and Bekasi or in short, Jabodetabek, Indonesia. The research paradigm was quantitative and qualitative and the type of study was descriptive study. The data collection methods were questionnaire distribution with non probability sampling and Focus Group Discussion. FGD was conducted to probe more information and verified data from observation and the questionnaire. The findings stated that training of which aim is to improve access to the market; legal aspect and human resource helped developing competitive advantage of the *Warung Tegal*.

### KEY WORDS

Business development, akses pasar, pengembangan SDM, Warung Tegal.

*Warung Tegal* (referred as: Warteg) is a type of gastronomic business serving affordable food and beverage. *Warteg* has become a generic term for low-to-middle class food vendor owned by Tegal natives or people from other cities in Indonesia located in Tegal or Jakarta (Juanda, 2004). *Warteg* sells humble food that does not require sophisticated kitchen utensils (Hastiyanto, 2010). Nearly all *warteg* sells fried rice, instant noodle or several types of snacks, such as fried plantain and beverages such as coffee, tea and soft drink. Several *warteg* serves local delicacies from Tegal such as satay, chicken or beef stew (*gulai*) and hot tea served in tea pot made of clay (*teh poci*).

Warteg has a bright business prospect. Even though it serves food to low and middle-class individuals, this business generates significant amount of money. Warteg owners live a cushioning life. Warteg owners, particularly those who run warteg in Jakarta and Tegal, have big houses.

There are several aspects one should pay close attention to in running a *warteg*, namely cleanliness, water supply, reliable workers and business competition. Customers use these aspects to select which *warteg* they are going to dine in. Lupiyoadi (2001) stated that customer satisfaction is determined based five major factors, namely quality of product, quality of service, emotional factor, pricing and cost. Sumarwan (2003) defined customer behavior as customer's attempt to seek, find, use, evaluate and consume product and service to fulfill his or her need. Furthermore, purchasing decision is the result of certain factors that influence each other, such as buyer's cultural, social, personal and psychological entity (Kotler, 2005).

*Warteg* is a symbol of food security that lasts from time to time (Asytuti, 2015). Among an increasing number of restaurants which serve various types of food, have unique interior design and become prestigious symbol for their customers, *warteg* becomes an alternative for those looking for affordable food. In big cities, such as Jakarta, warteg serves not only blue collar workers, but also younger executives. These executives prefer *warteg* because it serves an affordable, home-made food. At present, there are 34,000 *wartegs* in Jabodetabek (Putra, 2012). They are members of *Koperasi Warung Tegal*, an association for warteg owners. However, there are hundreds of other non-listed warteg on the side of Jabodetabek streets.

It is very interesting when big cities offer a more decent life (Maflahah, 2018). The bigger the city is, the more attraction it has; big cities provide opportunities for people to get better jobs and higher income and develop their skills (Adisasmita, 2006). It is undeniable that warteg has become a part of urban middle-class people's lives. *Warteg* in Jabodetabek has helped reducing unemployment because it offers job vacancy for many people. They provide job for at least 134,000 workers. In addition, *warteg* has a significant contribution to economic development in Tegal and surrounding areas.

Modernization brings various innovation and creativity in all sectors, more particularly those to improve product quality. *Warteg* can potentially become a symbol of Central Javanese, Javanese or even Indonesian culinary. SME is characterized by skillful owners and employees; they can produce wide array of qualified products. However, informal education SME owners and employees have is not enough. In order to develop competitive advantage, they need special expertise, including formal education. Previous related studies found that major obstacles in production SMEs encounter are lacking initiative to compete and poor financial management.

To increase quality of SME products including those of *Warteg*, DKI Jakarta government has issued a regulation which requires malls and retailers in Jakarta to provide at least 20% of their space for MSME products. The 2013 Decree of the Ministry of Trade number 70 on Management of Traditional Markets, Modern Stores and Shopping Centers encourages SMEs to market their products in the shopping mall. To benefit the shopping mall's owner, SME products should be sorted out prior to being sold at the mall. To develop suitable partnership between *warteg* and modern retail, this study is conducted to identify partnership patterns between Department of Cooperatives and MSME, Department of Trade, shopping mall managers and *warteg* customers as well as develop partnership models for *warteg* owners interested in expanding their business to the shopping malls.

*Warteg* does not have the same operating hour as companies do. Based on a survey conducted towards *warteg* in Jabodetabek between July and September 2018, 30% or most *warteg* opened between 5 a.m. and 10 p.m., 26% opened between 4 a.m. and 9 p.m. and 22% opened between 7 a.m. to 12 a.m. (See Figure 1 for the survey). It means *warteg* serves customers from early in the morning until the evening. However, several *warteg* may open for 24 hours to serve their customers or the public.

Based on the survey, 41% of *warteg* owners were between 50 and 60 years old, 34% were between 31 and 49 years old, 12% were between 19 and 30 years old and the rest was younger than 19 years old or older than 60 years old (Figure 2.). Based on the description, most *warteg* owners are older people who have owned *warteg* for quite a long time. As the result, their business did not develop along with the current business development and even was monotonous.

In terms of background of education, 53% of *warteg* owners graduated either elementary or junior high school, 23% graduated senior high school and very few graduated from a one-year diploma or university. As the consequences, they have very little knowledge about business development and innovation or initiative to expand their business and customer groups.

Sales turnover from food businesses is quite promising; it can reach 120 million rupiahs per month or 4 million rupiahs per day. A survey towards sale of food and beverage in Jabodetabek area stated that food and beverage sellers can be divided into several groups, namely 31% for sellers whose income is between 51 and 100 million rupiahs per month, 26% for those whose income between 101 and 200 million rupiahs per month, and 23% for sellers whose income is between 21 and 50 million rupiahs per month. These percentages indicated that there are opportunities in developing regional business enterprise, both in terms of quality and quantity

## METHODS OF RESEARCH

The study was conducted based on descriptive quantitative and qualitative approaches. The data collection methods were questionnaire distribution and focus group discussion. Questionnaire was distributed between July and September, 2018 in Jakarta, Bogor and Bekasi. The method used to distribute questionnaire was non probability sampling.

Informants were individuals interested in developing MSMEs, including *warteg*. They were selected based on three criteria, namely: (1) represented business entity; (2) understood food business and its management, (3) ran food business for at least 3 (three) years. The informants were Department of Cooperatives, MSME and Trading of DKI Jakarta staffs, Plaza Festival Mall management (this mall is a grade B mall), *warteg* customers and *warteg* owners in Menten Atas sub-region.

## RESULTS AND DISCUSSION

*Government Perspective in Warteg Development.* Government role in fostering small and medium enterprises, particularly *warteg*, is to provide location. The government should provide a location in which *warteg* is given free spot to open their business, infrastructure and facilities such as carts. In this location, business owners paid 5,000 rupiahs per day for electricity, maintenance (cleaning service) and water. According to Mr. Yanto, one of the Department of Cooperatives, MSME and Trading of DKI Jakarta, these business owners were given some assistance in various aspects, for instance assistance in food processing to avoid dangerous ingredients. However, until recently, the government is unable to access several *warteg* and provide such assistance. *"We have assisted 734,224 MSMEs. We also provide assistance for food business. Food business we helped is spread in 20 locations (LOKBIN) in 5 cities. We provide training on food processing to avoid dangerous chemicals such as formalin and borax. That was one of the examples of the assistance we provide. Warteg was categorized as independent business, which means it does not get any assistance from the government. However, we supervise their products in terms of health and hygiene."*

He also stated that to improve their competitive advantage, particularly to open their business in the shopping mall, MSMEs should have a business permit or *SIUPP*. Even though their businesses are located in front of their house, they should have a *SIUPP*. *"What should these MSMEs do to expand their business to the shopping mall? First, they should classify type or their business (micro, small or medium). Micro business is a business entity of which turnover is up to 50 million rupiahs per year, small business is one of which turnover is from 50 million to 500 million rupiahs per year, medium business is one of which turnover is between 500 million and 2.5 billion rupiahs, and large business is a business entity of which turnover is more than it is 2 billion rupiahs. The second is to obtain a permit called SIUPP. You should have SIUPP before expanding your business to the shopping malls. The following step is to obtain a license from BPOM or Food Security Service and Industry Agency of DKI Jakarta. Another issue is halal certification"*.

The government has several *Lokbin* and one of which is across Nyi Ageng Serang Office. The government of DKI Jakarta has yet to open any *Lokbin* in any shopping mall as manifestation of the 2013 Decree of Ministry of Trade number 70 on Management of Traditional Market, Modern Market and Shopping Center. *"We are facilitating partnership between shopping malls and vendors. Shopping mall is a private-owned business"*. Until recently, the Department of Cooperatives, MSME and Trading of DKI Jakarta did not have a specific data about number of *warteg* in DKI Jakarta and therefore, is unable to decide any program to develop competitive advantage of the *warteg*.

*Mall Owner's Perspective in Warteg Management.* To apply the 2013 Decree of Ministry of Trading number 70 on Traditional Market, Modern Store and Shopping Mall Management,

during his speech in Seminar Gerobak Emas on August 30, 2018 (Tanone, 2018) in Bakrie University, Festival Plaza management stated that their mall supported the implementation of the Decree and at the same time has several agenda supporting OK OCE program for warteg development since warteg owners are micro-scale entrepreneur in a growing culinary sector.

Warteg owners should provide a proposal which consisted of several information, namely desired location, design and market segmentation. Mr. Danto, Festival Plaza manager stated that: *"Based on shopping mall management perspective, the first thing warteg owners should do is to submit a proposal describing their location, design and market segmentation. This information should be accurate. We welcome warteg and MSME owners who are interested in expanding their business to the shopping mall. However, they should meet certain criteria. Shopping mall has modern interior and exterior and therefore, they should match both interior and exterior of the shopping mall. In addition, we have an observation to see how the warteg is really like. We tasted their food too. We do not have specific criterion for types of utensil they are using. What we evaluate is their food, whether or not it matches price of the food in our shopping mall. When they have met the pricing and design requirement, they can start running their business in our shopping mall».*

Several aspects warteg owners should pay attention to before starting their business in the shopping mall are interior and exterior design, pricing, serving, packaging and hygiene. The shopping mall did not have any requirement in terms of naming (warteg name). Mr. Yanto then stated that *"when their packaging matched that of the mall, we will give them a go. In short, the management paid attention to their interior, exterior, packaging, serving and hygiene. From their proposal, the management can identify in which grade a warteg wants to start their business. Hence, their packaging and price should match those of the grade. Our price range is between 20,000 and 50,000 rupiahs. We gave authority to warteg owners to decide name for their warteg. I believe they have had their own brand. The management only supervised their serving. All transaction is subject to tax».*

*Warteg Owner's Perspective in Business Expansion to the Shopping Malls.* One of the warteg owners, Mr. Aurino, stated that the major obstacles to meet the criteria of the Department of Cooperative, MSME and Trading of DKI Jakarta and Festival Plaza Mall management are to get permit from the Department of Cooperative, MSME and Trading of DKI Jakarta and meet their requirement on production process. Mr. Aurino mentioned that *"In my opinion, the most challenging aspect is to meet the requirement for production process because we should have a separated place for production. If we cook the food in our house, we should provide a separated room for cooking. We have to close our bathroom and label everything. I have been trying to get permit for two hours but did not get any luck yet».*

Another aspect that warteg owner is worried about when they expand their business to the shopping mall is to lose their customers. One of the warteg owners, Mr. Gunawarman stated that *"Warteg has unique specification. Warteg means community group from Tegal. In my opinion, it is difficult to expand our business to the shopping mall because warteg has specific market segmentation. Maybe we should learn what attracts customers to go to warteg».*

*Warteg Customer's Perspective in Business Expansion to the Shopping Malls.* There is several aspects warteg customers pay attention to when warteg owners decided to expand their business to the shopping mall. Mr. Jouvan argued that warteg is associated with affordability, easy access, 24-hour business, and traditional atmosphere characterized by the owner's dialect. He then stated that *"the first thing coming across my head is affordability. When warteg owners expand their business to the shopping mall, they will pay a close attention to hygiene. However, the workers may lose their local dialect. I like going to warteg to listen to the worker's dialect. Furthermore, mall does not open 24 hours so we cannot go warteg anytime we want».*

On the other hand, Mrs. Eli, warteg customer, explained that prior to running their business in the shopping mall, warteg owners should explain their new business plan to their customers. She stated that *"as a customer, I do not disagree upon this new program. However,*

*the government needs an agreement from warteg owners first. We have our own perception about warteg but we can change the perception depending on the brand. Before giving recommendation for warteg to expand their business to the shopping mall, the government should conduct a campaign about three types of communication, knowledge, attitude and behavior. Campaign in mass media can change t».*

Mr. ling argued that business expansion does not mean that *warteg* owners should expand their business to the shopping mall. *Warteg* owners can use advances of technology such as Go-Food or Grab since according to him one of the major issues SME encountered is to keep up with the rapid growth of technology. Mr. ling stated that *“If I can add, warteg should work together with GO-JEK, GO-FOOD, or GRAB. So, business expansion has not always been associated to the shopping malls. Warteg can stay in their current location. I took notes that there are four issues SME encountered, 1) change, 2) technology, 3) customer’s characteristics and characterization and buying scheme, and 4) competitive advantage».*

*Warteg* is very popular among university students because it is fairly close to their boarding house, affordable and customers do not have to pay for parking. Resia, a *warteg* customer, stated that *“I go to both shopping mall and warteg. I prefer warteg because it is accessible and in a short to my boarding house. If warteg is located in the shopping mall, it won’t be as accessible anymore. The price is also getting more expensive».* She added that business expansion to the shopping mall may not be a wise option. Customers are accustomed of the current condition and facilities that *warteg* has. *Warteg* owners should improve their production process and hygiene. Resia then stated that *“grade improvement can be conducted without moving warteg to a new place. Warteg can improve their grade by improving their production process and hygiene. I prefer their current location but I hope the owners improve the facilities».*

Resia also mentioned knowledge level of *warteg* owners and workers. According to her, the owners and workers are lacking knowledge on the criteria of a good business or lacking creativity and therefore, their business remained the same for years. The owners and workers are worried that they are losing customers if they make some change. She stated that *“coming from the same areas/ villages, they have their own community. They share the same goal, to improve their financial condition. They have very little information about type of warteg younger generation wants. They are lacking creativity to improve their warteg to meet customer’s expectation. There are a lot of rooms for improvement, for example some warteg owners realized that they should improve their facilities because their competitors are improving theirs. There are other more hygienic, affordable and eye-catching food stalls than warteg. Unfortunately, warteg owners are not willing to get out of their comfort zone because they are afraid of losing their income. I think the government should conduct training in grade improvement for warteg owners so that they are aware of the positive effect of grade improvement (higher income)».*

*Factors in Warteg Development Program.* Based on the Focus Group Discussion, there are four important factors in designing *warteg* development program, namely:

**Access to the Market.** The implementation of the 2013 Decree of the Ministry of the Trade number 70 on Traditional Market, Modern Store and Shopping Mall Management by shopping mall management has helped MSME gaining wider market. *Warteg owners* should identify market segmentation prior to expanding their business to the shopping mall because they have to adjust their pricing to meet the requirement of the shopping mall management.

**Human Resource (*warteg* workers).** *Warteg* owners and workers are hesitant to conduct an upgrade because they are worried that they are going to lose customers and lose their characteristics. They are satisfied with their comfort zone, current location customer, market segmentation and brand. They are also lacking knowledge and skill to expand their business. Therefore, the government should conduct training on standardization, business permit

(*SIUPP*), business development, branding, customer perception and role of media (campaign) to change their habit, knowledge and attitude.

Legal Aspect. The government has developed standard and mechanism for business permit (*SIUPP*). This document is one of the requirements *warteg* owners should meet before expanding their business to the shopping mall. Thus, *SIUPP* is an integral part of business development.

Competitive Advantage. Customers are loyal to *warteg* because of their unique characteristics. Since the shopping mall management requires their vendors to adjust their interior and exterior design, *warteg* owners should create a balance between the shopping mall's expectation and their signature characteristics. Therefore, each *warteg* owner should identify competitive advantage of his or her *warteg*.

## CONCLUSION

Analysis towards factors to develop competitive advantage of *warteg* conducted through the focus group discussion resulted in 4 (four) factors, namely market, human resources, legal aspects, and competitive advantage. Further studies should be conducted to obtain an insight on these four factors or identify how much influence these four factors have towards effectiveness of an organization

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DOI <https://doi.org/10.18551/rjoas.2018-12.15>

## **ANALYSIS OF FACTORS AFFECTING BUSINESS SUCCESS OF MICRO AND SMALL ENTERPRISES: A STUDY OF FOOD AND BEVERAGE ENTERPRISES IN BANDA ACEH**

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### **ABSTRACT**

Business activities in the food and beverage sector have become one of the jobs for the community. This business has a good position in supporting the economy. But until now it has not developed optimally and various problems have hampered the pace of this business. The purpose of this study was to determine the factors affecting business success of micro and small food and beverage enterprises in Banda Aceh by using the Multiple Regression Analysis model. The results shown that the enterprises characteristics and managerial abilities influence enterprises success, while business location factors do not affect enterprises success.

### **KEY WORDS**

Enterprises characteristics, managerial ability, business location, enterprises success.

Increasing population growth in each developing country was a major problem faced by every country, including Indonesia. Until now, every developing country still continues to make various ways and find solutions to utilize the advantages of untrained human resources for development, so as not to become a burden on the state but to become capital for development.

Given the increasingly limited absorption of labor and the availability lack of employment in Indonesia, the best way to reduce unemployment in Indonesia is to create self employment or entrepreneurship.

In recent years, the number of jobs available was less than the number of productive age. This causes young people to be required to create their own jobs by opening a business or becoming a business actor. One of them is to open a food and beverage business which is one of the Micro, Small and Medium Enterprises (MSME) sectors.

Business activities in the food and beverage sector have become one of the jobs for the community. Banda Aceh is a famous region for diverse culinary tastes, so it becomes one of the interest of Acehnese residents and tourists visit Banda Aceh. Seeing the many enthusiasts of culinary delights, encouraging businesses to start their businesses by opening a food and beverage business even though they are still classified as small businesses in the informal sector.

This business has a good position in the supporting economy. However, until now it has not developed optimally and various problems have hampered the pace of this business, including limited capital, weak enterprises behavioral characteristics, lack of managerial abilities, unavailability of decent business locations and business productivity. The purpose of this study was to determine factors affecting business success of micro and small food and beverage enterprises in Banda Aceh City.

### **METHODS OF RESEARCH**

The location of study was carried out in Banda Aceh City, which is business activities of food and beverage enterprises were growing rapidly in Banda Aceh, which can be seen from

many food and beverage enterprises in Banda Aceh such as restaurants, coffee shops, shops cake shop and others.

The sample in this study was taken using the purposive sampling method. The number of samples to be studied is 30 respondents, which is the owners of food and beverage enterprises who directly sell their products to consumers, and considered successful in supporting family finances.

The analytical model used is multiple regression analysis. The forms of multiple linear regression equations used in this study are as follows:

$$Y = f(X_1, X_2, X_3) \quad (1)$$

Furthermore, it can be explicitly stated in the Non Linear function as follows:

$$Y = \beta_0 X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} + e \quad (2)$$

Based on this function, it is transformed into a linear form by using natural logarithms (Ln) into the model so that the following equations were obtained:

$$\ln Y = \ln \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 \quad (3)$$

Where: Y = Enterprises success; X1 = Enterprises characteristics; X2 = Managerial ability; X3 = Business location;  $\beta_0$  = Intercept or constant;  $\beta_1 \beta_2 \beta_3$  = Coefficient of regression; e = Error term.

The F test was used to determine the magnitude of the effect of the independent variable (X) on the dependent variable (Y) simultaneously. With the criteria:

- Distribution t with degrees of freedom (n - k);
- If  $F_{search} > F_{table}$ , at the 0.05 level, then accept  $H_a$  and reject  $H_0$ ;
- If  $F_{search} < F_{table}$ , at the 0.05 level, then accept  $H_0$  and reject  $H_a$ .

The t test was used to determine the effect of the independent variable (X) on the dependent variable (Y) partially. With the criteria:

- Distribution t with degrees of freedom (n - k);
- If  $t_{search} > t_{table}$  at the 0.05 level, then accept  $H_a$  and reject  $H_0$ ;
- If  $t_{search} < t_{table}$  at the 0.05 level, then accept  $H_0$  and reject  $H_a$ .

## RESULTS OF STUDY

*Multiple Linear Regression Analysis.* Based on the research data collected both for the dependent variable (Y) and the independent variable (X1, X2, X3) which is processed with the help of the SPSS v16 program, the results of multiple linear regression calculations were obtained as follows:

Table 1 – Results of Regression Calculation

*Coefficients<sup>a</sup>*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.815	.756		1.078	.291
LN_X1	.236	.214	.228	2.410	.018
LN_X2	.543	.223	.452	2.439	.022
LN_X3	.042	.175	.043	.240	.812

a. Dependent Variable: LN\_Y.

Source: Output SPSS v.16 (processed), 2018.

From the table above, the regression equation can be seen as follows:

$$\ln Y = \ln \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3$$

$$\ln Y = \ln 0,815 + 0,236 \ln X_1 + 0,543 \ln X_2 + 0,42 \ln X_3$$

From the multiple regression equation mentioned above, it can be seen that all variable coefficients have a positive coefficient direction. Then an explanation can be given as follows:

$\beta_0$  = was a constant value and is positive, which means that if the three independent variables were constant, the value of enterprises success was 0.815. This means that if there was a change in the independent variables namely enterprises characteristics, managerial abilities and business location, the dependent variable will also change in the same direction.

$\beta_1$  = shown that enterprises characteristic variables have a positive effect on enterprises success. This was because that to build a business, entrepreneurs must have strong character.

$\beta_2$  = shown that managerial ability variables have a positive effect on enterprises success. Where a manager is required to have good managerial skills in terms of planning, organizing, implementing and controlling.

$\beta_3$  = shown that business location variables have a positive effect on enterprises success. This shown that the right and good business location, such as having easy location access, visibility or can be clearly seen, parking lots, having a large space, and a clean environment will have a role in helping entrepreneurs to introduce and attract consumers, and so the business they run will be visited.

*The R<sup>2</sup> Test (Determination Coefficient).* The results of the *R square* value of regression were used to find out how far the ability of enterprises success was influenced by the independent variables. The coefficient of determination can be seen in the following table:

Table 2 – Results of R<sup>2</sup> Test (Determination Coefficient)

Model	R	R Square	Adjusted R Square	Std. Error of them Estimate
1	.522 <sup>a</sup>	.273	.189	.13287

*Predictors: (Constant), LN\_X3, LN\_X2, LN\_X1*

*Source: Output SPSS v.16 (processed), 2018*

The results of the analysis shown that the value of *R Square* is 0.273. So it can be concluded the ability of the independent variables of enterprises characteristics, managerial ability and business location affect the dependent variable of enterprises success is 27.3%, while the remaining 78.7% was influenced by other variables outside the regression model.

*Simultaneous Test F.* Simultaneous test or F test together to test the influence significance of enterprises characteristic variables (X1), managerial ability (X2) and business location (X3) together on the variable of enterprises success (Y).

Table 3 – Simultaneous Results of F Test

ANOVA<sup>b</sup>

Model	Sum of Squares	DF	Mean Square	F	Sig.
1 Regression	.172	3	.057	3.253	.038 <sup>a</sup>
Residual	.459	26	.018		
Total	.631	29			

*a. Predictors: (Constant), LN\_X3, LN\_X2, LN\_X1*

*b. Dependent Variable: LN\_Y*

*Source: Output SPSS v.16 (processed), 2018*

Based on the results of the simultaneous test from the table above shown that  $F_{count}$  was 3.253 while the results of  $F_{table}$  in the distribution table with an error rate of 0.05 are 2.99. It means that  $F_{count} > F_{table}$  ( $3.253 > 2.99$ ), thus it can be concluded that the variables of enterprises characteristics, managerial ability and business location if tested together or simultaneously have a significant effect on enterprises success.

*Partial Test (T Test).* To test the research hypothesis tested by the t test was a test to determine the significance of the influence of independent variables partially or individually explaining the dependent variable.

Table 4 – Calculation Result Of T Test

Variable	T <sub>count</sub>	T <sub>table</sub>	Sig
Enterprises characteristics	2,410	2,056	.018
Managerial ability	2,439	2,056	.022
Business location	0,240	2,056	.812

Source: Primary data is processed, 2018.

Variable enterprises characteristics (X1). The  $t_{count}$  for this variable is  $2.410 > t_{table}$  (2.056) and the significance value ( $0.018 < 0.050$ ), so it can be concluded that  $H_1$  was accepted which means that there was an influence of enterprises characteristics on the business success of micro and small in food and beverage enterprises. Hypothesis testing on this variable indicates a significant influence on business success.

Variable managerial ability (X2). The  $t_{count}$  for this variable is  $2.439 > t_{table}$  (2.056) and the significance value ( $0.022 < 0.050$ ), so it can be concluded that  $H_2$  was accepted which means there was an influence of managerial ability on the business success of micro and small in food and beverage enterprises.

Business location variables (X3). The  $t_{count}$  for this variable is  $0.240 < t_{table}$  (2.056) and the significance value ( $0.812 > 0.050$ ), so it can be concluded that  $H_3$  was rejected which means there was no influence of business location on the business success of micro and small in food and beverage enterprises. Tested the hypothesis on this variable indicates that the location of the business has not always determine the success or failure of a business.

## CONCLUSION

Based on the results of research and discussion, conclusions can be drawn as follows:

From the regression calculation, the results of the simultaneous test or F test indicate that the hypothesis which states that the three independent variables namely enterprises characteristics, managerial abilities and business locations together have a significant effect on enterprises success. Based on the partial test or t test, the variables that influence enterprises success were enterprises characteristics and managerial abilities. It can be seen from the significance value obtained smaller than 0.05, which is 0.018 and 0.022 while the business location has not affect the business success because it has a significance value greater than 0.05, which is 0.812.

From the three independent variables studied (enterprises characteristics, managerial ability and business location), managerial ability was the most positive variable influencing the dependent variable (entrepreneurial success) as evidenced by the beta coefficient value of 0.452. While the other two variables have an influence with the beta coefficient, namely the enterprises characteristics variable of 0.228 and the business location 0.043.

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DOI <https://doi.org/10.18551/rjoas.2018-12.16>

**INFLUENCE OF GOVERNMENT POLICY, INDIVIDUAL CHARACTERISTICS,  
FAMILY AND TRAINING TOWARDS ENTREPRENEURIAL ORIENTATION AND  
ENTREPRENEURIAL ORIENTATION TOWARDS PERFORMANCE OF FEMALE  
ENTREPRENEUR IN JAKARTA**

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**ABSTRACT**

The role of female in entrepreneurship sector is increasing quite rapidly. Objective of this study is to describe how much influence government policy, individual characteristics, family and training towards entrepreneurial orientation and their impact towards performance of female entrepreneur. Based on the Structural Equation Model/SEM analysis, government policy, individual characteristics and training had significant influence towards entrepreneurial orientation, but family did not. Furthermore, entrepreneurial orientation had significant influence towards entrepreneurial performance.

**KEY WORDS**

Government policy, individual characteristics, family, training, entrepreneurial orientation, female entrepreneur performance.

As potential human capital, female plays significant role in national development. The percentage of female in Indonesia is 49.65%, in which majority of female is within the productive age range. In 2012, out of 245.425 million people, 121.855 millions are female. Nearly 60% of these female are between 15 between 54 years old. In other words, about 70 million female is within the productive age range and able to give significant contribution to the national development. Indonesian population is approximately 250 million people and 60% of this population is female entrepreneur. Furthermore, in 2012, 50.69% of the population in DKI Jakarta is male citizens while the remaining 49.31% is female (National Bureau of Statistics of Jakarta, 2012). Neither the National Buerau of Statistics nor that of DKI Jakarta, the capital city of Indonesia, had any data about number of female entrepreneurship in Indonesia. *Asosiasi Pengusaha Wanita Indonesia (IWAPI)*, *Alisa Khadijah ICMI (Ikatan Cendikia Muslim Indonesia)* or Muslimat NU, three female entrepreneurship associations in Indonesia, did not have any national female entrepreneurship database either. Instead, they have information about their members, who mostly live in big cities in Indonesia.

Female entrepreneurs in one area can develop a community. Female has innate ability in communication and therefore can develop their business and networking more quickly. At the same time, female entrepreneurs are facing several obstacles, for example patriarchal culture that gives power and importance to men. In most Asian countries, female has to ask for their husband's blessing prior to starting a business (Inmyxai et al, 2010). Based on the explanation, the researchers are interested in conducting the study.

**LITERATURE REVIEW**

Role refers to an action. It is a verb that means function or activity. Based on the Indonesian Dictionary, role refers to a set of behavior that an individual is expected to have in society (Harahap, 2007). George J. Stigle as cited in Harefa (2008) explained that policy is a

set of formal rule that aims to provide protection and benefit for society or community group. Titmuss as cited in Sugiharto (2012) defined policy as a set of principles that maintain an action in order to achieve particular objectives. Policy, according to Titmuss, has always been problem-oriented and action-oriented. Therefore, policy is a well-organized plan of action that consists of some principles to guide an action in order to achieve particular goals. Policy is closely associated to the government because government has authority and power to manage citizens and is responsible for public service. Siagian (2008) stated that biographically individual characteristics can be observed based on age, sex, marital status, number of dependance, working experience and background of education. Another indicator is psychological characteristics of an individual that explains why an individual is interested in becoming an entrepreneur. Psychological characteristics consist of need for achievement, self esteem and self-efficacy (Sirec & Mocnik, 2010), personal characteristics such as motivation to start a business and cognitive aspect (Jung, et.al, 2001).

Syamsu Yusuf (2012) postulated that "environment is an entire physical/natural (event, situation or condition) or social phenomenon that influences and is influenced by individual development." Gunarsa as cited in Roy Manihai (2009) stated that family is "the first environment that has significant influence towards a child." A family is a major group that requires intimate individuals who have frequent face-to-face meeting between each other, share similar norms (expectation on how group members should behave), survival skills and extensive influence. Therefore, family member as part of a primary group has extreme influence towards each other. The second concept in family is "being responsible for each other." Family is an individual who is accustomed of trading sector because his or her family owns a business (Leon *et al.*, 2007). This individual will observe his or her parents' business. As the result, the individual is interested in a type of occupation with high flexibility and independence (Brockhause, Hisrich & Brush, as cited in Leon, et al., 2007).

Education and training have the same objectives, namely learning. Learning consists of gradual and continuous understanding. Brown (2004) stated that "education aims to provide knowledge while training aims to improve behavior." Based on this idea, training is supposed to be more organized than education because transfer of knowledge can happen anytime. Training should be developed in a systematic and schematic manner in order to achieve an estimated target. Entrepreneurial performance is a multidimensional concept and relationship between entrepreneurial orientation and performance may rely on several indicators used to access performance (Lumpkin & Dess, 2001). Hoque and James (2000) identified five dimensions of performance, namely ROI (Return on Investment), sales margin, utilization capacity, customer satisfaction and product quality. Due to different perspective, there is not any standardized indicator to measure entrepreneurial performance. Entrepreneurial performance is measured based on various aspects and it is extensive in nature. Moores and Yuen (2001) evaluated entrepreneurial performance based on sales growth, operating cashflow, ROI/ ROA and net profit against sales.

## **METHODS OF RESEARCH**

The study was categorized as an explanatory survey. The sampling technique was probability sampling, more particularly proportionate stratified sampling. The data analysis method was Structural Equation Model (SEM). The objective was to test the model and hypothesis The Structural Equation Model was carried out in two phases, namely Goodness of Fit and causal significance testing through regression coefficient test.

## **RESULTS AND DISCUSSION**

Based on the statements of problems and structural equation model, there were two Structural Equation Model (SEM) analyses. The first Structural Equation Model aimed to answer "how much simultaneous and partial influence government policy, individual characteristics, family and training have towards entrepreneurial orientation of female entrepreneurs in DKI Jakarta." The second one aimed to answer "how much influence

entrepreneurial orientation has towards entrepreneurial performance of female entrepreneurs in DKI Jakarta.” Figure 1 showed result of analysis using Amos 21 for the first Structural Equation Model.

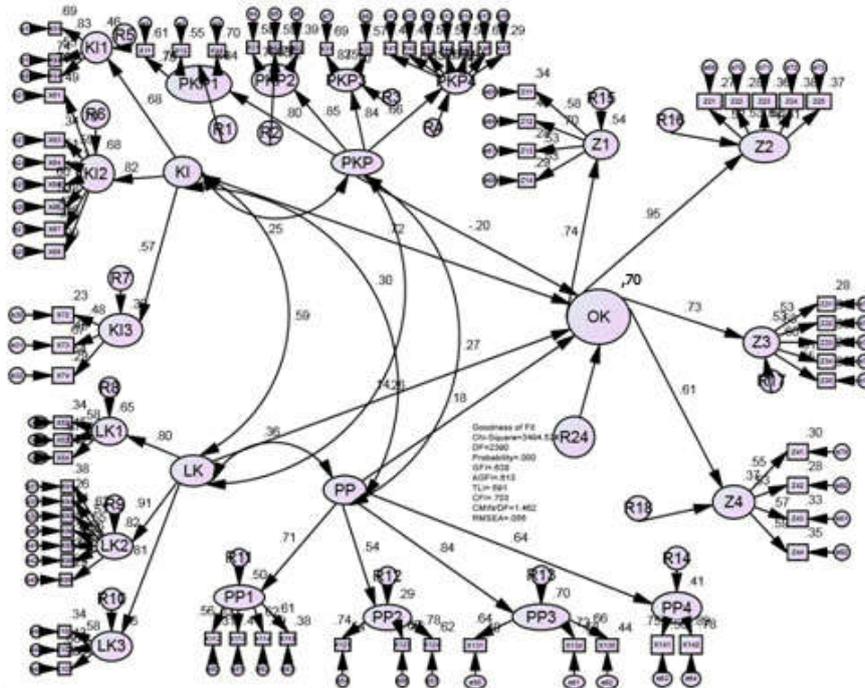


Figure 1 – The First Structural Equation Model

Table 1 showed Goodness of Fit Index of the First Structural Equation Model (SEM).

Table 1 – Goodness of Fit Index of the First Structural Equation Model (SEM)

No	Goodness of fit index	Cut of Value	Result	Model Evaluation
1	X <sup>2</sup> - Chi-Square	<3348.024	3494.524	Marginal
2	Probability	≥ 0.05	0.000	Marginal
3	GFI	≥ 0.90	0.638	Marginal
4	AGFI	≥ 0.90	0.613	Marginal
5	TLI	≥ 0.95	0.691	Marginal
6	CFI	≥ 0.95	0.703	Marginal
7	CMIN/DF	≤ 2.00	1.462	Good
8	RMSEA	≤ 0.08	0.056	Good

Source: Primary Data, 2017.

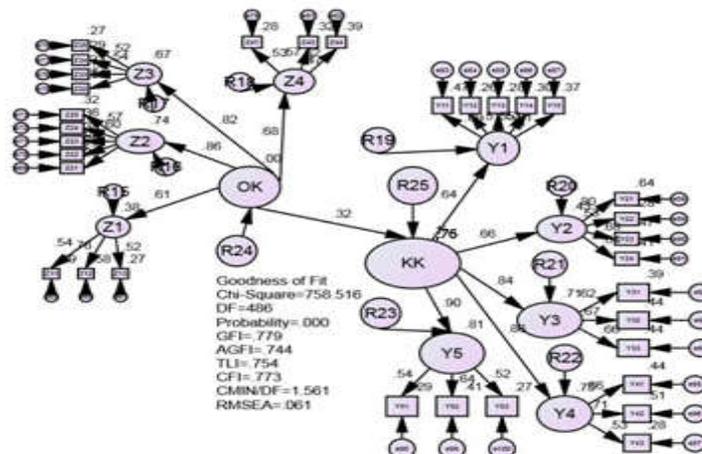


Figure 2 – The Second Structural Equation Model

Table 1 showed the model met two criteria, namely CMIN/DF of  $1.462 < 2.00$  and RMSEA of  $0.056 < 0.08$ . However, it did not meet other six criteria, namely chi-square ( $X^2$ ), p-value, GFI, AGFI, TLI, and CFI. Figure 2 showed result of analysis using Amos 21 for the second Structural Equation Model.

Table 2 showed Goodness of Fit Index of the Second Structural Equation Model (SEM).

Table 2 – Goodness of Fit Index of the Second Structural Equation Model (SEM)

No	Goodness of fit index	Cut of Value	Result	Model Evaluation
1	$X^2$ - Chi-Square	<3348.024	758.516	Marginal
2	Probability	$\geq 0.05$	0.000	Marginal
3	GFI	$\geq 0.90$	0.779	Marginal
4	AGFI	$\geq 0.90$	0.744	Marginal
5	TLI	$\geq 0.95$	0.754	Marginal
6	CFI	$\geq 0.95$	0.773	Marginal
7	CMIN/DF	$\leq 2.00$	1.561	Good
8	RMSEA	$\leq 0.08$	0.061	Good

Source: Primary Data, 2017.

Table 2 showed the model met two criteria, namely CMIN/DF of  $1.561 < 2.00$  and RMSEA of  $0.061 < 0.08$ . However, it did not meet other six criteria, namely chi-square ( $X^2$ ), p-value, GFI, AGFI, TLI, and CFI. Figure 3 showed result of analysis using Amos 21 for Full Structural Equation Model.

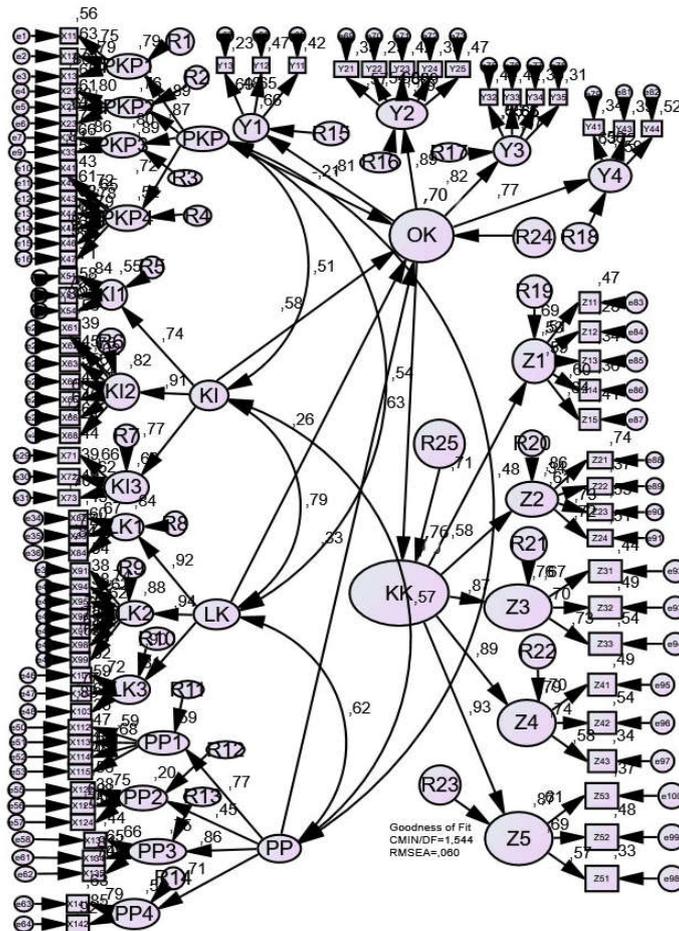


Figure 3 – Full SEM Model

The causal significance test can be analyzed using t-test towards regression weight the full model resulted in. Table 3 showed result of the causal significance test of the model.

Table 3 – Causal Significance Test of the Structural Equation Model

	n/n		Estimate	S.E.	C.R.	P	Label
OK	<---	PKP	-0.141	0.062	-2.277	0.023	Significant
OK	<---	KI	0.511	0.155	3.304	0.000	Significant
OK	<---	LK	0.110	0.081	1.367	0.172	Non- Significant
OK	<---	PP	0.376	0.171	2.199	0.028	Significant
KK	<---	OK	0.424	0.152	2.786	0.005	Significant

Source: Primary Data, 2017.

Structural Equation 1:

$$Y = -0.144X_1 + 0.511X_2 + 0.110X_3 + 0.376X_4 + e_1$$

Where: Y - Entrepreneurial Orientation,  $X_1$  - Role of Public Policy,  $X_2$  - Individual Characteristics,  $X_3$  - Family,  $X_4$  - Training.

Table 4 – Direct and Indirect Influence Matrix

Variable	P.L	P.T.L				TPTL	TP
		$Y_1$	$Y_2$	$Y_3$	$Y_4$		
$X_1$	-0.227	-0.009	0.100	0.148	0.104	-0.00001	-0.22701
$X_2$	0.398	0.468	0.556	0.442	0.417	0.0480	0.4460
$X_3$	0.191	0.447	0.437	0.361	0.339	0.0239	0.2149
$X_4$	0.268	0.106	0.139	0.228	0.254	0.0009	0.2689
$R^2_{XY}$							0.703

Source: Findings of the study, 2017.

Note: PL - Direct Influence, PTL - Indirect Influence, TPTL - Total Indirect Influence, TP - Total Influence.

Structural Equation 2:

$$Z = 0.424Y + e_2$$

Where: Z = Entrepreneurial Performance; Y = Entrepreneurial Orientation.

Table 5 showed a matrix describing the direct and indirect influence.

Table 5 – Direct and Indirect Influence Matrix

Variable	P.L	P.T.L					TPTL	TP
		$Z_1$	$Z_2$	$Z_3$	$Z_4$	$Z_5$		
$Y_1$	0.145	0.269	0.193	0.093	0.107	0.083	0.0000429	0.1450429
$Y_2$	0.143	0.196	0.231	0.219	0.192	0.111	0.0002113	0.1432113
$Y_3$	0.163	0.282	0.313	0.244	0.328	0.236	0.0016671	0.1646671
$Y_4$	0.305	0.280	0.379	0.314	0.315	0.306	0.0032119	0.3082119
$R^2_{XY}$								0.761

Source: Findings of the study, 2017.

The table above showed that  $R^2$  of the influence of Public Policy and Individual Characteristics towards Entrepreneurial Orientation, Family towards Entrepreneurial Orientation, and training towards terhadap Entrepreneurial Orientation was 0.703. Based on Chin (1998)'s classification, ability of the variables to explain Entrepreneurial Orientation was substantial or strong.

Government role manifested in the form of government policy, socialization, implementation and supervision is pivotal in developing Entrepreneurial Orientation. Besides that, one should pay a close attention to push factory (government visit, product protection and justice), communication (consultant, access to information) and resources.

Individual characteristic also had significant influence towards Entrepreneurial Orientation. It consisted of biography (managerial experience, education, number of dependance, ethnicity. Psychology and personality are two essential dimensions many researchers are interested in. Training was another variable that has significant influence towards Entrepreneurial Orientation.

Coefficient of determination which represented the influence of Entrepreneurial Orientation towards entrepreneurial performance was 0.761 or strong. It happened because entrepreneurial performance was influenced by other variables outside the model, for instance market orientation, environment, and management. Being proactive, risk-taking and locus of control were the dimensions of the entrepreneurial orientation. On the other hand, performance of the female entrepreneurs was measured based on sales growth, an increase in number of employees, customers, working capital and type of products.

## CONCLUSION

Public policy, individual characteristics, environment and training have significant influence towards Entrepreneurial Orientation and Performance of female entrepreneurs in DKI Jakarta. However, family does not have significant influence towards their entrepreneurial orientation or performance. The findings are not in line with the previous studies in which family has significant influence towards entrepreneurial orientation. This is new findings in entrepreneur-based research.

Based on the findings, future study should discuss how other variables influence Entrepreneurial Orientation. In Indonesia, ethnic group is an alternative dimension to discuss because the female entrepreneurs come from different background and ethnic groups.

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DOI <https://doi.org/10.18551/rjoas.2018-12.17>

## **CONTRIBUTION OF PROFESSIONAL ETHICS IN INVESTING THE EFFECT OF GOAL ORIENTATION AND TASK COMPLEXITY ON AUDIT JUDGEMENT**

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### **ABSTRACT**

The purpose of this study was to analyze the role of professional ethics in interfering with the influence of goal orientation and the complexity of the task of audit judgement. The study sample was a public accountant who worked at the Public Accounting Firm or Kantor Akuntan Publik (KAP) in Surabaya, Indonesia. The analytical method used is path analysis. The results of the study indicate that the goal orientation and task complexity affect audit judgements directly or indirectly through professional ethics.

### **KEY WORDS**

Audit judgement, ethics, audit quality, goal orientation, task complexity.

From various legal cases, several cases involved public accountants. For example the Enron case in 2001, which resulted in a decline in world stock prices due to loss of trust. In that case, Enron was proven to have collaborated with one of the international Big Five group professional accountants, Arthur Anderson, to do bookkeeping manipulation by boosting profits of US \$ 1 billion (Buchan, 2005). In Indonesia, several cases of violations of the accountant profession developed along with several ethical violations committed by public accountants, internal accountants, and government accountants (Machfoedz, 1999). Bachtiar (2012) revealed several examples of cases of violations of accounting ethics in Indonesia, including the involvement of 10 national KAPs in auditing bank financial reports before the 1997 crisis, inflating the capital of PT. Kimia Farma in 2001, Lippo Bank's double bookkeeping in 2002, as well as the Bakrie Group's fund storage case at PT. Bank Capital Indonesia in 2010. In the financial statements as of March 31, 2010, a total of seven Bakrie Group issuers claimed to have deposited a total of Rp. 9.07 trillion in Bank Capital even though the bank stated that Bakrie Group deposits were only Rp. 2.69 trillion.

The root of the problem of accounting fraud cases is that auditors do not provide proper audit judgements when examining financial statements. An audit judgement is a measure of the quality of auditor performance. In making judgement, the auditor has an awareness that an accountability is a significant factor because his judgement will be reviewed and questioned. Judgement refers to cognitive aspects in the decision making process and reflects changes in evaluation, opinion, and attitude. Quality judgement shows how well the auditor's performance in performing his duties.

There are factors that influence the performance of an auditor in making audit judgements that are both technical and non-technical. One of these factors is individual behavior such as goal orientation and task complexity. Goal orientation is a goal preference in achieving situations, is one of the important topics in education, psychology, and organizational research literature (Payne et al., 2007). Goal orientation provides a mental framework that is used by a person to interpret and respond to situations' achievements and failures (Dweck and Leggett, 1988) and individual differences in building understanding of learning, training, and performance outcomes (Zweig and Webster, 2004).

Testing the effect of the complexity of the task on audit judgements is also important. This is because the audit task is a task that is always associated with complex problems in the company (client). Another reason why this test needs to be done is because the facilities and techniques for making financial statements are thought to have been conditioned in such a way that the auditor understands the incongruity (Bonner, 1994).

The influence of goal orientation and complexity of the task will have a positive or negative impact on audit judgement depending on the ethics of each public accountant. The accounting profession ethics has become a very interesting issue following the disclosure of several financial scandals involving international auditors. Ethical violations will not occur if every accountant has the ability, understanding, and willingness to implement moral values adequately in his professional work (Ludigdo, 1999).

The measurement of the moral quality of accountant ethics can be formulated through understanding the Professional Code of Ethics. The ability to maintain, uphold, and carry out the values of truth and morality, such as responsibilities, integrity, acting objectively, and maintaining independence from the interests of various parties (independence), as well as being careful in carry out the profession (due care). The greater the understanding of the Professional Code of Ethics, the less likely the accountant is to commit fraud so that the higher quality of the audit is given.

This study aims to analyze the role of professional ethics in interfering with the influence of goal orientation and the complexity of the task of audit judgement. The sample used is a public accountant who works at the Public Accountant Office (KAP) in Surabaya. This research is expected to contribute to the literature regarding audit judgement.

## LITERATURE REVIEW

*Goal orientation.* Goal orientation is a mental framework of how individuals interpret and respond to situations/events they face (Dweck and Legget, 1988). Specifically there are two kinds of goal orientation, namely the orientation of the performance goals and the learning goals. The goal orientation in achieving achievement is classified into two: orientation of learning objectives and orientation of performance goals (Nicholls, 1984 in Mustikawati, 2006).

Goal orientation can predict performance in the educational environment (Dweck, in Johnson et al., 2000), and research has proven that goal orientation has important implications for training and motivation in the context of the organization (Martocchio, 1994). Learning orientation and performance orientation are in one contradictory contraction. According to Johnson et al., (2000), learning orientation focuses individuals on the development and complex task strategies. One consistent research finding in motivational literature is that greater challenging goals produce higher performance than easy goals or best-done goals (Locke and Latham, 1990).

*Task Complexity.* Auditors are always faced with many tasks, different, and interrelated with each other. Task complexity can be defined as a function of the task itself (Wood, 1986). Task complexity is an unstructured, confusing and difficult task (Sanusi and Iskandar, 2007). Some audit tasks are considered as high complexity and difficult tasks, while others perceive them as easy tasks (Jiambalvo and Pratt, 1982). This perception raises the possibility that an audit task is difficult for someone, but may also be easy for others (Restuningdiah and Indriantoro, 2000). Furthermore, Restuningdiah and Indriantoro (2000) state that complexity arises from weak ambiguity and structure, both in the main tasks and other tasks. On tasks that are confusing (ambiguous) and unstructured, the alternative output is unpredictable. Chung and Monroe (2001) put forward the same argument, that the complexity of tasks in auditing is influenced by several factors, namely:

- The amount of information that is not relevant in the sense that the information is not consistent with the events that will be predicted;
- There is high ambiguity, namely the variety of outcomes (results) expected by the client from auditing activities.

Increased complexity in a task or system, will reduce the level of success of the task (Restuningdiah and Indriantoro, 2000). Regarding auditing activities, the high complexity of this audit can cause accountants to behave dysfunctionally, causing a decrease in auditor performance in making Audit judgements.

*Professional Ethics of Accountants.* The purpose of the establishment of the Accountant Professional Association is to guarantee the fulfillment of the highest

professionalism standards for the performance of the kuntan with an orientation to the public interest. To achieve this goal, there are four basic needs that must be met by accountants (Proceedings of the IAI Congress VIII, 1998) namely:

- Credibility of information and information systems;
- Competence: for clear identification of the capacity of members of the profession concerned in the eyes of the client;
- Service Quality: to ensure that the professional services provided are based on high performance standards;
- Trust: to ensure that the professional services provided are based on a professional ethical framework.

In addition to these basic needs, there is an IAI Code of Ethics which consists of four parts, namely:

- Principle of Ethics: consists of professional responsibility, public interest, integrity, objectivity, competence and professional prudence, confidentiality, professional behavior, technical standards;
- Rules of Ethics: consist of independence, general standards of accounting principles, responsibilities to clients, responsibilities to colleagues, responsibilities and other practices;
- Interpretation of the Rules of Ethics;
- Questions and Answers.

The rules for implementing professional accounting ethics are regulated in Article 7 of the Indonesian Code of Accounting Ethics, which states that every accountant must live and practice the code of ethics with full responsibility and try to remind each other members of actions that are considered unethical.

*Auditor Performance in Making Audit Judgement.* Performance effectiveness refers to how well certain tasks are carried out in relation to criteria. For auditors, the quality of the work is estimated by looking at the accuracy of the answers given by the auditor for each audit task. Bonner and Sprinkle (2002) state that there are three variables that can affect performance, namely: person variables, task variables, and environmental variables. Person variables include attributes that a person has before performing tasks such as content knowledge, organizational knowledge, ability, self-confidence, cognitive style, intrinsic motivation, cultural values. Task variables include factors that vary both inside and outside the task, such as complexity, presentation format, processing and standby mode response. Meanwhile, environmental variables cover all conditions.

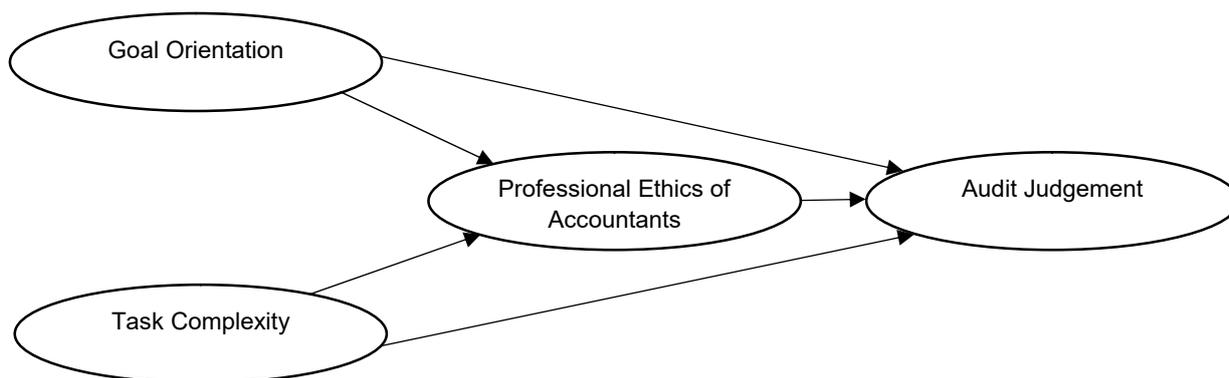


Figure 1 – Conceptual Framework

*Conceptual Framework.* The reason public accountants carry out audit activities is often the cause of the emergence of audit performance. Likewise the complexity of the tasks that surround the accountant in carrying out these tasks. Anyone who has an interest in the financial statements is the party that must be protected by the accountant's interests. As a result, the quality of audit judgement is often affected by the goal orientation and complexity

of the auditor's duties. The influence can be positive or negative depending on the ethical morale of each auditor. Here is the importance of the Professional Ethics of Accountants who are believed to be able to intervene in the positive or negative effects of goal orientation and task complexity on audit judgement.

## METHODS OF RESEARCH

The data obtained was analyzed using path analysis which was assisted by SPSS 23 software with a significance level of 0,05. Data collection using a close-ended questionnaire distributed offline. In addition, documentation is also used to obtain information about the number of public accountants who work in KAP Surabaya with a work period of more than one year and have been in charge of the team (provide a Audit judgement) on the client's financial statements.

The population in this study was a Public Accountant who worked at KAP Surabaya. The sample is determined by purposive sampling, which is a Public Accountant who has provided a Audit judgement in one stage of examination and has worked more than one year. The total sample used amounted to 25 respondents. The KAP data as required in this study can be taken from the Instistut Indonesian Public Accountants or Instistut Akuntan Publik Indonesia (IAPI) website.

### *Operational Definition and Variable Measurement:*

- Goal orientation is the auditor's preference in achieving the situation. This variable is measured by indicators: learning, performance-approach, and performance-avoidance.
- The complexity of the task is the difficulty of a task caused by limited capability, and memory and the ability to integrate problems that are owned by a decision maker. This variable is measured by indicators: the amount of information that is irrelevant and the existence of high ambiguity.
- Professional ethics is a set of rules that become benchmarks in carrying out their professional duties. This variable is measured by indicators: responsibility, integrity, objective, and independent.
- Audit judgement is the auditor's performance in determining opinions regarding the results of the audit which refers to the formation of an idea, opinion or estimate of an object of events, status, or other types of events. This variable is measured by indicators: content knowledge, organizational knowledge, self-confidence, cognitive style, intrinsic motivation, and cultural values

Based on the measurement of each of the variables above, the regression equations in this study are as follows:

- $Y_{Ethics} = b_0 + b_1Orientation + b_2Compleks + e_1$
- $Y_{Judge} = b_0 + b_1Orientation + b_2Compleks + b_3Ethics + e_2$

## RESULT OF STUDY

To test the mediation effect, testing must go through three criteria, namely: 1) the independent variable with the dependent variable must be significant, 2) the independent variable with the mediating variable must be significant, and 3) the mediating variable with the dependent variable must be significant (Baron and Kenny, 1986). This test begins by examining the relationship of the dependent variable (goal orientation and task complexity) to the mediating variable (professional ethics).

Table 1 – Testing of goal orientation and task complexity towards professional ethics

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	,314	,016		19,156	,000
1 Orientation	,006	,002	,589	2,710	,012
Complex	,021	,010	,464	2,137	,043

a. Dependent Variable: Ethics

Table 1 is the result of testing the goal orientation and the complexity of the task towards professional ethics. Goal orientation has a t-value of 2,710 and sig. 0,012. Task Complexity has a t-value of 2,137 and sig. 0,043. From the results of this test, it can be concluded that goal orientation and task complexity affect the professional ethics.

Table 2 – Testing goal orientation, task complexity, and professional ethics towards audit judgement

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	6,378	1,692		3,771	,000
	Orientation	,203	,063	,301	2,840	,014
	Compleks	,151	,049	,277	2,605	,019
	Ethics	,167	,040	,412	4,212	,000

a. Dependent Variable: Judge

Table 2 is the result of testing goal orientation, task complexity, and professional ethics on Audit judgementing. Table II shows the Goal orientation has a t-value of 2.840 and sig. 0.014. Task Complexity has a t-value of 2.605 and sig. 0.019. Professional ethics has a t-value of 4.212 and sig. 0,000. This shows the influence between Goal orientation, Task Complexity, and Professional Ethics towards partial Audit judgements. From the results of this test, it can be concluded that goal orientation, task complexity, and professional ethics influence audit judgement.

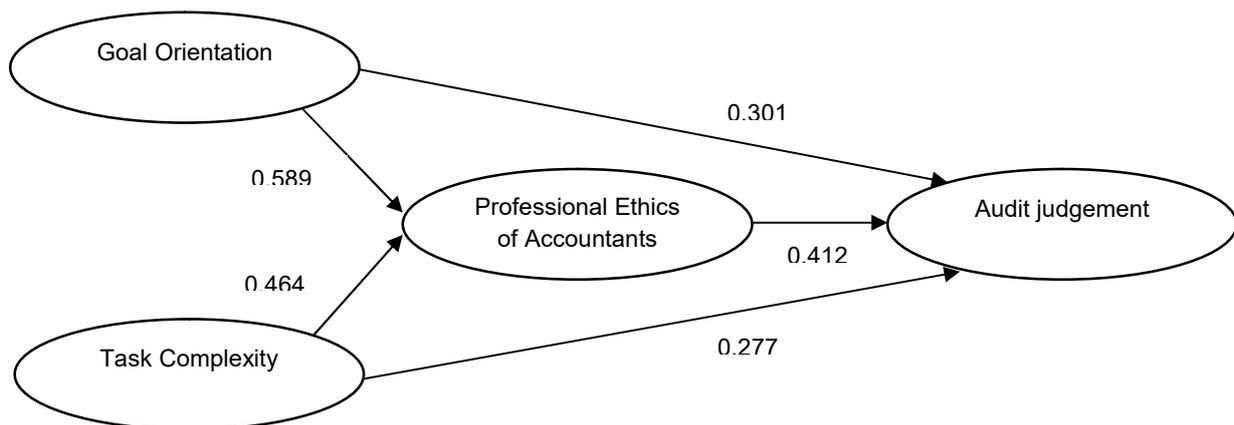


Figure 2 – Beta values for each variable

To find out the mediation effect, the test is continued by comparing the value of the direct and indirect effects of relations between variables (Figure 2 and Table 3). The Goal orientation variable has a direct effect on audit judgement of 0,091 ( $0,301^2$ ) and the indirect effect value is 0.243 ( $0,589 \times 0,412$ ). Variable task complexity has a direct influence value of 0,077 ( $0,277^2$ ) and 0,191 ( $0,464 \times 0,412$ ) for indirect effects. Based on this test, the indirect values for the two variables are greater, so it can be concluded that goal orientation and task complexity indirectly influence audit judgement through professional ethics.

Table 3 – Test Results of Direct and Indirect Influence of Orientation and Complexity on audit judgement s through Professional Ethics

	Direct	Indirect	Total
Orientation	0,091	0,243	0,333
Complexity	0,077	0,191	0,268

### DISCUSSION OF RESULTS

*Effect of Orientation Objectives on Audit Judgement.* The results of the study indicate the influence of goal orientation on audit judgements. These results support previous studies

such as Sanusi et al. (2007) who found that goal orientation influences performance, including academic performance, task performance (Bell and Kozlowski, 2002), sales performance (Vande Walle et al., 1999), and job performance (Janssen and Van Yperen, 2004). A recent meta-analysis also found that the characteristics of learning objectives were significantly related to learning performance and the orientation section of learning objectives was related to job performance (Payne et al., 2007). In the accounting environment, a study found management accountants with orientation learning to be more likely to be involved in management decision processes (Coad, 1999).

Goal orientation has a beneficial influence on performance, and this opinion is supported by theory and empirical evidence. Theoretically, because people with goal orientation, especially learning, will focus on developing competencies, they have intrinsic interest in the tasks they perform (Barron and Harackiewicz, 2001), therefore, they will be more involved in the task than they are who don't have that orientation. In addition, people with a tendency to develop their competencies will devote more resources (eg attention, effort, perseverance) and use them more effectively, using elaborative strategies in carrying out their duties than those who are not so concerned about demonstrating competency. them (Dweck and Leggett, 1988). Even when faced with a difficult task, people who have a goal orientation will respond with increased effort, perseverance, and strategy because they tend to see tasks as challenges and opportunities for growth and self-development (Vande Walle et al., 2001). Greater effort, perseverance, and using effective strategies generally lead to higher performance (Bandura, 1993; Locke and Latham, 1990).

*Effect of Task Complexity on Audit Judgement.* The results of the study indicate the influence of the task complexity on Audit judgementing. These results support the research of Chung and Monroe (2001) saying that high task complexity influences judgement taken by auditors. The auditor feels that the audit task he is facing is a complex task so that the auditor has difficulty in performing tasks and cannot make professional judgement. The same thing was also shown in Wijayatri (2010) which explained that task complexity had the most dominant influence on audit judgement. As a result, the judgement taken by the auditor is not in accordance with the evidence obtained.

In the audit environment, task complexity is an important factor that can affect the performance of Audit judgements. When the auditor is faced with a task with high complexity, he will have difficulty in completing his task so that he is unable to integrate information into a good judgement. The goal setting theory explains that auditors who do not know the purpose and purpose of the task will also experience difficulties when faced with a complex task. The auditor does not know what goals he must achieve in carrying out his duties so that it can affect the accuracy of the judgement he takes.

*Intervention of Professional Ethics in the Effect of Goal orientation and Task Complexity on Audit Judgement.* The results of the study indicate that there is an indirect influence on the relationship of goal orientation and complexity of the task to audit judgement through professional ethics. Professional ethics relates to how auditor compliance with auditor professional standards or professional standards of public accountants (SPAP). Professional code of ethics is one of the efforts of a professional association to maintain the integrity of the profession in order to be able to face various pressures that can arise from him or outside parties. Research by Suraida (2005) examines showing professional ethics has an effect on the accuracy of giving public accountant opinion results that professional ethics has an influence on giving audit opinion.

Every public accountant is also expected to hold on to the professional ethics set by IAPI, so that an unfair competition situation can be avoided. Without ethics, the accounting profession will not exist because the accounting function is the provider of information for the process of making business decisions by business people. By upholding professional ethics, it is expected that fraud will not occur among public accountants, so that it can provide audit opinions that are truly in accordance with the financial statements presented by the company.

## CONCLUSION AND SUGGESTIONS

Goal orientation has a beneficial influence on the performance of audit judgements. Those who have a goal orientation, especially learning, will focus on developing competencies, they have an intrinsic interest in the tasks they do. Greater efforts, perseverance, and using effective strategies generally lead to higher performance. When the auditor is faced with a task with high complexity, he will have difficulty in completing his task so that he is unable to integrate information into good judgement. Auditors who do not know the purpose and purpose of their duties will also experience difficulties when faced with a complex task. Every public accountant is expected to hold firm to the professional ethics established by IAPI, so that an unfair competition situation can be avoided. Without ethics, the accounting profession will not exist because the accounting function is the provider of information for the process of making business decisions by business people. By upholding professional ethics, it is expected that fraud will not occur among public accountants, so that it can provide audit opinions that are truly in accordance with the financial statements presented by the company. Suggestions that can be given from this study are: 1) for auditors, it is expected that auditors always adhering to professional ethics so that auditors can make judgement professionally; 2) for the next researcher, it is expected that this research can be developed using an experimental method so that the differences in respondent's treatment can be clearly seen, and examine aspects that influence other auditor judgement s that have not been studied in this study, such as training and different cultures, by further expanding the research sample.

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DOI <https://doi.org/10.18551/rjoas.2018-12.18>

**THE IMPACT OF BUSINESS PROJECT TARGET ON STUDENTS' BEHAVIOR:  
A PHENOMENOLOGY STUDY IN ACCOUNTING DEPARTMENT  
OF CIPUTRA UNIVERSITY**

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**ABSTRACT**

The development of entrepreneurship education is growing in Indonesia, especially in universities. One method used in entrepreneurship education is experiential based learning, which is one method by pioneering real business projects by students. One important step in a business project is setting targets. The purpose of this study is to uncover more deeply the impact of business project targets on student behavior of the Ciputra University Accounting Department. This study uses a qualitative approach with phenomenological methods. Data was collected using in-depth interviews and unstructured observations. The results of this study are targets that have a positive impact on behavior and mindset, despite the many obstacles faced by informants. Targets are not the main tools to motivate informants, but targets are the boundaries that must be achieved. The main tool that can motivate informants is the maximum guidance process.

**KEY WORDS**

Experiential based learning, accounting behavior, entrepreneurship education, escalation of commitment, budgetary slack, hurdle rate.

Entrepreneurship education at Ciputra University uses an experiential based learning approach. One method used is to require students to form real business projects starting from the first semester. Experiential based learning is a method that aims to provide a real and guided experience so that it can contribute to society. Through this approach, students will learn in an active process that builds the building rather than merely acquiring knowledge. In this case students will be active learning, involved in authentic and situational learning activities, interesting and challenging learning activities. This approach makes the function of the lecturer as a facilitator and is able to provide assistance in the form of scaffolding that is needed by students in the educational process (Pribadi, 2009).

At the beginning of learning, students are trained to see opportunities around the campus environment, then equipped with the basics of entrepreneurship, and continued to establish businesses, both individuals and groups. The students also began to be trained to make business plans. After making a business plan at the end of the first semester, at the beginning of the second semester to the beginning of the sixth semester students attend a business plan session to determine the target of their business projects.

However, some Ciputra University Accounting students felt anxious if the target could not be achieved, even though the target was only one of the elements of the assessment that weighed 20%. Some students assume that the target of a business project is too high, making them feel insecure and pessimistic that they can reach the target so that it influences the behavior of students in running business projects. The following is a student expression regarding the target:

*"...in fact the impact that occurs because students feel the target is too high and impossible so students feel free to pursue the target..." (Informant 1)*

*"Too busy with college, while the project target is too high..." (Informant 2)*

Students who are not motivated may take wrong or distorted decisions. This concept of action is studied in the field of accounting behavior which is the study of accountant behavior or non-accountant behavior when they are influenced by accounting and reporting functions

(Radianto, 2015; 1). One aspect that often has a relationship between behavior and targets is budgetary slack or budget security, which is a practice that managers do deliberately enter a greater amount of expenditure (a smaller amount of income) into the budget than they actually believe will happen (Blocher, 2010: 395). In the case of student business it can be illustrated that the budget is like a target that must be met. This can occur in student business projects in this case how students secure their business targets so that they can achieve these targets.

Students can commit behavioral irregularities, namely manipulating business project reports even though they have not reached the target set. If this happens, students will run a project that loses continuously to maintain the business project until the end of the semester. This can be called an escalation of commitment (Radianto, 2015: 22). Students can avoid the escalation of commitment and manipulate business project reports, if from the beginning students calculate the hurdle rate target, which is the target rate of return implied on capital expenditure activities. Using a hurdle rate, the management can determine the economic limits of the project being run (Radianto, 2015).

In the case of the Accounting Department at Ciputra University, the actual action of escalation of commitment can be reduced by calculating the rate of return (hurdle rate), which uses the concept of participatory budgeting. If the business that is run its rate of return is below the predetermined target, the student business project experiences a loss, and vice versa if the business that is run its rate of return is above the target set, then the business project carried out is profitable. Based on this background, the problem of this research is how to impact the target on business projects on student behavior. Therefore the purpose of this research is to reveal more about the impact of the business project target on the behavior of students of the Accounting Department at Ciputra University.

Researchers will investigate in depth how students experience seeing phenomena that occur in real cases on the ground, so this study uses phenomenological methods. Through this method the writer will be able to understand and interpret what phenomena experienced by the research subject, so that the objectives of this research can be achieved.

## **THEORETICAL REVIEW**

The theory that is relevant to this research is accounting behavior which includes escalation of commitment, budgetary slack, participation budget, and hurdle rate. Behavioral accounting is a subdiscipline of accounting science that involves aspects of human behavior related to the process of economic decision making (Lubis, 2010: 12). According to Radianto (2015), behavioral accounting includes several things.

First, judgment and decision making of the auditor and accountant. Second, the influence of accounting functions (such as budgetary participation, information system characteristics) and audit functions on the behavior of employees, managers, investors, and third taxpayers, the effect of the output of accounting and audit functions, namely accounting information on user consideration and decision making.

Escalation of commitment is defined as a phenomenon that explains that a person decides to increase / increase his investment, even though new evidence explains that the decision made is wrong. The investment can be in the form of money, time, effort / energy (Bambang et al. 2011). Radianto (2015) argues that the escalation of commitment is a commitment of decision makers to continue and expand their initial commitment to investment projects that are not profitable. This means that someone continues to run investments that can be in the form of business even if they continue to experience losses.

Budgetary slack or budget security, is a practice that managers intentionally enter a greater amount of expenditure (a smaller amount of income) into the budget than they really believe will occur (Blocher, 2010: 395). Participatory budgeting is an approach that involves everyone in budget formation, from the lowest level employees to the managers of organizations / companies. Participatory budgeting runs effectively, if the manager is actively involved. Furthermore, top management must be aware of deviant budgets, and encourage

budget projections to be accurate. Managers must act as mediators when disagreements occur in the budget preparation process (Blocher, 2010: 395).

The rate of return is also called a hurdle rate. The Hurdle rate is the target rate of return that is implied on capital expenditure activities. Through the hurdle rate, management can determine the economic limit of the project being run. Hurdle rate is a powerful tool for evaluating investment decisions as well as a powerful tool for controlling company investment (Radianto, 2015: 45).

## **METHODS OF RESEARCH**

Based on the purpose of the research, it is to reveal more about the impact of the target of the business project on the behavior of Ciputra University Accounting students. So the researcher uses a qualitative approach to get more in-depth data, a data that contains meaning. Qualitative research is a research method used to examine the condition of natural objects, where researchers are a key instrument, data collection techniques are carried out jointly, data analysis is inductive, and research results emphasize the meaning rather than generalization (Sugiyono, 2014: 1).

This study uses phenomenological methods. Phenomenology is the study of what appears to be, or the knowledge of visible behaviors; something that appears in our consciousness. The phenomenology method looks closely at individual interpretations of its experiences. This study seeks to understand the meaning of an experience from the perspective of participants (Sugiyono, 2014, Sonny, 2013: 213).

Sampling in this study using purposive sampling, meaning that the researcher determines the informant who is considered to know about the research problem so that it will facilitate the writer to explore the situation under study (Sugiyono, 2014). The subject of this research is Ciputra University Accounting students who run a business project. The selection of subjects in this study is based on the consideration that the Accounting Department has compulsory business project subjects in each semester, so that all accounting students must carry out business projects. Researchers used six informants as informants, the criteria of informants in this study were Ciputra University accounting 2013 students and 2013 business projects, business projects successfully achieved targets and business projects did not reach the target.

There are several methods used by the author in collecting qualitative data on the subject under study. First is interviews, researchers use semi-structured interview methods that are included in the in-dept interview category (Sugiyono, 2014). The purpose of this type of interview is to find the problem more openly, where the interviewee is asked for opinions, and his ideas. This interview is open, meaning that the informant knows the presence of the interviewer as a researcher who is in charge of conducting interviews at the research location (Bungin, 2011). Next is observation. The author uses passive participation observation in data retrieval, meaning that the author observes the informant, but the author is not involved in informant activities (Sugiyono, 2014; 66).

Emzir (2010: 85) provides a definition of data analysis is a systematic process of searching and regulating transcripts of interviews, field notes, and other materials that have been collected to improve the author's understanding of the material.

In qualitative research, validity and reliability are also called the validity of the data, the validity of the data in this study using member check. According to Sugiyono (2014) member check is the process of checking data obtained by researchers to data providers. The purpose of member check is to find out how far the data obtained is in accordance with what is given by the data provider.

If the data found agreed by the data giver means that the data is valid, so that it is more credible / trusted, but if the data found by the researcher with various interpretations is not agreed upon by the data giver, and if the difference is sharp, the researcher must change the findings, and must adjust to what is given by the data provider. So the purpose of the member check is so that the information obtained and will be used in writing the report in accordance with what is meant by the data source or informant. Member check execution

can be done after one period of data collection is complete, or after obtaining a finding, or conclusion.

## RESULTS OF STUDY

Ciputra University Accounting Department uses an integrated accounting teaching system (creative, innovative, and Holistic Synergy) and uses Experiential Based Learning to provide Entrepreneurial Accounting Projects. Students are also given the opportunity to apprentice in the company owned by the Ciputra Group, but it does not rule out the possibility of students looking for another company where they can take part in the apprentice program. Extensive Accounting Training is given to improve skills and competencies, students. Through these programs, students are expected to have a balance in "Street Smart" and "Smart Book", theory and practice, and "Hard Skill" and "Soft Skill". (source: [www.uc.ac.id](http://www.uc.ac.id), 2015)

*Data Analysis.* Interviews were conducted on six student business projects in different fields. The targets obtained in each business project are also different, ranging from targets on product sales, getting clients, developing social media accounts, finding a consignment place, to participating in the exhibition. The results of observations conducted by the researcher shows that there are various kinds of expressions and emotions that appear in the informant, such as enthusiasm, confidence, doubt, sadness, anxiety, satisfaction, and a sense of pride.

The first informant was a 2013 student business project, the business was engaged in the trading of the remaining children's export clothing. The informant targets to sell 1,800 pcs / month and expand the market to three islands in Indonesia. The informant realizes that if the target of the business project is reached then it can meet the needs of life, but until now the informant has never reached the target.

*"Yes, 1,800 a month, but we never achieved it until now..."*

*"...if for example we really want to do what we want, for example, we really want to make money, fulfill our daily needs, that's 1,800 a month, it must be..."*

According to informants, there are quite a number of obstacles experienced during running a business project. An internet network that is less supportive is one of the factors that hinder online sales, the lack of relationships in terms of suppliers and customers is another inhibiting factor. The number of competitors who sell similar products is also an inhibiting factor because the products of informants and competitors have almost no difference, competition only occurs at the selling price.

The informant has done various ways so that the target can be achieved. Informants have made sales to various places, such as participating in exhibitions, selling on car free days, Instagram, Tokopedia (e-commerce), and offering products to several pediatricians to invite consignment cooperation and make promos to attract customers.

According to the informant, to achieve the target of the business project, a good focus is needed, while the informants have difficulty dividing their time between running a project and doing lecture assignments, the impact is that the informants feel that they are not optimal in carrying out college assignments.

*"...for example, assignments from other lecturers, other courses are not completed because of the focus on the project target. We still finish it, but often the results are even worse..."*

A lot of ways have been done by the informant but the target cannot yet be achieved. This makes the informant feel ashamed because the target is always the same but has never been achieved. The shame of having never reached the target made the informant eager to prove that she was capable.

The informant feels that the target of a business project has an impact on his life, both in behavior and thinking. According to the informant, during running a business project she became a person who was more resilient, not lazy, wanting to continue to grow, and able to place a position according to the person she was talking to. In addition, the informant felt that

she understood the cycle / process of establishing and running a business even though it was still little.

The second informant is a 2014 student business project in the field of fashion with a sales target of five dozen per month, participating in exhibitions, and improving the marketing system. The informant feels confident that he can reach the target. To reach the target informants have prepared a number of strategies, such as this semester will focus on online sales by improving social media accounts, entering products in several e-commerce, and innovating to find product characteristics.

*"Sure because many costumers say our products are good..."*

*"...because this semester will be devoted to marketing..."*

*"Now we are focusing on selling and innovating because we are also required to innovate by making products that have their characteristics..."*

In the second semester, the informants failed to reach the target, according to the informants the obstacles that occur due to lack of time to sell, because most of the time in the second semester is used to improve the product. Another obstacle faced by informants in achieving targets is the difficulty of dividing time between running a business project, organizational activities and doing college assignments.

The informant also felt that he had a lot of targets, so when he saw the target list, he felt tired. The informant also said that the target given by the facilitator was sometimes difficult to do, for example the facilitator gave a target to return to the exhibition called Inacraft, according to the informant it was not possible because the exhibition could only be followed once.

*"...the target is very much, because we have to set a schedule that is quite solid. Angel and I entered the organization so our time was wasted again..."*

*"The negative is that the target doesn't make sense, so it's not done but it's tired..."*

*"...for example Inacraft sponsored by Ciputra University, we cannot join the second time, even if we want to enter we must join the Inacraft membership and there is a monthly fee and the guarantee fee can be up to 15 million rupiah, we mean it is very maybe we can go in there..."*

The informant argued that the target had a positive impact, with the target infoman could get to know many people, motivated to prove able to achieve the target, and change attitudes for the better.

*"If it is positive, we are encouraged to be given a chance that in the future we have more progress..."*

*"...When I enter here I add insight, can interact, speak well to people..."*

The third informant is a 2014 student business project in the field of educational entertainment that produces and sells board games. In this semester informants have a target of selling products to penetrate the national market. At first the informant felt that the target was difficult to achieve, but the person concerned was aware that being able to achieve the target needed to be effortless and patient. The efforts made by the informants were to continue to offer their products to a number of schools that were the target market for informants. Every week, informants and group members often hold meetings to evaluate and create new strategies.

*"First, it is indeed difficult because of business problems and we are targeting 50 sales and from there we learn that all of them need a struggle, if we don't try it can't be achieved..."*

*"The sales strategy, for example this week, is not achieved next week, how rich will it be, so every week for evaluating other than directing the sales to the product as well as the consumer's weakness..."*

The main obstacle that until now was faced by informants was the difficulty of dividing time between running a business project and doing college assignments. To overcome this, usually the informant and group members share tasks. Besides time, product design is also an obstacle for informants. The informant felt that during the business project many positive changes had occurred. With the target, the informant becomes motivated to move forward.

*"For the time because of the many assignments we were confused which one was first... the design aspect was mostly complained because the consumers wanted a lot, finally we tried sharing it together and until now there hasn't been..."*

*"I have a friend whose members stutter so that they can't speak in public and even underestimate something but since yesterday we took part in the competition and that person wants to be forced to talk in the front has finally changed and the stutter disappears and it's amazing for us..."*

The fourth informant is a 2013 student business project in the field of website creation and management services that have the target of getting ten clients to advertise on the website of the informant concerned. Slightly different from the previous informant, this time the informant felt unmotivated when running a business project, even though the informant claimed that the business he lived in was his passion. From the information obtained by the author, the informant felt that the process being undertaken did not lead to the target, so the informant felt in vain with the existence of the target.

*"I was immediately given a target of 10 ads a semester, well, it was actually rather difficult at first... but given the target, yes it did help, but now for example lecturers only give a target and there is no help for what we are told to think about. It's the target, we are the ones who love, you know, it's up to you, what do you want to do, well, but once we do what we want instead to be scolded..."*

Informants argued that given the target in question became depressed and not free in running a business project because the informant had to divide the time between running the project and doing the assignments. Meanwhile, the informant considered the facilitator to be less helpful in guiding the relevant business project so that the weekly target given by the facilitator was not in line with the one semester target.

*"...the tutor didn't help me at all... Tutor Tirta only said that in two weeks it should be done so the point must be already there, just like that, so it was finished last week, I still haven't confirmed it, it hasn't been confirmed yet yes, the ebook party, the point is that it hasn't been answered until now, it will run out eh last week I said like that, then Mrs. Tirta means talking, if you can, next week, yes, like that, actually my main target isn't actually, the main target is ad, how come it suddenly becomes the ebook's focus..."*

Although in the previous semester the informants managed to reach 80% of the target, but the informants still thought it was difficult to reach the target. Constraints faced by informants are owned by the website is relatively new so it is not widely known. In addition, the informant felt confused to set priorities in running a business project that caused informants to work only on their own.

The fifth informant is a 2014 business class student project in fashion that has a target of selling 150 pcs / semester and developing a social media account. Following is the fifth informant's statement:

*"... if the production is not targeted, only the target is selling 150, as targeted by followers on Instagram it must be 2000..."*

The target in this semester tends to decrease compared to the previous semester. In the beginning, the informant felt that the target of the business project was right. The fall in the target was inseparable from the obstacles faced in the previous semester, namely the informants were constrained by production problems. In addition, the informant had constraints on self-confidence, so he could not be maximal in offering products.

*"...the constraints in production, the tailor can't be fast so we are in the third semester, we want a small target first but it can be achieved, then later if the target is reached the next semester the target is increased..."*

*"... yeah I'm the type of shy person, the first time I went to college I didn't speak to other people..."*

To reach the target, the informant made sales through social media and consigned to a clothing store. The informant himself was optimistic he was able to reach the target, one of his motivations was to compete with former teammates who were now running a business in the same field.

According to the informant, the target has positive and negative sides. Although initially forced but with such compulsion, the informant felt that there was a change in behavior, such as not delaying work and being more observant about opportunities. Informants felt that sometimes the facilitator did not understand the situation of the informant and was not maximal in providing business guidance.

The sixth informant is a 2013 business student project in the field of Javanese sugar trading which has a target to increase turnover of this semester compared to the previous semester. Following is the sixth informant's statement:

*"The target is to increase turnover this semester... I mean if I can supply it to the soy sauce factory, or to big tenders, you know, but I don't have it yet..."*

According to the Informant, the target of a business project is too much so that the person has difficulty dividing the time between business projects, lectures, and other activities. Informants also experience obstacles in terms of communicating with group members, often differences of opinion occur due to inequality in principle. In fact, there are some issues that cannot be resolved.

*"Too much, I mean like we, for example, focus on work like this, yeah, maybe it's possible, but the focus isn't just this and the time is not enough, only a week has been used to study, go to church, and not include other activities..."*

Suppliers and prospective customers also become obstacles for informants. Suppliers owned by informants are only one and have limited capital, so if the informant orders products in large quantities then the informant must provide capital first, while consumers pay after the product is received. Trust issues become obstacles to prospective customers. Often transactions only occur via telephone without face to face, this makes the informant worried about being deceived.

*"... My supplier has a problem too, so he doesn't have too much money, you know, make a transaction, so we have to pay him quickly because he doesn't have money to use first..."*

*"... the term is not trusting, it's really like big money and I don't know it and like I don't believe it, because I can't meet in person, I'm not talking directly just by phone, so I'm afraid..."*

The informant had a strategy while undergoing a business project, namely at the beginning of the semester the informant submitted a proposal for a product offer to various places, during the middle of the semester the food informant asked for feedback, when approaching the end of the semester the informant made a deal. This is done because if the deal is done at the beginning or middle of the semester, the informant will get another target / the target will increase.

## DISCUSSION OF RESULTS

Based on the analysis of the data described earlier, it appears that there are various kinds of expressions and emotions that appear to informants, such as enthusiasm, confidence, doubt, sadness, anxiety, satisfaction, and pride. Observation carried out together with the interview is quite important, the purpose is to confirm the information conveyed by the informant is truly experienced and felt, not just words from the lips.

Each informant also experienced its own problems when running a student business project. Constraints faced include: product innovation that makes it difficult to compete with competitors, networks that are not broad are obstacles to getting the right suppliers and markets, lack of time to sell products because they are focused on product improvement, difficulty in finding product designs that right because of the diverse tastes of consumers, products that are still relatively new so that they are not widely known to the public, problems in self-esteem that prevent informants from offering products to prospective customers, unresolved disputes with group members, even informants who often target the facilitator very difficult to achieve, so that the target informant had not run it already feeling tired.

The researcher found that there were several similarities in the obstacles faced by informants. The first obstacle equation is with the supplier. Some student business projects

have limited suppliers and some have only one supplier, so if the supplier cannot meet the needs of the business project, it will disrupt sales.

The informants also stated the difficulty in determining priorities and dividing the time between running business projects, participating in lecture activities, and carrying out activities outside the campus. This is because each student has responsibilities that must be implemented that sometimes clash with each other. Can be seen from the analysis of data that the target student business projects differ from each other, the authors see this difference in accordance with the conditions and abilities of the informant. When the writer asks about the target to the informants there are differences of opinion, some say the target is appropriate, the target is not appropriate, there are also informants who think it is better not to have a target because it is stressful and uncomfortable in running a business project even though the business it is running now is passion informant.

There were only a few informants who could explain well and be sure of their strategies to achieve the target for the next semester, and on the contrary many informants answered hesitantly when asked about their plans / strategies to reach the target. Researchers see, there are indications that informants do not have enough information about the types of strategies in the business field that the informant runs. Informants who seem doubtful about the strategy are indicative of doing activities that are not effective and efficient, there are even indications of carrying out activities or decisions that are wrong, in behavioral accounting theory these actions are called *Escalation Commitments*.

Some informants who seemed doubtful were not too concerned about the targets being achieved or not, the most important thing was that the informants had tried. That is, the informant considers that his fate is controlled or determined by the lecturer / environment, in behavioral accounting this kind of belief is called *external locus of control*, while the informant who looks confident in his strategy is optimistic that the strategies / plans that have been prepared with group members will be able to bring them to reach the target at the end of the semester, this belief in behavioral accounting is called *internal locus of control*. That is, there are informants who think that the value of business project courses is in the hands of lecturers and facilitators, but there are also informants who believe the value of business project courses is determined by the informant itself.

The difference in views that exist does not mean that there are informants who do not carry out any activities. Various activities have been carried out by informants so that business project targets are achieved, these activities include: starting from dividing tasks with group members, making activities schedules, going around offering products, to going out of town to expand networks of both suppliers and prospective customers. The author also found that there were informants who carried out *budgetary slack* actions, but interestingly the informant did not know that the actions taken were unethical. The informant thought the actions taken were part of the strategy to achieve the target.

The interesting thing is that even though there were differences of views regarding the target of each informant, all informants agreed that when running a business project a lot of experience was gained that influenced the Informant's behavior and way of thinking in a better direction, including: making informants more resilient. able to communicate better than before, can bring themselves, and the mindset of the entrepreneur in the informants is increasingly formed.

## CONCLUSION

Based on the results of research conducted by researchers, the impact of business project targets on student behavior is the emergence of various kinds of reactions to the informants, some felt the target was right, there were those who felt the target was not right, there was also a feeling that there was no target. Some informants were able to explain well and be sure of their strategies to achieve the target for the next semester, there were indications that the informants believed that their fate / condition was determined by themselves so they seemed motivated to reach the target.

Most of the other informants answered hesitantly when asked about plans / strategies to reach the target. It is possible that the informant did not have enough information about the types of strategies in the business field that the informant ran. The informant seemed to believe that his fate / situation was controlled by the environment, because it was indicated to carry out activities that were not effective and efficient so there was the possibility of committing an escalation commitment.

Various activities have been carried out by all informants to reach the target, including unethical actions that were not realized by the informants. All informants agreed with the target of making moves and increasingly moving to run and enlarge business projects, so that when running business projects there were many experiences gained by informants, those experiences that changed informants' behavior and ways of thinking in a better direction.

The target has a positive impact on the informants, even though the informants have different views on the target. Informants become more and more active in activities so that the target can be achieved, the number of these activities has a positive impact on informants in their entrepreneurial behavior and mindset. Target is not the main tool to motivate informants; the authors argue the main motivational tool is the maximum guidance process during business projects between lecturers and facilitators to the informants.

Based on the results of the research and discussion, the researcher realized that this research was not optimal, but was expected to be able to contribute scientific findings to the phenomenon that occurred. There are limitations in this study, the first being time constraints. The data collection and analysis phase takes a lot of time. The researcher realizes that carefulness is needed in conducting this research, because this research is very dependent on the judgment of the researcher. There are also limitations in understanding the data analysis process which is quite time-consuming because the researcher must find and study the appropriate analysis process in this study.

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DOI <https://doi.org/10.18551/rjoas.2018-12.19>

## **ANALYSIS OF SITUATIONAL ORGANIZATION AND LEADERSHIP IN THE IMPROVEMENT OF INSTITUTIONAL PERFORMANCE OF STATE UNIVERSITIES WITH PUBLIC SERVICE IN INDONESIA**

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### **ABSTRACT**

This research aims to analyze situational organization and leadership in the performance improvement of State University (PTN) with Public Service (BLU) in Indonesia. The analysis was done by using descriptive statistics at three educational institutions based on the area and the PTN ranking of The Research and Technology and Higher Education Ministry (Kemendikristekdikti) version in 2015-2017, i.e. Lampung University, Sebelas Maret University, and Gorontalo State University. A sampling collection method used a nonprobability sampling with purposive sampling technique. The research result shows that the transformation of PTN BLU gets a support and gives a positive impact on organizational improvement. However, the transformation has done still limits to the flexibility in financial management. Government and independence are still intervened by the government. Leaders' behavior expected by their follower is an optimist transformational leader behavior about organizational future and believes that the organization's goal can be achieved. Such a leadership expected by PTN BLU is a leader who is able to express an idea clearly and openly to other people to ease a goal achievement. A PTN BLU leader also has to have good academic competence, reflected from the ability to produce quality academic work.

### **KEY WORDS**

Transformation, leadership, performance, autonomy, governance.

The existence of higher education has an essential and strategic role in a country's development. Higher education becomes the center of a development for science and technology as well as innovation development center that determines the progress of civilization and improves a country's competitiveness. Various problems are still appeared in higher education in Indonesia, such as uneven access to get higher education, low gross participation rates (APK), tuition fee which is still high, there are still many lectures who never met a required qualification, a limited research quality and publication quantity, lack of available educational facilities and infrastructure, academic culture which never been built well, and there are still many departments or higher education that are not accredited yet. On the other hand, the community's demand for the quality of higher education is getting higher.

PTN BLU is a transformation of PTN expected to be an Entrepreneurial University. For a university, a transformation is a necessity. Reale and Primeri (2015) proposed a problem appeared in several universities' transformation studies, which is how big it influences on the organization and the institution of the academic profession. Several shifting need to consider in the management of a university, such as collaboration with the government, private or company's research institution. The emergence of Entrepreneurial University concept has produced warm debates about relationship changes between academic filed and a market which causes the limitations of science and business more blurred, especially in relation with the norm and academic science practical (Owen-Smith and Poweli 2001; Vallas and Lee Kleinman 2008; Lam 2015). However, several experts have a different insight and rate it positively, even emphasizing to build a convergence between the academic and industrial world which can create a new model in the scientific development. It was even built three-party collaboration (triple helix) or more, namely university, government, industry, and society jointly building a productive relationship (Gibbons et al. 1994; Etzkowitz and Leydesdorff 2000).

The transformation of PTN to PTN BLU gives university change to increase income from the business activity done by a university. An entrepreneurial university is identified to be able to provide a solution from a problem frequently faced by a contemporary university (Pinheiro and Stensaker, 2013). A university transformation with the entrepreneurial university concept causes a change in the management to use a new public management that provides an educational service in a competitive market (Sulkowski, 2016). An organization that facilitates entrepreneurship has a good competitive advantage and performance, eases new financing and gives an alternative to meet socio-economic demand (Bakar and Mahmood, 2014). A university with entrepreneurial university concept is the effect of a university globalization having several functions, among other things, to encourage economic development, utilize collaboration and innovation of interdisciplinary, fulfill the needs of a shareholder, and improve efficiency and transparency (Oinhero and Stenseker, 2013). An entrepreneurial transformation relates to the mission, teaching, and research, and activity of entrepreneurship activity integrated into the environment and internal factor (Guerrero and Urbano, 2012).

The existence of PTN BLU gives an opportunity for PTN to sell product service without highlighting to make profits and in order to run the program is laid on the principle of efficiency and productivity. BLU application is a form of New Public Management (NPM) theory that places government organization unit as an agent of giving service to the society. Flexibility in BLU is an easiness to manage the budget and create opportunities which can be served as an income and directly used to its operational activity. PTN BLU strengthening is encouraged to do so that when it will transform into PTN BH (independent), it actually has an ability and institutional performance which can be proud of.

There are several studies and guidance used by an institution to assess and rank an institutional performance at university. Gaus and Hall (2016) studied the indicator of university performance in Indonesia from the perspective of academics, i.e. the quality of teaching and research. National Accreditation Agency for Higher Education (BAN-PT) determines seven standards in assessing institution performance of university in Indonesia, i.e. Vision, mission, goals and target, and marketing strategy; governance, leadership, management system, and quality guarantee; Student and graduate; Human Resource; Curriculum, learning, and academic situation; Financing, facilities and infrastructure, and information system and research and community service and cooperation. University performance can be assessed from its ability to conduct internalization and include in the world-class university ranking.

Delgado-Márquez et al. (2011) stated internalization from university as an indicator, and this is in accordance with the ranking institution of international university Times Higher Education Supplement (THES) having four criteria with six indicators, namely research quality criteria with two indicators (weight score is 60 percent), teaching quality with one indicator (20 percent), graduate ability to find a job with one indicator (10 percent) and internalization with two indicators (10 percent). Another international ranking institution, which is QS World University ranking, uses a criterion of an indicator and weight score which is almost similar to THES (Huang, 2012). To achieve that kind of performance is needed a leader who is not only able to manage academics activity as a core business of university but also to have a sense of entrepreneurship, which is an ability to create an opportunity and build a network of cooperation in managing and developing institution. For that matter is needed performance indicator of an accountable higher university and can be accepted by all shareholders.

The role of a leader who is able to transform the idea, wants, university's goal to be understood clearly and implemented by internal followers of university and able to ensure external university to cooperate and give support for goal achievement or the realization of vision expected or in other words a leader has to have an ability to improve institutional performance of university. Ulukan (2005) said that a leader has to be able to see and consider a unique characteristic of a university and evaluate a model property before applied. A leader must also develop a method to help another leader or a candidate to understand and manage changes existing around.

Leadership is an important factor in organizational life. A study with the topic of leadership develops into all types of organization, either aiming at generating profits or not, including a university. A number of theories about leadership grow as the context of organization and situation following. A leadership gives a main influence on the organization performance achievement (Bass 1990; Dubrin 2001; Yukl 2001; Bratton 2005). The success of an organization depends on the leader's ability to adapt and resilience to the environment which always change. A leader can bring an organization to achieve the best performance through the process of transformation and communication. A transformational leader influences his/her followers by developing and communicating a collective vision and inspiring them to exceed the personal interest for the good of team and organization (Groves and LaRocca, 2011). A leader also conducts a transactional behavior by making a changing with the follower. At a transactional leadership, social change-based leader results in an expected performance, while the follower is expected to agree and follow the leader to ignore punishment (Masa'deh et al., 2016; Bass and Riggio, 2006). This research aims at knowing the organizational situation and a leadership in the performance improvement of BLU in Indonesia.

### **METHODS OF RESEARCH**

The study was conducted at three Indonesian universities representing an area and the Indonesia's Minister of Research, Technology and Higher Education's version of PTN institution ranking of 2015-2017. Those three institutions selected as a sample were Lampung University (western part, ranking 22 in 2015, rank 18 in 2016 and 2017, was in cluster 2 in 2015-2107), Sebelas Maret University (Central area, rank 9 in 2015, rank 12 in 2016 and rank 11 in 2017, was in cluster 1 in 2015-2017) an Gorontalo State University (eastern area, rank 108 in 2015, rank 47 in 2016 and rank 50 in 2017, was in cluster 3 in 2015 and cluster 2 in 2016-2017). A survey will conduct at every institution to the lecturer and educational staff as a material to analyze the organizational situation and PTN BLU leadership.

Primary data was collected by using a survey method, distributing questionnaire arranged to catch respondents' opinion in considering the condition of PTN BLU based on the observation and or practicing that has been felt. Data was collected by distributing sample to 370 respondents. Sampling collection method used was nonprobability sampling and purposive sampling technique. From that total, a respondent participating was 314 persons which mean the response rate of this study was 85.7%. The data that was dissected relate to the respondents' identity, including gender, education, working duration, type of work, and position, leadership, and institutional performance. A measurement scale used was an interval scale. Data analysis was done by using a descriptive statistic.

### **RESULTS AND DISCUSSION**

A field survey was conducted at three PTN BLU. From 370 questionnaires distributed to respondents, the returned ones were 317 questionnaires and those can be processed were 314. There are 176 persons (56%) man respondents and 138 persons (44%) woman respondent. Respondents who were a lecture amounting to 198 persons (63%) and the educational staff were 116 persons (37%). While based on the age composition, a respondent at the age of 26-30 years old is 32 persons (10.2%), 31-35 years old amounting to 38 persons (12.1%), 36-40 years old amounting to 45 persons (14.3%), 41-45 years old by 52 persons (16.6%), 46-50 years old by 60 persons (19.1%), 51-55 years old amounting to 53 persons (16.9%), 50-60 years old by 22 persons (7%) and above 60 years by 12 persons (3.8%).

A lecturer respondent having an additional task is 63 persons (32%), while a functional lecturer is by 135 persons (68%). An additional task for a lecturer consists of an assistant rector, dean, assistant dean, department head, study program head, and head of technical implementation unit. Educational staff respondents also have a varied assignment

background, as many as 34 persons (29.4%) are assigned at rectorate, 43 persons (37%) are assigned at deanery or faculty administration and the remaining by 39 persons (33.6%) are assigned at department and study program.

A respondent based on the educational background is dominated by a master's degree holder by 114 persons (46%), doctoral degree holder by 74% (23.6%), undergraduate degree holder by 67 persons (21%), associate degree holder by 20 persons (6.4%) and high school graduate holder by 9 persons (3%). All lecturers at least hold a master's degree. This is in line with the application of Law Number 14 Year 2005 regarding Teacher and Lecturers that require a minimum education for lecturers are a Master's Degree.

A respondent reception to the transformation obtains full support from the internal circle, most of them (84.7%) state to agree and strongly agree. A support from the internal circle is an important requirement for the success of transformation. In this context, a leader and academics are a party involved in the internal transformation of a university (Guerrero and Urbano, 2012). A higher average value (91.6%) is also stated by respondents that this transformation will give a positive impact on organizational improvement. A university which makes transformation commonly conducts a simultaneous change on its structure, strategy, and control mechanism that cause an alteration on its ideology, cultural system and power relations in the organization (De Boer et al., 2007).

PTN BLU concept that should gives flexibility to the financial management is still fully not felt by most of respondent (83%) while the remaining state to have provided flexibility in the financing management, even BLU status on higher education is intended to give flexibility in the financing management based on the economics and productivity principle, and the application of a healthy business practice. This also can be caused by a higher education at all countries that truly depend on the financing given by government so that it feels to have an interest to participate in the financing management of higher education.

Good university governance is very universal and generic to apply at every university. Independence principle in the policy determination that is free from various interventions especially from the government is still felt by PTN BLU. A large part of respondents (86%) agrees and strongly agrees that PTN BLU has an independence in determining policy and an organization is not government or bureaucratic's hand extension. As with the autonomy of non-academics management, a large part of respondents (88%) agrees and strongly agrees that autonomy has been run at a university.

The aspect of the organizational human resource becomes the main pillar of PTN BLU in improving the quality of output and institutional competitiveness. Organizational human resource in the higher education represented by lecturers and educational staff has a contribution in achieving organizational goal. A large part of respondents (89%) agrees and strongly agrees that the human resource has fulfilled the qualification that supports performance. Qualification is a minimum requirement that needs to be improved by the human resource in running the task and function in giving a contribution to the organization.

Challenges and demands to the existence of university in dealing with changes and dynamics that are more strict, both at national, regional and international level. At a national level, the acceleration of change is signed by the development of Information and Communications Technology (ICT) that requires PTN BLU to be more adaptive and flexible in fulfilling the needs and demands especially in generating graduate needed by the business world and industrial world. A large part of respondents (86%) agrees and strongly agree to anticipate the demands of national need changes.

At the regional and global level, PTN BLU should make a strengthening for the achievement of a world-class university that becomes one of the indicators of Kemenristekdikti's main performance. World Class University does not only imply a concentrated financial investment but also a comprehensive university management transformation in a global context (Yonezawa and Shimmi, 2015). A large part of respondents (95%) state that PTN BLU needs to get recognition (accreditation and certification) from the global institution, stating that its existence is equal to another university in the global scale. Accreditation and certification conducted by university to get international recognition needs a process of subjective qualification and reputation (Salmi, 2009). Building

a cooperation network with an institution in the regional and global level becomes an obligation trusted by most of the respondents (91%). The cooperation will give an impact, not only a human resource strengthening but also an infrastructure for PTN BLU.

Government support as a regulator (decision maker) and facilitator (facilitation provider) are needed by PTN BLU. A large part of respondents (91.6%) state that Kemenristekdikti gives support to the performance achievement. As with the Finance Ministry, a large part of respondents (89%) also state to give support to the performance achievement. Local government as the partner of PTN BLU, according to the large part of respondents (69.2%), plays a role to give support to the performance achievement. However, a small part of respondents (47%) states that coordination among institution has been done well and reinforcing each other in the performance achievement. Synchronization and harmonization to the policy are truly needed, so will be built synergy among institution in giving support and upholding institution in achieving an expected performance.

In order to get an expected leader is needed a qualification which is in accordance with organizational needs. A large part of respondents (72%) states that the requirement of a determined leader candidate has been in accordance with the organization needs. Arrangement and formulation of a candidate is determined by the ad-hoc team through referring to several regulations and documents and considering organization needs. In addition, a large part of respondents (90.4%) also select a candidate from the internal institution circle since believed to more understand the condition and organizational culture that has been built. This is in accordance with Rasmussen (2015) stating that the best leadership in university is when a leader is prepared from the bottom to top, like that conducted by Norwegian University of Science and Technology that choose rector from the internal circle. It is only a small part of respondents (44.5%) stating that the candidate from the external institution, including from abroad can bring an update for organization.

PTN BLU leadership behavior of this survey used a transformational leadership theory with four dimensions (Bass and Steidlmeir 1999). Those four dimensions are an ideal influence, inspirational motivation, intellectual stimulation, and individual consideration. In addition is also used Bass' transactional leadership theory (1985) with three dimensions, which is relationship award that depends on the situation, active management with exception and passive management with an exception. Other those two theories, an authentic leadership theory by Walumba et al. (2008) is also used with four dimensions, i.e. self-consciousness, moral perspective internalization, a balance management of information and a transparent relationship. A transformational leader is a creative leader who is capable of taking a risk calculated and able to build an innovative and satisfying organization (Bakar and Mahmood, 2014; deng, 2017). A transformational leadership involves and inspires its follower to commit to the vision and a joint goal of an organization or unit, challenges them to be an innovative problem breaker and develops followers' ability through a coaching, accompaniment, and a provision, both support and challenge (Bass and Riggio, 2006).

Respondents' expectation on PTN BLU leader behavior at the dimension of ideal influence is reflected from the average answer of the survey. The biggest average is at the leader's behavior that emphasizes the importance of having organizational's collective mission and a great goal that becomes a spirit for organization member. At the dimension of inspirational motivation, the biggest average score is at the leader's behavior to always talk optimistically about the organization's future and the behavior to disclose the truth that the goal will be achieved. The result at the dimension of intellectual stimulation shows that the biggest average score suggests a new method in the finishing task. Task finishing with a new method enables employee to be spared from boredom and makes them able to finish task more effectively. At the dimension of individual consideration, the biggest average is on the behavior that continuously has different needs, ability, and aspiration from others. A leader understands his/her followers need and act as a mentor or trainer for his/her follower, and listens to the concern and the needs of his/her follower (Judge and Picolo, 2004). An understanding of followers' needs can increase working satisfaction (Bryman, 2007).

Transactional leadership is a leader behavior that uses an exchange or transaction to influence and direct the follower in increasing contribution for organization's goal

achievement. This kind of leadership depends on the contract or a reciprocal relationship between the leader and subordinate (Vito et al, 2014; Jung and Avolio, 2000).

The result of a survey on the transactional leadership behavior at the dimension of related awards that depends on the situation, the highest score is on the behavior of giving a gift to other as a return of their effort and the behavior shows satisfaction when other people meet the expectation. At the dimension of management based on an active exception, the biggest average score is a behavior that centralizes concern on the failure management and a behavior that directs concern on the failure to fulfill the standard. At the last dimension of transactional behavior, which is a management based on the passive exception, the biggest average score from the respondent at the failure behavior anticipates until the problem becomes serious and the behavior waits for the wrong something before taking an action. A leader who uses a management of active exception will monitor the follower performance and take a correlative action, while a leader with a management of active exception enables the quo status and will only conduct intervention when a problem has been so serious (Deng, 2017).

If being compared, the average value of transactional leadership behavior is still smaller than the average value of transformational leadership. For that matter, the respondent will more choose or want a transformational leadership for PTN BLU leader. This matter can be understood because a transformational leader gives an example, tries to inspire and motivates subordinate to achieve the goal and works beyond expected by the organization. The understanding of the needs of subordinates also makes them feel honored and cared for by the leader. Leaders can use transactional leadership to achieve the expected goals; they can also use transformational leadership to achieve higher goals, which require changes in attitudes, abilities, and beliefs of followers (Deng, 2017).

An authentic leadership is a pattern of leadership behavior that uses and supports psychological capacity and a positive ethical climate to strengthen self-understanding, moral perspective, balanced information processing, and transparency of the relationship between leaders and followers to strengthen a positive self-development (Walumba et al, 2008).

The survey results on authentic leadership behavior and the dimension of self-awareness, the highest average value is on the behavior clearly realizing its influence on others and behavior to ask for feedback to improve relationships with others. In a transparent relationship dimension, the highest average value is a behavior expressing an idea and thought clearly to others and openly sharing information with others. Submitting ideas clearly and openly makes other people able to carry out tasks well and facilitate the achievement of organizational goals. In the dimension of internalizing the moral perspective, the highest average value is behavior that shows consistency between beliefs and actions and behaviors carried out guided actions based on internal moral standards. Authentic leaders can understand themselves better through a reflection of self-introspection about values, identity, emotions, and motives and goals (Larson and Eid, 2012). In the final dimension of authentic leadership behavior, which is a balanced information processing, the highest average value is the behavior of analyzing relevant data objectively before making decisions and behavior to listen carefully to alternative perspectives before reaching a conclusion.

The competency model is very useful in order to identify the knowledge, skills, and behavior needed in order to develop leadership and achieve the organization's strategic goals (Spendlove, 2007; Naquin and Holton, 2006). In this study, leader competencies are grouped into four categories, namely academic competencies, business competencies, managerial competencies, and ethical competencies. As a leader of academic institutions, a leader must certainly have academic competence. Academic competence is seen from the ability of PTN BLU leaders to produce quality academic works. In addition is the ability to build a dynamic academic culture and the ability to carry out academic quality assurance on an ongoing basis. These three academic competencies obtain very high average scores from respondents.

Business competency is needed by the leaders of PTN BLU in increasing the value and income of the institutions used in providing services to stakeholders. Business competency is seen from the ability of PTN BLU leaders in understanding the institutional

business context by providing solutions to the problems faced. In addition, the ability of entrepreneurship in creating innovations that generates income for the institution. Another business competency is the ability to build a network of cooperation, especially with the business world or industrial world that provides mutual benefits.

Managerial competencies relate to the managerial activities in designing, implementing and evaluating activities that can support performance. Managerial competence of this study consists of decision-making ability in implementing organizational strategic plans, the ability to design organizations that are adaptive to the dynamics of changes in the organizational environment, the ability to build communication in the context of coordination to ensure commitment in achieving the goals and ability to solve problems by providing learning in each organizational level. Respondents also gave high average scores on managerial competence.

Ethical competence includes the aspects of value management, development and moral reasoning, public and personal morality and ethical skills. The ethical competence is related to the ability to manage organizational values as a basis for organizational practice, moral reasoning ability as a basis for ethical decision making in policy setting, the ability to understand ethics as a means of dealing with organizational conflicts and the ability to reject behavior that is contrary to ethics.

The regeneration process of the PTN BLU leadership is held once every four years, as a period of leadership. Regulations allow the PTN BLU leader to continue for one return period while still meeting the requirements related to age. A large part of respondents (89%) stated that there must be a willingness to share experiences with the leaders who replaced them. Sometimes, there is reluctance from the successor of the leadership to continue the policies or programs that have been implemented by the predecessor, even though the policy or program is quite good. Therefore, it frequently hears the term "changing the leader means changing the policy".

The existence of gaps in building relationships between old leaders and their successors allows the absence of sustainability of policies or programs that have been carried out in the previous period. Most of respondents (88%) agreed and strongly agreed that there was a need for continuity or sustainability of policies or programs that would benefit the achievement of institutional performance. Every period of leadership is expected to have a legacy (inheritance) which is a milestone for the progress of each period. This legacy should be in harmony with the road map which has been compiled in the long term as a continuous organizational performance.

The performance of PTN BLU can be measured from the achievement of academic performance and financial performance. Academic performance uses standards determined by Kemenristekdikti. While the financial performance use the standards determined by the Ministry of Finance. As an academic institution, academic performance should be the main measure, while financial performance is more like a supporter (supporting) for academic performance achievement. In addition to using the measures set by the Ministry of Research, Technology and Higher Education, the academic performance can also use the standards used by global accreditation institutions and global university rating agencies. Academic performance standards frequently used by the Ministry of Research and Technology are accreditation issued by BAN-PT, both for study programs and at the institutional level. Accreditation assessment standards use seven standards, which assess academic aspects that consist of the implementation of the three pillars of higher education and non-academic aspects as supporting consisting of facilities, financial human resources, and information systems. Respondents stating that academic performance are in line with the Kemristekdikti target is 79%. The financial performance standards used by the finance ministry use indicators of financial aspects and service aspects. Financial aspects are assessed from the analysis of financial statements in the form of financial ratios and compliance with the BLU PK regulations. Service aspects are assessed based on the quality of services provided and benefits to the community (including the customer satisfaction index).

Institutional performance achievement will have an impact on the satisfaction of all members of the organization. Organizational member satisfaction will give rise to increased

commitment and contribution in the future. Respondents stating that all members of the organization were satisfied with the institution's performance are 59%. There is still the potential to increase satisfaction by increasing performance. Whereas 82% of respondents stating that all members of the organization are ready to contribute to support the achievement of better institutional performance and realize a world-class university.

### **CONCLUSION AND SUGGESTIONS**

The transformation of a university into PTN BLU gets internal support and is felt to have a positive impact on the progress of the organization. However, the transformation carried out is felt not to provide flexibility in the financial management of PTN BLU. In terms of PTN BLU governance, the independence is principally felt to be not maximal especially in terms of autonomy and policy setting without government intervention. In carrying out the transformation, the human resources of PTN BLU have fulfilled the qualifications, competence, motivation, and integrity that support performance. PTN BLU seeks adaptive to face the demands of change at the local, regional and international levels and to strengthen the achievement of world-class universities. Government support is also needed in achieving the performance of PTN BLU.

To meet the needs of PTN BLU, the leader of PTN BLU was chosen from internal institutions, because it was believed to better understand the conditions and culture of the organization that had been built. The leader's behavior of PTN BLU can be transformational or transactional, but the behavior desired by followers is the behavior of transformational leaders who are optimistic about the future of the organization and have confidence that organizational goals can be achieved. The leaders' authenticity expected in PTN BLU is leaders who are able to convey ideas clearly and openly to others to facilitate the achievement of goals. A PTN BLU leader also has to have good academic competence, reflected from the ability to produce quality academic work.

In the leader's regeneration process, policy sustainability is expected to achieve the performance set by the PTN BLU. The performance of PTN BLU can be measured by academic performance and financial performance. Academic performance is the main measure directed at achieving a world class university, while financial performance is a supporting performance in achieving academic performance.

The results of the study indicate that the process of transforming universities into PTN BLU in Indonesia has not gone well. Synergy from various related institutions is needed in order to maximize the management of PTN BLU in order to achieve the best performance by providing flexibility in financial management and autonomy in carrying out university governance, the process of recruiting leaders who are free of intervention and various competencies is also needed so that PTN BLU can develop into an entrepreneurial university which is able to provide the best academic performance.

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DOI <https://doi.org/10.18551/rjoas.2018-12.20>

## **INCLUSIVE EDUCATION SERVICE MANAGEMENT TO REALIZE PAMEKASAN REGENCY AS A FRIENDLY CITY FOR CHILDREN**

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### **ABSTRACT**

The way of providing for a child with special needs or education inclusive is one of indicators of the realization of Pamekasan regency as a child friendly city. This study tries to give explanation to the form of the management of education services which used in Pamekasan especially in order to realize the Pamekasan regency as a child friendly city and the ability of the district government Pamekasan in adjusting the implementation of local regulation No.14 years 2015 about the city to children friendly. In this study use research methodology descriptive with qualitative approach. The method of analysis of the data use the interactive model of analysis) Miles and Huberman. One of the ways express its strongest the sensibility of the government to the society is means of providing some selection planes study on public service delivery. The choices that were given by the government for a child with special needs disabled athletes in education sector promised to supply maintains its inclusiveness a case where a school who are widely dispersed across 13 sub-districts in Pamekasan. Through a program called the implementation of education inclusive school expected will be able to modify the curriculum to balance of learning which the activity is by children are given with special needs disabled athletes and the son of normal. In fact, the project of this curriculum has not been able to applied in every school, that runs education inclusive in Pamekasan. The local government of Pamekasan has been to inform about law on Number 14 of 2015 about children friendly in principle as a commitment of written in the holy scriptures, initiative between the governments of the regions with the local parliament. In an effort to create children friendly area. On the concept of children friendly area, the developed system of driven development is the rights of the child, through master class in collaboration our productive resources development of the regional governments, from people and business that are set out in the form of clear policies, programs and activities in order to ensure the places would remain unfilled and the rights of the child.

### **KEY WORDS**

Service, management, inclusive education, child friendly city.

One of the government's efforts in children protection activities is through the development of Child Friendly Cities (KLA). KLA is a district / city that have a child rights-based development system through the integration of planned and comprehensive government and community commitments and resources in a comprehensive and sustainable manner in policies, programs and activities to ensure the fulfillment of children's rights.

Law Number 23 of 2002 concerning Child Protection explains that child protection is all activities to guarantee and protect children and their rights so that they can live, grow, develop and participate; optimally based on human dignity, get protection from violence and discrimination. The government has responsibility of providing services to adults as well as to children. Children are the next generation of the nation. Therefore service to children is very important prioritized in order to create a quality future generation. The new Child Protection Act includes articles on Special Protection, Article 59 states: "Governments and other State

Agencies are obliged and responsible to provide special protection to children in emergency situations, children who are faced with the law, children from minority groups and are isolated, economically / sexually exploited children, trafficked children, children who are victims of narcotics, alcohol, psychotropic, and other addictive substances (drugs), children abducted, sold and trafficked. Children who are victims of physical and mental violence, children who have disabilities, and children as victims of mistreatment and neglect”.

Protection for children, both of normal and children who have special needs, which are protection in the field of education. Getting proper education for children is a right for all children. The Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System provides another color in the provision of education for children with disabilities. Also encouraged by Local regulation especially concluded on Number 17 of 2010 concerning management and implementation of education. Inclusive education is basically an educational delivery system that provides opportunities for all students who have abnormalities and have potential. Intelligence and / or special talents to participate in education or learning in an educational environment together with students in general. Along with the development and progress of this era, institutional reforms that serve children who have abnormalities have been widely carried out, in the past the institutional forms that served children with special needs were many that were separate from the community in general and one of the activities needed to realize a decent city in the Regency Pamekasan is the availability of education for children with special needs, this has been stated in the Pamekasan District Regulation Number 14 of 2015 concerning Eligible Cities, providing education for children with special needs is proof of accountability from the Pamekasan Regency government.

Accountability can be interpreted as an external responsibility or can be interpreted as a responsibility to the creditor. To meet the requirements of achieving accountability, an organization must be able to implement 3R, namely Responsibility, Responsiveness and Representativeness. Responsibility or can be interpreted by the responsibility of the individual in carrying out the tasks given as well as possible. While responsiveness is responsiveness to public problems. Responsiveness must be followed by the provision of services in accordance with the wishes or expectations of the community. Therefore, an alternative education system is also needed which is provides an opportunity for the expansion and improvement of the quality of education services for children with special needs or possessing potential intelligence or special talents.

To improve the quality of education services for children with special needs, the inclusive education service model is needed, where there is a model or education system that provides opportunities for all children to obtain quality, humanist and democratic education services. Providing services for children with special needs or inclusive education is one of the things that have become an indicator of the realization of Pamekasan Regency as a Child-Friendly City.

This study tries to describe the form of education service management used in Pamekasan specifically in realizing Pamekasan as a Child-Friendly City. John Stuart Mill 1926 in (Thoha, 2008: 121) adds altruistic behavior, meaning that in determining problems and public interests must be based on behavior that emphasizes the interests of others relating to awareness, sympathy, or other impulses.

## **METHODS OF RESEARCH**

This study uses a descriptive research method with a qualitative approach. The data sources used are primary data and secondary data. The techniques of collecting data with interview and documentation. The instruments used are researchers, interview guidelines and field notes. The method of data analysis used Interactive Model of Analysis) Miles and Huberman which has been developed by Johnny Saldana (2013) which has four main components, among others; data collection, data reduction, data presentation, and drawing conclusions / verification. In this study the location of the study is Pamekasan, with data collection in the Regional Devices Organization, among others; Pamekasan Regency

Bappeda, Pamekasan District Education Office and Women's Empowerment and Family Planning Empowerment Office, Pamekasan Regency. With the focus of research on Management of inclusive education services in Pamekasan Regency and how the ability of the Pamekasan Regency government to adjust and implement Regional Regulations Number 14 of 2015 concerning the City of Eligible Children.

## RESULTS AND DISCUSSION

Ratminto (2010) said that another factor that is also very important in public service management is the operation of a service system that focuses on the interests of the community. Services can be very inadequate if the system implemented does not favor the interests of service users. So the existence of a public service management that will be able to help every institution to maximize in providing optimal service. The paradigm of administering a government that prioritizes service to the community as the goal of regional autonomy today is also emphasized in Law No. 25 of 2009 concerning public services. It is stated that public service is an activity or series of activities in order to fulfill service needs in accordance with the laws and regulations for every citizen and resident for the goods, services, and / or administrative services provided by public service providers (article 1 paragraph 6)

*Inclusive Education Program Realize Pamekasan as a Child-Friendly City.* Pamekasan Regency has prepared various programs for children. The involvement of several Regional Organization Organizations (OPD) to realize Pamekasan Regency as a Children Friendly City has been carried out. In terms of education, the Pamekasan Regency government has assigned the Education Office as the Leading Sector program for these children. One way to show government sensitivity to society is by providing several service options. The choice given by the government for children with special needs in the field of education is the existence of inclusive schools spread in 13 sub-districts in Pamekasan Regency. In addition to the spread of inclusive schools, the government still maintains exceptional schools. This is in accordance with one of the principles of the new public service, Serve citizens, not customers. That the public interest is the result of dialogue about shared values rather than the aggression of individual personal interests, the public servant does not merely respond to the demands of the customer but instead focuses on building trust and collaboration with and among citizens.

The inclusive education program in Pamekasan begins with a step to mandate the Pamekasan Education Office in charge of coordinating various activities to support the implementation of inclusive education in Pamekasan. One of the efforts made by the Pamekasan Education Office in realizing inclusive education services by coordinating school readiness - schools in implementing inclusive education services in Pamekasan and formulating flexible curriculum (teaching materials).

The Pamekasan's Government has provided access to facilities so that children with special needs are able to adapt both of the environment and learning. So through the Pamekasan Education Office, elementary and junior high schools that have students with special needs, a workshop is held for special guidance teachers (GPK). This event was attended by 78 GPK from 13 sub-districts. They will be a companion of children with special needs in their respective schools. Both children are slow in learning, blind, speechless, mentally disabled and others. The material taught in the workshop. Among other things, identification of children with special needs and learning assessment for students with disabilities. This activity was held at Bugih Elementary School 1, Pamekasan City. Through this workshop or program the school is expected to be able to modify the curriculum to balance learning activities given to children with special needs and normal children. Modification of the curricula is to adjust the existing curriculum with the ability of students with special needs. Modification of the curriculum consists of:

1. Modification of objectives, namely the learning objectives in the general curriculum is changed to suit the conditions of students with special needs. Modification of contents,

namely subject matter for regular students is changed and adapted to the conditions of students with special needs.

2. Modification of processes, namely differences in learning activities undertaken by students with special needs with students in general.
3. Modification of evaluation, namely changes in the scoring system to suit the conditions of students with special needs. Modification of the curriculum is not always applied to all children with special needs, but only some children with special needs are considered to need curriculum modification. In addition to the modification of the curriculum, the access provided is also in the form of additional classes. This additional class is useful for children with special needs who experience difficulty following the lessons given in class. Additional classes are held outside of class hours

In its implementation in Pamekasan this modification of the curriculum still cannot be applied comprehensively in elementary and junior high schools in Pamekasan. This condition is due to the understanding of the Principal and the teaching staff in the school that they still have a poor understanding of inclusive education. Difficulties in implementing this Inclusive education provider in this case inclusive schools have also been given information about the inclusive education system. Information is not only given to teachers, but also school employees. Information aims for teachers and employees to know about inclusive schools. Information can be notified directly by the relevant agency through the inclusion coordinator. An inclusive coordinator is a teacher who is appointed as the responsibility in the implementation of inclusive education. In addition, information related to inclusive education continues to be provided by the Pamekasan District Education Agency through various activities in the form of trainings or comparative studies to other districts.

*Services from Educators in organizing Inclusive Education in Pamekasan Regency in the Public Service Perspective.* Ratminto said that a good service management model consists of elements such as: service resources, organizational culture, service systems and customers. So the concept of service can be measured properly because of the standard of service provided. Referring to the statement, there is a bargaining interest in the service that is balanced between service providers and service recipients in their position as citizens who are entitled to good and correct services in accordance with the New Public Service concept, namely assuming that service recipients are not mere consumers, but rather leads to the fulfillment of rights as citizens (Denhardt & Denhardt, 2003).

Things needed in inclusive education services are professional educators (teachers); have knowledge of skills and attitudes about the material to be taught or trained; understand students. In Pamekasan the quality of teaching staff that are competent in inclusive education is still low. The services they provide are still the same or do not have special competencies to deal with disabled students. This is due to the output of education personnel printed by universities not provided with knowledge of inclusive education. In addition, teachers or teaching staff for children with special needs in Pamekasan Regency only get training or training related to the implementation of inclusive education in Pamekasan District, but education personnel have not received special training related to children's rights, training or training has not been realized in Pamekasan Regency due to budget constraints owned by Pamekasan Regency.

*The Role of Educators and Education in Organizing Inclusive Education in Pamekasan Regency in the Public Service Perspective.* Educators and education is one of the important elements in inclusive education. Education personnel in inclusive education receive a clearly different portion of responsibility from education staff on inclusive education. Education staff generally has roles such as implementing teaching activities, managing, developing, researching, training and providing technical services in the field of education. The roles and positions of each are described below:

1. Principal. In education units provide inclusive education. Principles have the task of accommodating, coordinating and organizing teaching and learning activities in schools. Starting from planning, implementing, and evaluating activities. In this case, principle becomes a key role in consolidating all school equipment, especially classroom teachers in the service of children with special needs.

2. Classroom and subject teacher. In the classroom, the teacher is responsible for managing learning and administration in his class. Internal subject teachers in providers of inclusive education have the same tasks as subject teachers in general, but for subject teachers in schools provide inclusive education needs to be equipped with additional knowledge about special education. In this case subject teachers, together with special education teachers arrange adaptive learning designs in accordance with the conditions of their students without neglecting the substance of the next subject to teach, monitor and evaluate student learning outcomes. Class teachers and subject teachers create conducive classroom management, learning atmosphere and interesting strategies.

3. Special education teacher. Special education teachers are teachers who have a special educational background or extraordinary education or who have received training in special / outside education assigned to inclusive schools. During the education process, special education teachers have roles and positions and authority. The role of exceptional education teachers as supervisors, advisors, directs service providers. To support their duties and roles, special education teachers have identities, self-confidence and professional personalities to be applied in inclusive education.

4. Committee. In the implementation of inclusive education, the role of the school committee as a consideration in determining the implementation of education policies, providing support to schools in the form of thought, energy, finance and controllers in the context of accountability and transparency in schools, as well as mediating between the government and the community at school.

*The Government's Capability in Adjusting and Implementing Regional Regulations Number 14 of 2015 Concerning Eligible Cities for Children.* It is said that Child-Friendly Districts / Cities are districts / cities that prepare everything that is needed by children, both physical and non-physical needs. Whereas the Eligible Child District also means that Districts that meet indicators (there are 35 indicators) or interpret the district / city development model integrative in order to fulfill children's rights means that all development such as education, health, infrastructure, family and community environment are right really according to the needs of the child. The Pamekasan District Government has socialized the Regional Regulation No. 14 of 2015 concerning Child-Friendly Districts in principle as a form of written commitment, between the Regional Government and the DPRD, in order to realize a Child-Friendly District.

In the concept of Child-Friendly Districts, a Child Rights-based development system is developed, through the collaboration of local Government, community and business resources as contained in policies, programs and activities to ensure the fulfillment of children's rights. In the theoretical level, the fulfillment of the Rights of the Child includes 5 (five) Clusters, namely:

1. Civil and Freedom Rights;
2. Family environment rights and alternative care;
3. Basic health and welfare rights;
4. Educational rights, utilization of leisure time, and arts and cultural activities; and
5. Special protection rights.

Regional Device Organizations that have been designated as task forces in the implementation and realization of the KLA of Pamekasan Regency based on the Decree of the Regent of Pamekasan Number 188/622 / 432.131 / 2013 dated December 13, 2013 must really understand their respective duties, then understanding the task will be fast what are the needs and rights of children. The objectives of the Eligible District / City policy are:

- To increase the commitment of the government, the community and the business world in districts / cities in an effort to realize development that is responsive to the rights, needs and best interests of children;
- To integrate the potential of human resources, finance, infrastructure, methods and technology that exist in the government, society and business in the district / city in realizing children's rights;

- To implement child protection policies through the formulation of strategies and district / city development plans in a comprehensive and sustainable manner in accordance with KLA indicators; and
- To strengthen the role and capacity of district / city governments in realizing development in the field of child protection.

More and more people are utilizing services and more choices are given by the government. It needs to be accompanied by the regulation of service delivery in the form of regulation. The Government's Capability in Adjusting and Implementing the Pamekasan Regency Regulation Number 14 of 2015 concerning Child-Friendly Cities, conducted by selecting the Office of Women's Empowerment, Child Protection and Family Planning to become a Leading sector in realizing child-friendly cities, providing various supporting services prepared by the District Government Pamekasan, both from program planning to program implementation. One of them is an inclusive education program managed by the Pamekasan District Education Office.

### CONCLUSION

Pamekasan has prepared various programs for children. The involvement of several Regional Organization Organizations to realize Pamekasan as a Child-Friendly City has been carried out. In terms of education, the Pamekasan Regency government has assigned the Education Office as the Leading Sector program for these children. Pamekasan Regency Government has provided easy access so that children with special needs are able to adapt both in the environment and in learning, to realize the best inclusive education so that Pamekasan Regency becomes a decent city Government children ask schools to be able to modify the curriculum to balance learning activities given to children with special needs and normal child. The Pamekasan District Government has socialized the local Regulation No. 14 of 2015 concerning Child-Friendly Districts in principle as a form of written commitment, between the Regional Government and the DPRD, in order to realize a Child-Friendly District. In the concept of Child-Friendly Districts, a Child Rights-based development system is developed, through the collaboration of local Government, community and business resources as contained in policies, programs and activities to ensure the fulfillment of children's rights.

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DOI <https://doi.org/10.18551/rjoas.2018-12.21>

## WOMEN'S ROLE POLICY IN DEVELOPING THE FAMILY ECONOMICS

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### ABSTRACT

This research aims to describe, analyze and evaluate in depth of the women's role in the economic development in helping a family's income and economic development both in the village and urban levels. This research uses a case study approach as the qualitative method by interviewing 20 families in Mungkid Village, Mungkid Subdistrict, Magelang Regency, Central Java, Indonesia. This study finds that the economic development by women in Mungkid Village can give short-term and long-term solutions. Women's role in business development also motivates the family in the long-term. Thus, it can be seen from several things in economic development: *First*, it can motivate the family and the surrounding environment. *Second*, it can fulfill the educational needs. *Third*, it can fulfill the household needs including home improvement. *Fourth*, it can be seen as one of the forms of new change in gender equality as a form of mutual justice. The role of women in economic development needs to be regulated in law to guarantee incentives and employment. The law that regulates the existence of female workers should also regulate the received salary which is based on the regional's minimum standard of wage. Theoretically, it is expected that this research can strengthen the theory of women's role in the development, the strength of family's economy. On the other hand, the government role is expected to regulate and manage women labor as the effort to develop the family's economy as well as paying more attention in the laws specializing in women labor and the regulations to implement it.

### KEY WORDS

Policy, women labor, family's economy, public service.

Many groups are paying a lot of attention to workforce issue, either in male and female labors. An improving education level among women in the latest century has changed them in the developing county. However, this condition has not had a significant impact in Indonesia. Although there are few groups in urban and rural areas who are getting more self-confidence and even capable of adjusting themselves with men in agriculture, mining, manufacturing, energy, trade, transportation, public services working fields. But the viscous dominance of men in Indonesia, especially by questioning the gender barrier, women's roles is seen as a complementary in economic development.

Seriously discussing the women's role in the economic fields and sectors requires a long time and it will not be easily done. Especially, when the discussion about women extends to various fields in our daily life, both in the present and the future. The increasing role of women has been proven by the higher rate of women labor from year to year. If we look at development from 1990 the new working force of working women was 34.4% which has increased to 67.6% in 2017 (Siswanto, 2017: 31) in the future, it is expected that increasing social acceptance of working women will increase the women's role in the economy.

On the other hand, it depends on the readiness of the women in facing the competition for jobs by improving their resources quality in accordance with the job sectors which are also in line with their nature and strength as women.

By looking at various external constraints, there is still discrimination or inequality between the distributions of female workers in the type of job. This measurement is very important even when there is no impact on the jobs market. However, it can be clearly seen during the final determination or during the execution of its task in real condition. It is caused

by the inherent thinking of Indonesian about women in the family environment. It is very important to evaluate working women by reviewing the productivity of working women in economic activities. This is important to do so that women can get an objective assessment by eliminating classical aspects expected by the community and economic actors can fairly evaluate women's role in the economic sectors.

Generally, it has been acknowledged that women's role in economic development is very high. In which they are able to help the family income and the economic development in the village up to urban levels. One of the policies sought by the Local Government up to Village Government is to improve women's role which is not only as the housewife but also a productive worker and become the new investment of economy sources in the family.

Mungkid Village, Mungkid Subdistrict, Magelang Regency, Central Java, Indonesia, is one of the villages that try to encourage its community to improve the economic development. One of the women's roles in the economic development in Mungkid Village is the huge number of women working in the agricultural, services, and unskilled laborers sectors. Although these types of work are considered to be inappropriate, many women in Mungkid Village are very motivated to do it. According to Monograph data of 2017 of Mungkid Village, nearly 60 percent of women work in those sectors.

In general, what is done by the women in Mungkid Village, Magelang Regency, Central Java has disturbed the family members. However, they still have to do it with motivation and the basic needs that they have to fulfill. In terms of economy, it has helped the family needs a lot both in terms of education or unpredictable family needs in the future. Hence, the working women in Mungkid Village, Magelang Regency Central Java can visibly improve the economy and develop the Mungkid Village, Magelang Regency Central Java as the new source of the economy.

## LITERATURE REVIEW

Often in the everyday experiences or in the research activities, when we approach a mother carrying her baby while cleaning the house or washing clothes and ask whether she works, she will say that she is not working or "unemployed". Similarly, when we see a woman sitting around in her house courtyard weaving mat to be handed over to peddlers during the weekend and we ask her neighbor or even the head of RT whether the woman works or not, the answer will be "unemployed" or simply "occupying free time", or doing "side job".

The definition of work is often not only related to what someone does but also the background of the work, and the social opinion given to the job itself (Moore, 1988:43). In our today community, there has been much commercialization with the market orientation which often has a tight differentiation between wage labors or work that generates non-wage income and work or non-income-generating work. Wage labor is considered as productive work, while non-wage work is considered as unproductive. This kind of view is actually inseparable from the two kinds of cultural biases in our society. First, the idea that money is the measurement of value/meaning of an activity. Second, the tendency to make a sharp dichotomy about all the existing symptoms.

In reality, there is a difference between women and men regarding the issue of women's employment opportunities, especially in terms of obtaining education and training as well as improving career in the field of work. This can arise due to stereotypes in the community regarding the women's role. Some psychologists indicate that there are some obstacles for women to be more successful, namely external and internal barriers. External barrier arises because of the influence of feminism. Hence, the type of work that should be carried out is a manifestation of the stereotype of women. The external barrier can also arise due to the discrimination and lack of government funding in providing education, where women are usually the last choice in getting an education. Meanwhile, the internal barrier is caused by Horner effect, Cinderella complex, and low academic confidence. Horner effect is a condition where women having fear of success syndrome when facing a competition with men. It can cause women to achieve far below their real capability. While the Cinderella complex is the nature of dependence on protection and care (Tjiptoherijanto 1996: 124-125).

Basically, the number of wages in the market will vary in various positions, even with the same human capital. This wage difference will reach the optimum level (in terms of economic well-being) provided that everyone has the same opportunity in achieving his or her expert position as an or as an expert. In terms of assumption, it can be said that business actor perceives workers to have the same expertise as a perfect substitution. But in reality, this assumption will be applicable because of discrimination practices. One of which is sex discrimination or the differentiation between men and women (Bellante & Jackson, 1990: 273-274).

Indeed, the income gap between men and women or gender wage gap is one of the indicators of women's disadvantaged position in the labor market. Data show that in almost all countries and types of economy in the world women have an average income of two-thirds of men's income, according to United Nation in 1999.

Although there has been a lot of empirical literature on the issue of discrimination, there is no size consensus as to what is the best thing to do for the influence of discrimination (sex) in the labor market. It is difficult to find the conclusion that current labor market discrimination is not the only cause of less than one ratio of women/men (Bellante & Jackson, 1990: 284-285).

The quantitative approach for such cases is shown by an index of dissimilarity in the type or kind of work between men and women. The index of dissimilarity refers to the calculation of whether the proportion of female workers in one type of work is balanced or appropriate (similarity) or inappropriate (unsimilarity). The purpose of calculating this index itself is to see whether the percentage of men and women workers is spread evenly across all types of work. The lower index shows that the comparison between men and women workers in one type of work is in an increasingly balanced condition (Tjiptoherijanto, 1996: 121).

In this situation, it is understandable why women's task is often invisible because according to our society (although not all societies) the involvement of women is often doing work that does not bring income or is not done outside the home (even though it brings income). Although it sounds quite rude, an opinion of an economist named A.C. Pigou stated that this situation is quite businesslike. "If all men marry their housemaids, the indicator (statistics) will show a decline in women's participation in the workforce and a reduction in national income. Because, as housewives, they will not be re-registered as wage earner and they will not be taken into account in national statistics. They become "invisible women". They are not considered as working people or earner and they will be considered as unproductive. This is precisely caused by the household work which is not paid work, thus it is not recognized as a job." (Hong, 1984: 6).

In the literature of women's study, people often make a dichotomy between what is called productive work and reproductive work since the categorization of work. It is said that in every society there must always be productive work (producing something) for the survival of its people and there must be reproductive work (literally: replacing what has been used up or lost) for the preservation of the social system or structure concerned. This discussion began to emerge in the late seventies when feminists began to study the origins of the writings of Frieder Engels and at the same time developing them more. By using these two concepts, women and social science experts have begun to realize that work that indirectly produces something, such as childcare, service to household members, sewing or washing dishes are also part of work. The reason is that community members cannot do productive work if some basic things in their household are not done. However, reproductive work does not only concern what happens in the household but also in society, for example, activities that guarantee the preservation of existing social structures, such as life cycle ceremonies or social activities in the community. There is often confusion about the meaning and use of the concept of reproduction. Edholm et al (1977) distinguished between biological reproduction (i.e. childbirth); labor reproduction (which means socialization and childcare prepare them to become the next labor reserve); and social reproduction (the process by which the relationship between production and social structure continue to be reproduced and preserved). The nature of women's work is usually associated primarily with the first two

forms of reproductive work (biological and labor reproductions), however, women also play an important role in the work of social reproduction, such as in the work that preserves family status or in community activities.

## **METHODS OF RESEARCH**

The type of this research is qualitative research. Moleong (1998) defined that qualitative research is a particular tradition in social science that is fundamentally dependent on observation. Whereas according to Bogdan and Taylor (1975, in Moleong, 1998) a qualitative approach is directed at the background and the individual holistically concerning the participation of women labor in the Mungkid Village, Mungkid Subdistrict, Magelang Regency, Central Java, Indonesia.

The purpose of this research is to provide a detailed description of the background, typical characters, typical personalities from the happening case or event or individual status which from its typical personalities will be made into a general matter (Kuntjaraningrat, 1977: 57). Meanwhile, the reason for choosing a descriptive research method is based on the consideration that descriptive research can produce a careful measurement of certain social phenomena.

This research tries to analyze the women's role and their reason to work. In the context of the research that will be conducted, the researcher tries to fundamentally observe how the role of women in economic development is seen based on the proportion and productivity in the Mungkid Village, Mungkid Subdistrict, Magelang Regency, Central Java, Indonesia.

This research would be carried out in Mungkid Village, Mungkid Subdistrict, Magelang Regency, Central Java, Indonesia. The reasons for choosing this research site are: First, the level of working women in Mungkid Village, Mungkid Regency is very high. Second, in general, there should be a serious attention both from the government or business actor in developing the economy especially in Mungkid Village, Mungkid Subdistrict, Magelang Regency, Central Java, Indonesia.

Data collected in this research will be obtained using related various stages namely:

- Data from Mungkid Village, Mungkid District, Magelang Regency. And a direct interview with Village Officers, Community Leaders, female workers, and related parties in this study in Mungkid Village;
- From the documents relating to the facts of this research, namely literature from the village library or other data which support the theme research.

Data collection is carried out by conducting intensive observation, the observation is mainly focused on factors such as the condition of service facilities, the implementation of services and so on.

Interview. This method is carried out because the researcher wants to obtain clearer information in Mungkid Village through community leaders, village officials and female workers.

Utilization of Secondary Data. The secondary data includes statistics on research report, regulations and so on, this data serves to complete the analysis and strengthen the conclusions obtained.

The data collected in this research will be analyzed using descriptive analysis in accordance with the problems and answers in the field. The writing systematics is in accordance with the problems and the proportion in productivity of economic development carried out by female workers in the Mungkid Village, Magelang Regency.

## **DISCUSSION OF RESULTS**

Recently, the importance of economic resources has received more attention and has been seriously highlighted from various parties, both from the public sector and the private sector. Various seminars, training, and courses, workshops, and the like, all emphasize economic resources. All parties seem to realize the importance of economic resources for the society.

The importance of economic resources can be highlighted from various perspectives, for example, highlighting the relevance and importance of human resources from four perspectives, namely politics, economics, technology, and socio-culture. According to Siagian (2000: 7), who further explained six perspectives or approaches in explaining the relevance and importance of economic resources. The six perspectives are political, economic, legal, socio-cultural, administrative and technological.

The importance of economic resources from this perspective leads more to the macro angle. However, it is assumed that in the end, the macro impact will also have a macro impact which will eventually touch the micro angle of human resources. In this perspective, the relevance and importance of economic resources is an important asset owned by a country up to the village. Economic resources are very positively influential for the success and progress of the region.

General opinion on the importance of the role of economic resources in the survival of every organization is clearly undeniable, and it does not reflect the importance of other determining factors. Hence, the statement that human resources are the most dominant factor is still widely respected because an organization that wishes to guarantee its acceleration surely needs the role of quality human resources. It is continued to develop adaptively and competitively in facing changes both culturally and externally (Triputro: 2001: 15).

According to Triputro (2001: 15 ), it is necessary to make the target of increasing economic resources in facing globalization and the consequences of broad economic policy because regions in Indonesia are currently far behind the regions in some countries. Regions that are currently struggling towards independence and community empowerment desperately need reliable human resources. Especially from the regional bureaucratic apparatus which is the driving force of government organizations as well as regional instruments as community service institutions.

Relating to the possibility of resistance to efforts in changing and innovating, the restructuring steps of the regional bureaucracy are the appropriate step. Fundamentally, modern organizations including the public sector are an open system. As a consequence according to Daft (1982: 4), the organization must be able to interact and adapt to the environment and continuously make efforts to change along with the process of environmental change itself in order to keep existing. For the government, it is necessary to change the method of the organization, the structure, and the guidelines for implementing the work.

The study of economic resources within the framework of the system is organization/institution of the local government bureaucracy. This economy is very decisive because its success will greatly determine the effectiveness of other resources. In the context of changes and improvements in services, HR management will strongly support the creation of effective and efficient bureaucratic performance in the service.

In general, the study of women's war in economic development is a series of activities ranging from education and experience, employment opportunities and risks being faced. Basically, in reviewing the problems of economic development in Mungkid Village cannot be separated from opportunity, chance, and family economic limitation. For example, the level of women's participation in labor, employment opportunity and the difference in wages those women must receive. These differences arise based on the empirical experience faced by women in the world of labor in all aspects of work.

Similarly, in Mungkid Village, Mungkid Regency shows that women's participation in economic development is very high as the comparison between employment rates and female population aged 20 years and over. Changes in the structure of the economy in a development process usually have a large influence on the level of women's participation in economic development. The rapid participation of women in economic development can help increase the economy and income. This will also increase opportunities for families in the form of education and daily needs.

Furthermore, the economic development process also increases family income, thereby reducing the economic pressure that forces women to work. This causes the female

workforce to increase which result in higher female labor force participation rates. However, high economic development and the desire to enjoy the luxury of living as a result of working hard have encouraged women to re-enter the workforce and will increase the female labor force participation rate again. According to one of the women who work in the agricultural sector, she said:

*“Yes, ma’am. I’m unskilled labor and I work to fulfill the family needs and other basic needs. In Mungkid Village, there are many women who work as laborer, servant, hired labor, and other services. Averagely, they work on agricultural and other services. The income can be used to fulfill the family needs and others”* (Interview on December 25, 2007).

Whereas according to one of the other female workers as follows:

*“My reason is not merely economic or family needs but I also want to seek other activities. I feel stuck if I keep staying at home doing nothing. While my kid is already a grown up, after finishing school and now working. This is also one of my ways to help my husband. By doing this, we can have double income. Here, almost 60 percent are working women. There are advantage and disadvantage of it. The advantage is increasing the income. One of the disadvantages is family conflict regarding the working woman. In my opinion, the family is important. If the husband does not allow me to work then I better not work”* (Interview December 25, 2007).

On the other hand, as the backbone of the family according to one of the workers as follows:

*“For us, working is important because I no longer have a husband. I have to feed my three sons. It is not even enough to fulfill our family’s basic needs. Because I am all alone”* (Interview December 25, 2007).

Furthermore, in reality, there is a problem of the opportunity for economic development for women in Mungkid Village in which there are differences between women and men, especially in terms of obtaining opportunities to improve economic business. This can arise due to stereotypes in the community regarding the role of women. Some of the obstacles for women who want to be more successful are external and internal barriers. External barrier arises because of the influence of feminism. Hence, the type of work that should be carried out is a manifestation of the stereotype of women. The external barrier can also arise due to the discrimination and lack of government funding in providing education, where women are usually the last choice in getting an education. Meanwhile, the internal barrier is caused by Horner effect, Cinderella complex, and low academic confidence. Horner effect is a condition where women having fear of success syndrome when facing a competition with men. It can cause women to achieve far below their real capability. While the Cinderella complex is the nature of dependence on protection and care.

This is in accordance with one of the Chairmen of the Family Welfare Program (PKK) in Mungkid Village as follows:

*“It is true that there are some obstacles for women who work both from inside or outside. From the internal part is about families such as family needs issue, the relationship with child and husband. Meanwhile, from the external part can be other things such as not allowing women to work. However, this kind of issues can be discussed with the family members. Thus, it can be settled for the best. It is now not an era where women should just sitting around in the house while the men work. Yes, I think it is still good to work”* (Interview December 25, 2007).

Table 1 – Number of women’s role in economic development in Mungkid Village, Mungkid Subdistrict

No.	Description	Total
1.	Agriculture	170 people
2.	Industry	60 people
3.	Trading	100 people
4.	Services and craftsmanship	60 people
5.	Housemaid	10 people

Data Source: Mungkid Village Monograph 2017

In reality, Mungkid Village shows that the economic development carried out by women is increasingly spread both in the villages and in the city. The average economic development for women in Mungkid Village comes from agriculture and trade. The seriousness of women in developing the economy in Mungkid Village is due to limited income and many demands. Data in Mungkid Village shows the increasing number of participants in economic development from year to year shown in the following data.

Based on the above table, it shows quite a large number of working women in Mungkid Village. This is driven by an advanced mindset and efforts to improve family economic development. The data shows that there are 170 people in agriculture, 60 in industry, 100 people in the trade, 60 people in craftsmanship and 10 people in housemaid. Based on this data, most female workers are in agriculture.

The opportunity for developing the village economy will indirectly provide motivation for women and men to be active in their work. The process can be expressed as a growing family economy that families will be able to meet macro and micro needs.

The effort of the role of women in Mungkid Village in carrying out economic development is actually also a record for the government and private institution. With a synergic collaboration between the government and the private sector, economic development will be more advanced and developing. In this case, it can be done by the Regional Government of Magelang Regency to the Mungkid Village Government to build synergy in economic development through mandatory business programs and work safety rules. Hence, there will be more progressive workers and new businesses will.

According to the data from the research results, economic development carried out by women in Mungkid Village, in general, is very helpful and it has helped in fulfilling the family needs both for education and daily needs. This can be seen in the following table.

Table 2 – Results of Women's Economic Development in Mungkid Village Mungkid Subdistrict

No.	Description	Total
1.	Household	Monthly average of 400,000
2.	Education	Monthly average of 100,000
3.	Home improvement	Monthly average of 100,000
4.	Others	Monthly average of 100,000

*Data Source: Mungkid Village Monograph 2017.*

The above data shows that economic development carried out by working women in Mungkid Village for monthly household needs amounted to Rp. 400,000, for education, amounted to Rp. 100,000, for home improvement, amounted to Rp. 100,000 and others amounted to Rp. 100,000.

The participation of women in the labor should be supported by both family and regional institution. In which it is done not only for the interest of the institution but how the community can fulfill its budget of women economic empowerment in the region. If they are going to promote and support women's productivity, there should be a special budget for developing economic opportunities for women in the regions. In this case, the active role of the community in the development process and budgeting for women's economic empowerment must be carried out to support the economic progress of the family which will affect the progress of the region.

Based on the above description, it can be understood that economic development for women in Mungkid Village in general shows increasingly good development. One of the successes of economic development is that it can be used for family, education, and productivity needs. Hence, economic development can be developed more advanced in collaboration between the business field and the government.

## CONCLUSION

Economic development carried out by women in Mungkid Village can provide solutions for short and long-term needs. The role of women in business development also motivates

the family in long term. Several things can be seen in economic development: First, it can motivate the family and the surrounding environment. Second, it can fulfill the educational needs. Third, it can fulfill the household needs including home improvement. Fourth, it can be seen as one of the forms of new change in gender equality as a form of mutual justice. The role of women in economic development needs to be regulated in law to guarantee incentives and employment. The law that regulates the existence of female workers should also regulate the received salary which is based on the regional's minimum standard of wage.

In the economic development of women, it is quite obvious that women are more diligent and careful in carrying out a task. This factor can also be seen from how they manage family needs and other needs. Hence, the economic development will be a family program managed by the village government up to the city government. The absence of rules for women in the business world will hinder the progress of the village economy. It can be guaranteed that economic development will be more advanced if the government can do this well. In order to support economic development at the village level, it requires support from the family, the village government up to the city government and private institutions. Thus, the role of women in developing the economy will be a joint program and it will not be foreign anymore.

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DOI <https://doi.org/10.18551/rjoas.2018-12.22>

## **Y GENERATION PARTICIPATION IN RECOMMENDING SUSTAINABLE TOURISM: A STUDY OF ASIAN TRAVELERS IN BALI ISLAND**

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### **ABSTRACT**

This study examines environmental awareness as a moderating variable that strengthens the influence of perceived environmental sustainability, perceived cultural sustainability, and perceived economic sustainability on word-of-mouth intention on foreign tourists, particularly the Y generation, traveling in the Island of Bali. This study also examines the perceived direct effect of environmental sustainability, perceived cultural sustainability, and perceived economic sustainability on word-of-mouth intention. As many as 211 Y generation foreign tourists from countries in the Asian region were selected as respondents to this study. Data was collected by questionnaire using 4 foreign languages and analyzed using WarpPLS. The results show that environmental sustainability, cultural sustainability, and economic sustainability have a significant effect on word-of-mouth intention. Environmental awareness strengthens the influence of environmental sustainability and economic sustainability on word-of-mouth intention, but does not moderate the influence of cultural sustainability on word-of-mouth intention. The results of this study provide an understanding to destination managers to pay attention to sustainability aspects because the increasing environmental awareness of the youth will influence the interest, especially interest in recommending destinations.

### **KEY WORDS**

Y generation, environmental awareness, sustainable tourism, island tourism, word-of-mouth intention.

Broader education and information about the environment increases the environmental awareness of the Y generation (Perdan, Jones, and Azapagic, 2017) that they tend to support environmental preservation efforts. The Y generation is aware on the impact a product brings to the environment, is careful in the decisions taken, and takes the benefits offered by the product (Williams and Turnbull, 2015). Alignments to the environment are shown through their attitudes, interests, and behavior on environmentally friendly products. The Y generation refers to those born after 1981 (Strauss and Howe, 1991). It is important to highlight the characteristics of the Y generation because they have specificities in personal and cultural characteristics affecting their decision making and sustainable consumption (Severo *et al.*, 2017). They prefer to buy environmentally friendly products and recommend environmentally friendly products to others.

In the context of tourism, the partiality of tourists in the environment is shown by recommending sustainable tourism to others through word-of-mouth. Word-of-mouth is very important for the future of tourist destinations because it determines the number of visits for the following times. Travelers who visit a destination provide an assessment related to sustainability aspects. Sustainability for tourism includes environmental sustainability, cultural sustainability, and economic sustainability (Iniesta-Bonillo *et al.*, 2016; Kim *et al.*, 2017). Based on their perceptions when visiting destinations, future attitudes, interests and behaviors are formed. Word-of-mouth intention is one interest that arises after visiting a destination. When tourists perceive positively on sustainability aspects, they tend to have a high interest in recommending destinations that they visit to others.

Research on the influence of the sustainability dimensions of behavior intention is still limited, as well as research that examine environmental awareness on the behavior intention. This study aims to examine the effect of perceived environmental sustainability, perceived

cultural sustainability, and perceived economic sustainability on word-of-mouth intention. This study also examines environmental awareness as a moderating variable on the influence of perceived environmental sustainability, perceived cultural sustainability, and perceived economic sustainability toward word-of-mouth intention. This study was conducted in Bali as the main tourist destination in Indonesia. The research focused on foreign tourists belonging to the Y generation from countries in Asia. The number of foreign tourists from Asia who visit Bali is increasing year by year (BPS, 2018) and this shows that Bali is one of the tourist destinations in the world having good prospects because it has a beautiful natural appeal and distinctive culture. However, the increase in the number of tourists not followed by the increase in facilities and conservation efforts will actually reduce the quality of destinations and tourists will perceive this badly leading to them unwilling to recommend the place to other. Therefore, it is interesting to do a study related to the aspects of sustainability and environmental awareness in word-of-mouth intention.

## LITERATURE REVIEW

*Tourism Sustainability.* Tourism development is a step to increase greater benefits for stakeholders, such as the surrounding community, entrepreneurs, and tourists. In the development of tourism, the sustainable tourism approach is “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities” (UNEP, 2005). Brundtland (1987) reveals that sustainability in the development of the tourism industry is development that fits with current needs without compromising the ability of future generations to meet their own needs, so they have long-term insight. Sustainable tourism is a tourism management concept that not only discusses the benefits and immediate effects, but also considers the long-term benefits and impacts of a tourist destination for stakeholders. Iniesta-Bonillo *et al.* (2016) confirm that sustainable tourism is tourism that satisfies the present tourists and the demands of the surrounding population, while protecting and increasing opportunities in the future. Rodríguez Díaz and Espino Rodríguez (2016) also stated that sustainable tourism development not only satisfies momentary tourists, but must also protect and increase future opportunities. Thus, sustainable tourism provides benefits to all stakeholders in the short and long term.

Experts have developed a set of instruments to measure sustainability from various perspectives. Bramwell *et al.* (1996) have developed the sustainability dimension from various perspectives summarized in seven dimensions namely environment, culture, politics, economics, social, managerial, and government. Cernat and Gourdon (2012) and Ko (2005) have developed sustainability measurements based on certain geographical aspects. Cottrell, Vaske, and Roemer (2013) have developed four dimensions of sustainability that cover economic, social, cultural, environmental, and institutional aspects. Meanwhile, in 2014, Martínez and Rodríguez del Bosque (2014) focus on sustainability indicators through three dimensions namely economic, social, and environmental. Iniesta-Bonillo *et al.* (2016) and Kim *et al.* (2017) measure sustainability based on tourists' perspectives through three aspects, namely environmental sustainability, economic sustainability, and economic sustainability.

Iniesta-Bonillo *et al.* (2016) explain that components related to natural capital and the conditions for renewable and non-renewable resources are at the core of the environmental dimension. Pearce (1995) explains that the sociocultural dimension includes human-environmental interactions and the protection of socio-cultural resources of local communities and host regions, which emphasizes the cultural interactions and activities needed to develop cultural exchanges in the tourism sector. Mbaiwa (2005) explains that economic sustainability implies economic benefits for the population. Iniesta-Bonillo *et al.* (2016) have added the importance of value of money for tourists.

*Environmental Awareness.* Environmental awareness is a unique individual characteristic that is formed, among others, through experience and education (Hill *et al.*, 2007). Different levels of environmental awareness will affect different preferences and

behaviors (Lee *et al.*, 2017). Environmental awareness is formed through environmental knowledge and experiences that shape environmental attitudes to produce pro-environmental behavior (Burgess *et al.*, 1998; Antimova *et al.*, 2012). Schwartz (1977) describes the norm activation theory, which shows that values, norms, or personality will encourage pro-environment interests and behavior.

In the context of tourism, environmental awareness plays an important role in determining the future of tourist destinations (Mihalic, 2016). Environmental awareness guides attitudes, interests, and behavior towards a tourist destination. Tourists who have high environmental awareness will side with tourist destinations that do good environmental conservation. Tourist experience allows observation of the destination's natural resources, leading them to engage in environmentally friendly responsibilities (Lee and Jan, 2015).

Travelers' appreciation of eco-friendly tourist destinations is shown through their interest in revisiting and recommending destinations to others. Tourists who have a low level of environmental awareness certainly have a low sensitivity in appreciating the efforts of environmental protection so they are less concerned. Even tourists who do not care about the environment may bring a negative impact on the destination (Gössling *et al.* 2006; Scott *et al.*, 2010); they feel that they only stay for a while (Archer *et al.*, 2005) so that they tend to think that there is no need to show environmentally responsible behavior (Nicholas and Thapa, 2010; Hill *et al.*, 2007; Archer *et al.*, 2005). Tourists who have visited tourist destinations can feel the sustainability of tourist destinations so they can respond in the form of interests and needs. When tourists give a good assessment on sustainability and they have a high environmental awareness, their response is an interest in doing positive word-of-mouth to others. Conversely, if their assessment on the sustainability aspect turns out to be bad and they have a high level of awareness, their response is reluctance to do positive word of mouth. This shows that tourist environmental awareness has the effect of strengthening or weakening the effect of perceived sustainability on word-of-mouth intention.

*Word of Mouth Intention.* Word-of-mouth is a form of interpersonal communication between consumers regarding their personal experience in a company or product that will improve their reputation or defame the object (Richins and Root-Shffer, 1988). Whereas Engel, Blackwell and Miniard (1995) define word-of-mouth as an informal transmission of ideas, comments, opinions, and information between two people, both of whom are not marketers. Referring to Kotler and Keller (2006), word-of-mouth is a communication process where an individual gives recommendations both individually and in groups to a product or service personally. In the context of tourism, word-of-mouth refers to non-commercial communication by actual tourists to potential tourists regarding their experience of a product, service, destination, or tourist organization (Riduan *et al.*, 2015).

Positive word-of-mouth has an important role in maintaining tourism sustainability (Litvin *et al.*, 2008) because through positive word-of-mouth tourism information is widespread. Prospective tourists trust information and recommendations from tourists who have visited rather than information from the company because the prospective tourists feel that the people they ask for information are independent and honest. Goodman (2009) explains that negative word-of-mouth will be more easily spread, meaning that it is more powerful than the positive one. Dissatisfied consumers will have a stronger tendency to provide voluntary information to others than when they experience satisfaction. Disappointed people vent their disappointment by sharing their bad experiences with others so that it spreads quickly in the community.

Word-of-mouth for tourist destination managers is to help management in disseminating destination information to the wider community so that potential tourists choose that destination. Besides information from tourists is more trusted, word-of-mouth is more efficient because companies do not need to pay large costs for word-of-mouth to save on promotion costs. Satisfied customers provide product references so they are more easily spread to other consumers (Kotler and Keller, 2006). Kumar and Munjanath (2012) argue that the most valuable customers are customers who have the most word-of-mouth activity and are able to bring other customers to buy at the company, not the customers who buy the

most. This shows the importance of customer interests and behavior to convey positive things to others.

**Y Generation.** Consumers can be grouped by generation based on their year of birth, in which at that time there were significant differences between generations. Strauss and Howe (1991) provide criteria for classifying generations according to the year of birth. Baby Boomers are those born before 1965, X generation are born between 1965 and 1981, and Y generation are born after 1981. Although the size of the age interval used in classifying generations is still controversial (Rindfleish, 1994; Mannheim, 1952), this grouping is still important because they have different personal, cultural, and historical characteristics (Severo *et al.*, 2017). Generation classification is important in the context of marketing because individual differences have an impact on values, attitudes, interests, and behaviors. Generational characteristics also influence decision making in organizations and sustainable consumption (Severo *et al.*, 2017).

This research focuses on foreign tourists belonging to the Y generation category. Y generation consists of young people who are looking for innovation; they are born in the midst of technological evolution and represent the main segments of the market (Gardiner, Grace, King, 2015; Kruger and Saayman, 2015). The high level of information related to the environmental issues that Y generation has can influence environmental awareness (Perdan, Jones, and Azapagic, 2017). According to Wright, Caserta and Lund (2003), generation Y is aware of the environmental impact, is careful in decisions taken, and take advantage of the products offered (Williams and Turnbull, 2015). Their environmental awareness makes them support every effort made for environmental preservation. The alignments in sustainability are shown through environmentally friendly behavior, the desire for revisit, and word-of-mouth intention (Kim *et al.*, 2018).

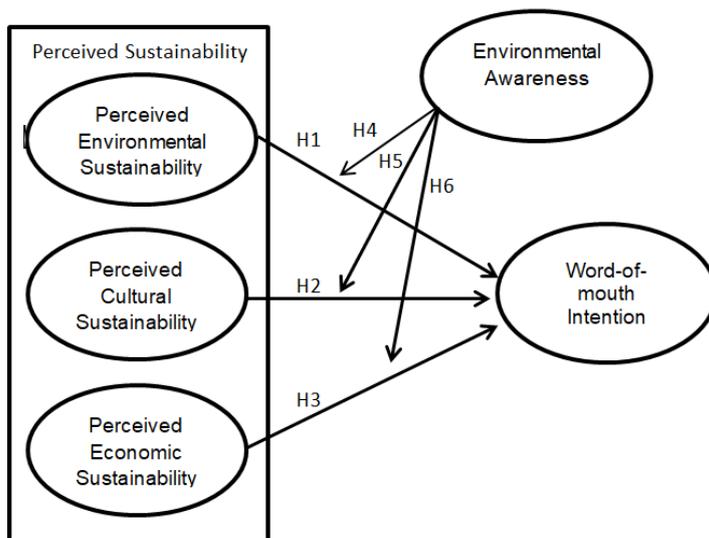


Figure 1 – The Model of Hypothesis

**Hypothesis.** Based on the literature review and empirical studies as explained in the previous section, the following hypotheses are formulated:

- H1. Perceived environmental sustainability influences word-of-mouth intention;
- H2. Perceived cultural sustainability influences word-of-mouth intention;
- H3. Perceived economic sustainability influences word-of-mouth intention.
- H4. Perceived environmental awareness moderates the influence of environmental sustainability on word-of-mouth intention;
- H5. Perceived environmental awareness moderates the influence of cultural sustainability on word-of-mouth intention;
- H6. Perceived environmental awareness moderates the effect of economic sustainability on word-of-mouth intention.

## METHODS OF RESEARCH

*Data collection and sample.* The survey method was used in this study by distributing questionnaires to foreign Asian tourists visiting Bali. The researcher determined the criteria for selecting respondents, namely foreign tourists who were at least 18 years old and a maximum of 37 years (Y generation) and had visited Bali for a vacation of at least 3 days. Before giving the questionnaire, the researcher ensured that the respondents had visited natural and cultural tourist destinations in Bali so that the respondents gave an accurate assessment. Questionnaires were given to respondents when foreign tourists were about to leave Bali, or when they were checking out from the hotel, while on their way to leave Bali to return to their home countries or continue their journey to another location, and when tourists were at the airport before leaving Bali. Data was collected for two months (May to June 2018). As many as 211 questionnaires were completely filled out by respondents. Based on the results of calculations using the Machin and Campbell formula (1989), the sample size used is a minimum of 140 respondents, so the number of respondents in this study has met the minimum criteria.

*Instrument.* The instrument used to collect research data was a questionnaire that contained a set of questions or statements related to the demographic data of respondents and items of research variables. This study used a literature study to measure all constructs.

The variable of perceived sustainability was measured by three dimensions adapted from Andereck and Vogt (2000), Tsaur, Lin, and Lin (2006), Byrd, Bosley, and Dronberger (2009), Iniesta-Bonillo *et al.* (2016), and Kim *et al.* (2017). Environmental awareness measures were adapted from the indicators in Yuxi and Linsheng (2017). Meanwhile, word-of-mouth intention was measured by five items adapted from Harrison-Walker (2001) and Riduan *et al.* (2015). This study uses a Likert scale to measure each item; the alternatives ranged from strongly disagree (1) to strongly agree (5). Validity and reliability tests were carried out before using the instrument for data collection with trials on 30 respondents. The results of testing the validity and reliability of the research instrument showed that the correlation coefficient  $> 0.3$  and Cronbach's Alpha coefficient  $> 0.6$  so the questionnaire was declared feasible to measure the variables with larger respondents.

*Data analysis.* The analysis of this study used the descriptive statistical analysis and inductive statistical analysis. Descriptive statistics are used to describe the profile of respondents and analyze each respondent's answers related to items in the questionnaire, while inferential statistics are used to examine the effect of the variables in this study. The researcher used the WarpPLS and SPSS for Windows version 20 statistical tools.

## RESULTS OF STUDY

*Validity and reliability of the instrument.* Validity test is done to find out the validity of the instrument (questionnaire) used to collect data. Validity and reliability tests are carried out before using the instrument for overall data collection. The instrument test results show that the correlation coefficient value of each item with a total item was  $\geq 0.3$ , so the instrument is said to produce valid data (Sekaran, 2011). The test results also show that the Cronbach's Alpha coefficient was  $\geq 0.6$ , so it can be stated that the instrument is reliable (Malhotra, 2010) and can be used to measure variables with larger respondents.

*Profile of Respondents.* The sample was 50.2% female and 49.8% male, in which based on nationality, 30.3% were China, 26.1% were Australia, and 43.6% were others. The details of the age group are as follows: 50.7%  $< 31$  years old and 49.3% are 31 to 40 years old. Travel composition includes the followings: with friends (60.7%), with family (32.7%), with colleagues (4.9%), and alone (1.9%). The majority of respondents (82.5%) visited Bali for the first time, 14.7% visited the island for the second time, 2.4% visited for the third time, and 0.5% visited Bali for the fourth time and more. The duration of the visit was 3 to 4 days (50.2%), 5 to 6 days (27.9%), and more than 6 days (21.9%).

The results of the study show that the average score of respondents' answers to the environmental sustainability variable is 4.01; thus, it can be concluded that in general the

variable is in the high category. This shows that respondents tend to feel that the preservation of the natural environment in Bali is good.

The findings also reveal that the average score of respondents' answers to the cultural sustainability variable is 4.21; thus, it can be concluded that generally the cultural sustainability falls into the very high category. This shows that the respondents tend to feel that Bali had preserved the culture in a good way.

Other findings also show that the average score of respondents' answers to the economic sustainability variable is 4.19; thus, it can be concluded that in general the economic sustainability variable falls into the high category. This shows that respondents tend to feel that tourism in Bali provides benefits, both for the community and for foreign tourists.

Table 1 – Results of the confirmatory factor analysis for measurement model

Construct and Items	Standardized Loading	p-Value
Perceived Environmental Sustainability ( $\alpha = 0.758$ )	-	-
Low pollution level	0.697	0.000
Control unpleasant smell	0.870	0.000
Low complexity level	0.892	0.000
Perceived Cultural Sustainability ( $\alpha = 0.920$ )	-	-
Keep the historical heritage (monument and museum) well	0.918	0.000
Cultural heritage (celebrations and traditions) are well preserved	0.903	0.000
Maintain the authenticity of the local culture well	0.851	0.000
Perceived Economic Sustainability ( $\alpha = 0.841$ )	-	-
Makes an investment to attract tourists	0.898	0.000
Has a good basic infrastructure	0.791	0.000
Tourist services in Bali are affordable	0.698	0.000
Environmental Awareness ( $\alpha = 0.784$ )	-	-
Learn matters related to environmental conservation	0.807	0.000
Keep up with information or news about environmental preservation	0.900	0.000
Support the effort to protect the environment	0.884	0.000
Appreciate the effort to preserve the environment	0.889	0.000
Word-of-mouth intention ( $\alpha = 0.866$ )	-	-
Share the experience in Bali with others	0.904	0.000
Discuss Bali more often than other tourist attractions	0.898	0.000
Say good things about Bali to others	0.909	0.000
Proud to tell about Bali to others	0.940	0.000
Recommend others to visit Bali	0.921	0.000

$APC=0.266$ ,  $p<0.001$ ;  $ARS=1.122$ ,  $p<0.001$ ;  $AARS=1.126$ ,  $p<0.001$ ;  $AVIF=4.990$ ;  $AFVIF=4.414$ ;  $GoF=0.907$ ;  $SPR=1.000$ ;  $SSR=1.000$ ;  $NLBCDR=0.767$ .

The findings show that the average score of respondents' answers to the environmental awareness variable is 4.18; thus, it can be concluded that in general the environmental awareness variable is in the high category. This shows that respondents tend to have a high awareness of the environment.

The findings show that the average score of respondents' answers to word-of-mouth intention variable is 4.02; thus, it can be concluded that in general word-of-mouth intention variable is included in the high category. This shows that respondents tend to have a high interest in recommending Bali to others.

*Cross check of validity and reliability.* This study uses convergent validity, discriminant validity, composite reliability, and Cronbach's alpha to cross check validity and reliability. The results of measurements of convergent validity showed that the all standardized factor loadings exceeded 0.50. The AVE in all variables exceeded the estimate of each square. Thus, it can meet convergent validity and discriminant validity. Composite Construct Reliability was  $> 0.7$  and Cronbach's Alpha was  $> 0.6$ , so reliability was fulfilled. Inter-construct intercorrelations show a significant relationship, so it was predicted to have a significant effect (Table 2).

Table 2 – Construct intercorrelations, mean, standard deviation (SD), CCR, and AVE

Constructs	Mean	SD	EnS	CIS	EcS	EA	WOM
EnS	4.01	0.90	1				
CIS	4.21	0.76	0.775**	1			
EcS	4.19	0.71	0.874**	0.859**	1		
EA	4.18	0.40	0.709**	0.855**	0.854**	1	
WOM	4.02	0.89	0.720**	0.818**	0.804**	0.795**	1
CCR <sup>1</sup>			0.936	0.917	0.863	0.936	0.969
AVE <sup>2</sup>			0.830	0.788	0.779	0.786	0.863

EnS: Perceived Environmental Sustainability; CIS: Perceived Cultural Sustainability; EcS: Perceived Economic Sustainability; EA: Environmental Awareness; WOM: Word-of Mouth Intention; \*\* p-value<0.01; <sup>1</sup> Composite Construct Reliability; <sup>2</sup> Average Variance Extracted.

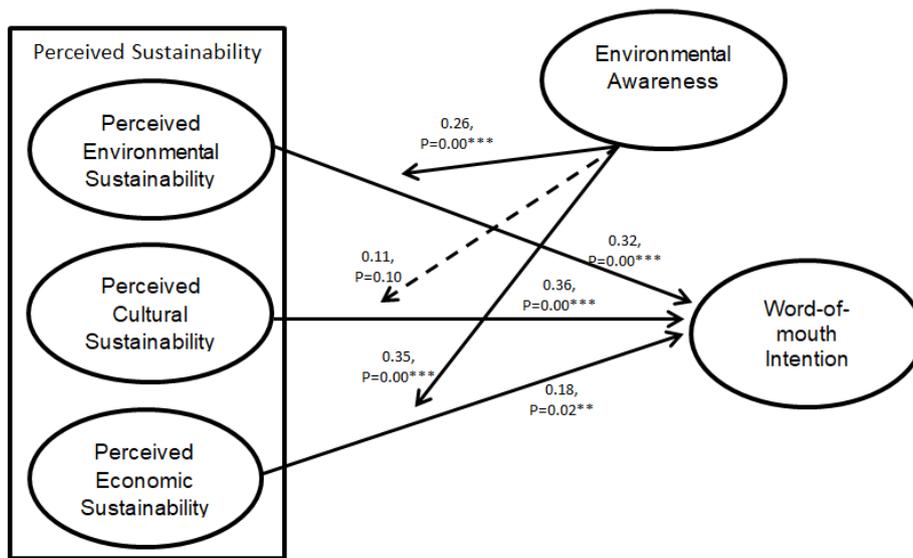


Figure 2 – Final Structural Model (Standardized coefficient, \*\*\* p < 0.01, \*\* p < 0.05, NS = Not Significant)

Measurement of model fit and quality indices refers to the WarpPLS analysis tool (Kock, N., 2015). The measurement results show the followings. Average Path Coefficient (APC) was 0.266, p < 0.001; average R-squared (ARS) was 1.122, p < 0.001; average adjusted R-square (AARS) was 1.126, p < 0.001; average block VIF (AVIF) was 4.990, acceptable if ≤ 5; average full collinearity VIF (AFVIF) was 4.414, acceptable if ≤ 5; Tenenhaus GoF (GoF) was 0.907, acceptable if ≥ 0.36; Sympson’s Paradox Ratio (SPR) was 1,000, acceptable if ≥ 0.7; Statistical Suppression Ratio (SSR) was 1,000, acceptable if ≥ 0.7; Nonlinear Bivariate Causality Direction Ratio (NLBCDR) was 0.767, acceptable if ≥ 0.7. These results indicate that the model is supported by good data and has quality indicators that meet the requirements in the WarpPLS.

Table 3 – The Results of Hypothesis Testing

Path	Standardized Estimates	Standardized Error	p-Value	Claim
(H1) Perceived Environmental Sustainability → Word-of-mouth Intention	0.40	0.064	0.000	Accepted
(H2) Perceived Cultural Sustainability → Word-of-mouth Intention	0.35	0.064	0.000	Accepted
(H3) Perceived Economic Sustainability → Word-of-mouth Intention	0.12	0.067	0.004	Accepted
(H4) Perceived Environmental Sustainability * Environmental Awareness → Word-of-mouth Intention	0.30	0.065	0.000	Accepted
(H5) Perceived Cultural Sustainability * Environmental Awareness → Word-of-mouth Intention	0.06	0.068	0.180	Rejected
(H6) Perceived Economic Sustainability * Environmental Awareness → Word-of-mouth Intention	0.35	0.065	0.020	Accepted

*Hypothesis testing.* This research formulates 6 hypotheses and hypothesis testing is done by comparing p value with alpha 5%. If p value  $\leq 0.05$ , the hypothesis is accepted and if p value  $> 0.05$ , then the hypothesis is rejected.

Hypothesis 1 states that perceived environmental sustainability influences word-of-mouth intention. The results (Table 3) show that p value is 0.000 ( $<0.05$ ), so hypothesis 1 is accepted. Positive coefficients indicate that environmental sustainability has a significant positive effect on word-of-mouth intention.

Hypothesis 2 states that perceived cultural sustainability has an effect on word-of-mouth intention. The results show that p value is 0,000 ( $<0.05$ ), so ,hypothesis 2 is accepted. Positive coefficients indicate that cultural sustainability has a significant positive effect on word-of-mouth intention.

Hypothesis 3 states that perceived economic sustainability influences word-of-mouth intention. The results show that p value is 0,000 ( $<0.05$ ), so hypothesis 3 is accepted. Positive coefficients indicate that economic sustainability has a significant positive effect on word-of-mouth intention.

Hypothesis 4 states that environmental awareness moderates the effect of perceived environmental sustainability on word-of-mouth intention. The results show that p value is 0,000 ( $<0.05$ ), so hypothesis 4 is accepted. Positive coefficients indicate that environmental awareness strengthens the influence of environmental sustainability on word-of-mouth intention.

Hypothesis 5 states that environmental awareness moderates the effect of perceived cultural sustainability on word-of-mouth intention. The results show that p value is 0.180 ( $>0.05$ ), so hypothesis 5 is rejected, meaning that environmental awareness does not moderate the influence of cultural sustainability on word-of-mouth intention.

Hypothesis 6 states that environmental awareness moderates the effect of perceived economic sustainability on word-of-mouth intention. The results show that p value is 0.020 ( $<0.05$ ), so hypothesis 6 is accepted. The positive coefficient shows that environmental awareness strengthens the influence of economic sustainability on word-of-mouth intention.

## DISCUSSION OF RESULTS

The findings show that environmental sustainability has a significant positive effect on word-of-mouth intention. The results of this study support the research of Kim *et al.* (2018), which shows that perceived environmental sustainability has a positive effect on word-of-mouth intention. When tourists perceive that a tourist destination maintains environmental sustainability, they have a strong interest in recommending it to others.

The results of this study also show that cultural sustainability has a significant positive effect on word-of-mouth intention. The results of this study are consistent with the results of previous studies conducted by Kim *et al.* (2018) on tourist destinations in Jeju Island, South Korea. The higher rating of tourists on cultural preservation increases their interest in recommending tourist destinations through positive word-of-mouth.

This study also proves the influence of economic sustainability on word-of-mouth intention. Economic sustainability has a positive and significant influence on word-of-mouth intention; this is in line with the results of research by Kim *et al.* (2018) that word-of-mouth intention is formed by perceived economic sustainability. Tourist perceptions of the results of tourism activities that have an impact on improving infrastructure and services for local communities and tourists are important aspects valued by tourists. In addition, the value of money felt by tourists is one of the key economic sustainability that affects word-of-mouth intention.

Another finding is that environmental awareness strengthens the influence of environmental sustainability on word-of-mouth intention. Y generation education and experience have an impact on environmental awareness. When tourists have a high environmental awareness and perceive good environmental sustainability in a destination, then environmental sustainability strengthens their interest in recommending the destination to others. This is based on their concern for environmental preservation.

In addition, this study has found that environmental awareness does not moderate the influence of cultural sustainability on word-of-mouth intention, meaning that environmental awareness does not have the effect of strengthening or weakening the influence of cultural sustainability on word-of-mouth intention. Respondents of this study were tourists from Y generation who had cultural characteristics that were very different from the local culture in the destinations visited. The effects of modernization and information disclosure in the era of information technology transformation experienced by the Y generation are likely to have an impact on eroding the spirit of maintaining indigenous cultures, so they can accept cultural change. Therefore, it is understood that although Y generation as tourists have high environmental awareness, this does not strengthen the influence of perceived cultural sustainability on word-of-mouth intention.

The last findings of this study indicate that environmental awareness moderates the effect of economic sustainability on word-of-mouth intention. The results show a significant positive effect of environmental awareness on the influence of economic sustainability on word-of-mouth intention; it can be understood that tourists who have high environmental awareness and perceive destinations to have good economic sustainability will increase their interest in recommending to others. This is a form of tourists' partiality on efforts made by destination managers to maintain tourism sustainability.

## **CONCLUSION**

The main objective of this study is to build an understanding on the influence of environmental sustainability, cultural sustainability, and economic sustainability on word-of-mouth intention, especially for Asian Y generation as foreign tourists. Previous research (Kim, 2017) has not addressed the Y generation segment, so the results of this study can give specific understanding. The high word-of-mouth intention is important because the future of the destination depends on the recommendations of tourists who have visited the area. Y generation has a stronger tendency to revisit destinations given their relatively young age, so they have more opportunities to revisit.

Based on the findings, there are direct effects and moderating effects between variables. First, environmental sustainability has a significant effect on word-of-mouth intention. Second, cultural sustainability has a significant effect on word-of-mouth intention. Third, economic sustainability has a significant influence on word-of-mouth intention. Fourth, environmental awareness strengthens the effect of environmental sustainability on word-of-mouth intention. Fifth, environmental awareness does not moderate the effect of cultural sustainability on word-of-mouth intention. Finally, environmental awareness strengthens the effect of economic sustainability on word-of-mouth intention.

The practical implication is to increase the interest of Y generation as tourists in recommending destinations through increased sustainability. Destination management must not only aim at having more visitors, but must also preserve the nature and cultural values in the local community. Besides that, the appreciation on the value of tourist money is very important, so they feel no loss. Based on the results, it is known that Y generation has high environmental awareness and will increase their interest in recommending destinations. When tourists feel that destination management has managed tourism with a sustainability approach, they will take sides and invite others to visit, at least convey positive things to others.

This study has limitations as a reference for future researchers. First, it is about the tendency of generation Y to use electronic media as a tool to share their experiences during their visit. This research is still limited to word-of-mouth, so further researchers can use the e-WOM variable. Second, this research is a cross sectional study, so conclusions can only be taken at the time the study was conducted. It is recommended for further researchers to deepen the research by conducting longitudinal research because environmental awareness might be different from time to time. Finally, this study has not included demographic characteristics in the conceptual model, so further researchers are advised to explore the demographic aspects that also influence word-of-mouth intention.

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DOI <https://doi.org/10.18551/rjoas.2018-12.23>

## INDONESIAN MUSLIM HEALTH TOURISM TYPOLOGY: SHARIA SALON AND SPA PROSPECTIVES

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### ABSTRACT

Sharia salons and spas as part of Muslim health tourism need to understand the behavior of Muslim health tourists, one of them is through identification of tourist typology of sharia salon and spa service customers in Indonesia based on visiting motivation, received activities and benefits felt by tourists while using sharia salon and spa services so strategies can be made that are appropriate for each group of tourists. Furthermore, this study uses a quantitative approach by conducting surveys on health tourists of sharia salon and spas customers in East Java, Indonesia. The results of this study indicate that there is a match (fit-mode) between the desired motivation (pre-travel) before using the service, the activity (on-site travel) received while using the service and the benefits (post-travel) felt after using sharia salon and spa services.

### KEY WORDS

Muslim health tourism, sharia salon, spa, muslim medical tourist, typology, Indonesia.

Health tourism is a diffusion between the needs of individuals to get preventive or treatment care while fulfilling their desire to travel at the same time. According to Kincses (2009) and Smith and Puckzo (2009) the form of implementation of health tourism can be grouped into two, namely health tourism (*wellness tourism*) that is more preventive and proactive such as yoga, meditation, gym and sports, salon and spa services, resorts and medical tourism services that are more curative and reactive such as nutrition and detox programs, herbal alternatives, acupuncture, acupressure, cosmetic surgery, chemical surgery, and various therapies and rehabilitation, sanatoriums, traditional and other modern.

Unfortunately, increasing public awareness of the health aspects is responded responsively with the increasingly diverse commoditization of health services offered throughout the world but not addressed properly instead forms a kind of "false trap" for those who feel excessive worry about their health. Crandall (1987) states that "demonstration effect" is basically the habit of imitating the actions of local people, especially teenagers, which is imitating the behavior, habits, attitudes and consumption patterns of foreign tourists. Inskeep (1992) adds that things that are usually imitated usually conflict with local codes of ethics.

Several studies have been conducted to examine the relationship between aspects of religion and tourism (Vukonic, 1996; Timothy and Boyd, 2003). Religious tourism is not a new phenomenon. Spiritual motives in religion have long been an inseparable part of travel activities and can be considered as the oldest form of non-economic travel in the world (Jackowski and Smith 1992). Threats to local culture and religious values and the continuity of the tourism business encourage Indonesia to be able to take advantage of the high growth potential of world Muslim tourists and domestic Muslim tourists as alternative health tourism markets to minimize the negative excesses of the growth of health tourism in Indonesia.

In addition, Muslims have been recognized as a growing market and have now officially obtained labels as "consumers" (Kessler, 2015), where in this case, Muslims have got a special place as Muslim tourists. Then, with the large number of Muslims it can be assumed that every Muslim is a potential consumer who needs to be facilitated by his needs as a Muslim. It is also a promising potential market for the health tourism industry in Indonesia. Furthermore, it also directly raises the need for health services that meet sharia values

standards, although Indonesia is considered not able to facilitate well the tourism needs, especially health tourism from the Muslim tourist market, which is characterized by the rise of various health services that are identical with prostitution and hedonism such as "plus-plus" massage parlors, spas and salons, localization of prostitution, transvestite clinics, and the limited policy of separation of salon officers and sharia spas based on customer gender which still contradicts sharia values in Indonesia show it still weak in capturing opportunities and potential world Muslim tourists even for the market needs of domestic Muslim tourists.

Recognizing the potential and opportunities of Muslim tourists in realizing tourism that safeguards the noble values of the nation's culture and preserving and increasing the attractiveness of Muslim tourists both domestic and foreign tourists to conduct health tourism in Indonesia, the Ministry of Tourism and Creative Economy of Republic Indonesia and several Muslim businessmen are starting to promote the implementation of sharia salon and spa Indonesia. This research conducted in East Java Province, Indonesia, which has been determined by the Government of Indonesia through the Ministry of Tourism as one of the sharia tourist destinations to develop and promote tourism service businesses, one of which is spa tourism (Sapudin, Adi and Sutomo, 2014).

This study focused on identifying tourist typologies of sharia salon and spa service customers in Indonesia based on the motivation (pre-travel), activities (on-site travel) and benefits (post-travel) felt by tourists. The typology of Muslim health tourism tourists especially sharia salons and spas has not been found in previous studies so that this research can be a pioneer. The various typologies of Muslim health tourists can be used as policy material for sharia salon and spa management, National Sharia Council - Indonesian Ulama Council (DSN-MUI), the Ministry of Tourism and Creative Economy of Republic Indonesia, Central Government and the Regional Government of East Java Province in sharia salon and spa development and health tourism in Indonesia that are more customer-driven with arrange the right program for each group of tourists.

## LITERATURE REVIEW

*Muslim Health Tourism.* Muslim health tourism is basically part of the Islamic Tourism and also concludes with the concept of Health Tourism. Many researchers have laid the foundations of consistent concepts regarding Islamic Tourism such as Scott and Jafari (2014), Hamza, Chouhoud and Tantawi (2012) and Henderson (2010). The current trend in the development of Islamic Tourism is a latent potential for turning points for the power of tourism with the breath of Islam as in the Islamic Golden Ages, not to mention the bargaining position of Muslim health tourism.

In other perspectives, it is unfortunate that health tourism that is developing at this time is considered likely to be based on secularism building blocks and carries the risk of negative excesses that are destructive to the sustainability of health tourism where if Muslims continue to be involved it means a "decline". This is because, from the beginning to the present, Islam does not separate religious and world affairs. That is, Islam does not specifically separate the problems of worldly affairs with religious problems. Both problems are interrelated in Islam. Islam is not a secular religion and does not accept secularism, an understanding that separates religious affairs from worldliness. Muslim Health Tourism emerged as a positive alternative to hedonic and secular tourism interpretations. Offering a different approach sourced from the Koran and Hadith, Muslim Health Tourism actually ties strong close proximity between religion, tourism and health businesses.

*Motivation in Tourism.* Motivation in tourism understands what motivates tourists to choose certain goals. Pearce (2005) defines tourist motivation "as a network of integration of biological forces and global culture that gives value and direction to travel choices, behavior, and experience". As Prebensen (2007) has written in his research on travel motivation, "once a person has the right motivation to travel, the type of vacation and destination are often decided based on perceptions or values of the various options offered in the tourist market". Motivation measurement using Model (TCP) from Pearce (2005) developed by Panchal (2012).

*Activities in Tourism.* Activities are generally defined as "active conditions or quality"; "Living action or movement"; or "certain pursuit in which someone takes part" Liu and Wall (2010). Tourism activities can be said as "non-work / non-economic pursuit" where people participate in it without obligation (Beard and Ragheb, 1983 in Liu and Wall, 2010). Different from modern tourism (satisfying customers and making business profits), traveling in Islam must be done for a special purpose. Among the reasons for traveling are to fulfill spiritual goals (strengthen the priesthood to God), social goals (developing and strengthening relations between Muslims also referred to as silaturahmi) and the purpose of self-development (gaining new knowledge because of Allah) (Din, 1982). Activity indicators are arranged based on the main activities offered by the sharia salon and spa. In previous studies, Bafadhal et al (2017) have found the concept of a sharia salon and spa standard. The results of the study were used to measure the activities of health tourists of sharia salon and sharia customers.

*Benefits in Tourism.* A number of tourism studies have shown the usefulness of benefits sought as a basis for market segmentation (Molera and Albaladejo, 2007;). A comprehensive review of benefits as a basis for segmentation can be found in Frochot and Morrison (2000). Knowledge of the benefits felt by tourists helps marketers understand different market segments, communicate with them more effectively and design products and services that suit their needs (Frochot and Morrison, 2000; Molera and Albaladejo, 2007). In addition, comparing the benefits sought with the benefits obtained gives tourism managers an important assessment of tourist satisfaction (Mannell, 1999). Voigt et al (2011) have developed the Benefits of Wellness Tourism Scale (BWTS) to measure the benefits felt by customers of health tourism services consisting of six indicators.

## METHODS OF RESEARCH

The study was conducted with a quantitative approach, namely passing surveys using questionnaires on the level of motivation, perceptions of activities and benefits felt by tourists of health tourism, sharia salon and customers in East Java Province. The sampling method in this study was carried out with a purposive sampling approach with the sample criteria being visitors to sharia salons and spas in Surabaya City, Malang City and Sidoarjo City, East Java Province, Indonesia. The data used in this study are primary data derived from data collection carried out by distributing questionnaires to sharia salon and spas customers in Malang City, Sidoarjo City, and Surabaya City. Based on proportional randomized stratified samples, the number of samples in this study was 100 Muslim health tourists who use salon and spa services for sharia namely 34 respondents in Malang City, 40 respondents in Surabaya City and 26 respondents in Sidoarjo City, East Java Province from 11 sharia salons and spas.

## RESULTS AND DISCUSSION

*Respondent Profile Analysis.* The results of this study indicate that the identity profile of sharia salon and spa customers respondents in East Java Province, namely Malang City, Surabaya City and Sidoarjo City were dominated by age groups of 21-30 years, who had visited the sharia salon and spa as many as  $\geq 3$  visits, having the latest education at the undergraduate level, employment in general is a private employee with monthly income of IDR. 3,000,000 - <5,000,000 and getting information about the existence of the salon and spa from WOM friends. The first stage of this research was to identify and analyze pre-travel motivation, visitors' perceptions of activities during on-site travel and the benefits felt after using post-travel salon and spa services.

*Analysis of Visiting Motivation (Pre-Travel).* The first objective of this study was to identify the motivation (pre-travel) of health tourism tourists in using sharia salon and spa services. Visiting motivation in this study was measured by 3 (three) indicators of General Motivation (GM), Middle Motivation (MM) and Other Motivation (OM). Recapitulation of respondents' answers for each indicator described in Table 1 as follows:

Table 1 – Recapitulation of Visitor Perceptions of Sharia Salons and Spas Based on Motivation

Indicator	Respondents' Selected Scale Percentage					Mean Score
	1	2	3	4	5	
GM1	1,0	11,0	8,0	59,0	21,0	3,8800
GM2	0,0	1,0	5,0	53,0	41,0	4,3400
GM3	1,0	6,0	12,0	51,0	30,0	4,0300
GM4	1,0	0,0	6,0	52,0	41,0	4,3200
GM5	0,0	5,0	15,0	49,0	31,0	4,0600
GM6	0,0	2,0	3,0	51,0	44,0	4,3700
GM7	0,0	2,0	15,0	49,0	34,0	4,1500
Average Mean of General Motivation						4,1643
MM1	0,0	2,0	12,0	56,0	30,0	4,1400
MM2	0,0	2,0	9,0	63,0	26,0	4,1300
MM3	0,0	9,0	13,0	56,0	22,0	3,9100
MM4	0,0	0,0	7,0	43,0	50,0	4,4300
MM5	4,0	19,0	22,0	40,0	15,0	3,4300
Average Mean of Middle Motivation						4,0080
OM1	0,0	5,0	11,0	50,0	34,0	4,1300
OM2	0,0	0,0	6,0	53,0	41,0	4,3500
OM3	0,0	1,0	4,0	63,0	32,0	4,2600
OM4	1,0	2,0	5,0	56,0	36,0	4,2400
Average Mean of Other Motivation						4,2450
Average Mean of Visit Motivation						4,1356

Source: Data processed (2018).

Based on the recapitulation it is known that the highest mean score of the General Motivation indicator is 4.37, namely visiting the sharia salon and spa to be free in obtaining beauty care (GM6) and the mean score for Primary Motivation is 4.15 or included in the very positive regional category. This shows that, respondents as Muslim women in having the general motivation visit sharia salons and spas because they want exclusive and special places and beauty care services, separate from Muslim male and female non-Muslim men and women to maintain privacy and Muslim aurat so that it is more flexible and comfortable in getting beauty care. This is not available at conventional salons and spas, so it is the general motivation of respondents to visit sharia salons and spas. The results of the descriptive statistical analysis also showed that the mean for General Motivation was 4.22 or included in the very positive regional category. This indicates that General Motivation (GM) is very important in encouraging respondents to visit sharia salons and spas.

For the Medium Motivation indicator (MM), based on the recapitulation it is known that the highest mean score is 4.43, namely visiting the sharia salon and spa in order to feel safe in obtaining care (MM4) and the mean mean score for Middle Motivation (MM) is 4.00 or included in the positive area category. This shows that, respondents as Muslim women in medium motivation visit sharia salons and spas because they want exclusive and special places and beauty care services, separate from Muslim male and female non-Muslim men and women to maintain privacy, aurat and avoid ain 'disease (diseases due to eye sight). Muslim women feel more secure in getting beauty care. This answer supports the biggest main motivation is to get flexibility in doing care. This is not available at conventional salons and spas, so it is motivating for middle class respondents to visit sharia salons and spas. The results of the descriptive statistical analysis also showed that the mean for Middle Motivation was 4.00 or included in the positive area category. This indicates that Middle Motivation (MM) plays an important role in encouraging respondents to visit sharia salons and spas.

In terms of Other Motivation (OM), based on the recapitulation it is known that the highest mean score is 4.35, namely visiting a sharia salon and spa because it hopes that the services provided are as comfortable as home (OM2) and the mean score for Middle Motivation (MM) is 4,24 or included in a very positive regional category This shows that respondents as Muslim women in having other motivations visit sharia salons and spas because they want a comfortable place and beauty care services like at home because of services that are able to maintain the privacy and privacy of Muslim women in obtaining

beauty care. This answer supports the main motivation and the biggest medium motivation is to get flexibility and a sense of security in doing care. This is not available at conventional salons and spas, so it is another motivation for respondents to visit sharia salons and spas. The results of the descriptive statistical analysis also showed that the mean for Other Motivation was 4.24 or included in the very positive regional category. This indicates that Other Motivation (OM) plays an important role in encouraging respondents to visit sharia salons and spas.

Furthermore, the mean mean for Visiting Motivation is 4.13 or in a very positive regional category meaning Visiting Motivation can be an important driver of respondents visiting sharia salons and spas. The most important motivation of visiting is to encourage respondents to visit sharia salons and spas consisting of Primary Motivation, which is to expect freedom in obtaining special and exclusive beauty treatments separate from Muslim and non-Muslim men as well as non-Muslim women, Middle Motivation, namely expecting security because it maintains privacy and genitals and other motivations, that is, expect comfortable treatment as at home. The results of this study enrich the results of previous studies, namely concepts and models of the Tourist Career Path Model from Pearce and Lee (2005) developed by Panchal (2012).

*Perception Analysis of Activities (On Site-Travel).* The second objective of this study was to analyze perceptions of activities (on site-travel) felt by tourists of health tourism, sharia salon and spas customers. Perception of activity in this study was measured by 2 (three) indicators, namely activities while in the sharia salon and spa consisting of Recommended Services (R) and Prohibited Services (P). Recapitulation of respondents' answers for each indicator described in Table 2 as follows:

Table 2 – Recapitulation of Visitor Perceptions of Sharia Salons and Spas by Activities

Indicator	Respondents' Selected Scale Percentage					Mean Score
	1	2	3	4	5	
P1	0,0	5,0	14,0	43,0	38,0	4,1400
P2	0,0	3,0	12,0	54,0	31,0	4,1300
P3	0,0	1,0	5,0	44,0	50,0	4,4300
P4	0,0	7,0	19,0	45,0	29,0	3,9600
P5	0,0	2,0	14,0	48,0	36,0	4,1800
P6	1,0	12,0	38,0	30,0	19,0	3,5400
P7	0,0	7,0	25,0	44,0	24,0	3,8500
P8	0,0	7,0	13,0	50,0	30,0	4,0300
P9	1,0	4,0	18,0	49,0	28,0	3,9900
P10	0,0	1,0	3,0	41,0	55,0	4,5000
Average Mean of Prohibited						4,0750
R1	0,0	1,0	9,0	50,0	40,0	4,2900
R2	0,0	0,0	3,0	44,0	53,0	4,5000
R3	0,0	1,0	9,0	55,0	35,0	4,2400
R4	0,0	1,0	5,0	54,0	40,0	4,3300
R5	0,0	1,0	1,0	57,0	41,0	4,3800
R6	1,0	0,0	5,0	51,0	43,0	4,3500
R7	0,0	0,6	17,0	55,0	22,0	3,9300
R8	0,0	7,0	18,0	51,0	24,0	3,9200
R9	0,0	1,0	4,0	62,0	33,0	4,2700
R10	0,0	0,0	5,0	58,0	37,0	4,3200
Average Mean of Recommended						4,2350
Average Mean of Activities						4,1640

Source: Data Processed (2018).

In the case of prohibited service activities (P) the highest mean score is 4,500 which is a prohibition on body tattooing (P10). Nowadays, conventional salon services are in the form of tattoos on parts of the body, eyebrows, lips and or nails so that they get the desired shape and color and are more time-efficient and durable. Based on the respondents' answers in this study, it was shown that, respondents as Muslimah agreed not to request and receive services to tattoo the body in both the temporary and temporary tattoos. This is because the

respondents are aware of the health risks and also the law is forbidden to tattoo the body in Islamic teachings because some opinions of scholars based on the Koran and Hadith (HR. Bukhari No. 5933) such as tattoo ink mixed with body blood will become dry blood that settles and is unclean inherent so that other prayers and worship become invalid (Surah Al-Maidah: 3) and is a prohibition in Islam to change the body parts that have been created by Allah (Surah An-Nisa: 119). The results of the descriptive statistical analysis also show that the mean for Prohibition is 4.075 or included in the positive area category. This indicates that respondents when visiting sharia salons and spas have agreed to avoid prohibited activities (P) in beauty care based on sharia values.

In terms of service activities recommended (R), the highest mean score is 4,500, which is service using halal-based care products (R2). In general cosmetics are made from active substances and additives (additives). Not infrequently these cosmetics consist of many mixtures, both from plants, halal and haram animals, chemical synthetics, microbes, and from human body tissues for example alcohol, pig placenta and pig collagen. Therefore, cosmetic customers need to be vigilant to use cosmetics especially if the cosmetics are made from materials derived from animals or even human organs because they are not halal for Muslim / Muslim use. Sharia salons and spas must try to ensure that the ingredients and processes carried out in cosmetics that are used during beauty treatments really do not contain any illegitimate elements according to sharia and are halal certified. The results of this study indicate that respondents in using salon and spa services in sharia believe that the equipment and cosmetics used by sharia salons and spas are free from haram. The results of the descriptive statistical analysis also showed that the mean for recommendations was 4.2350 or included in the very positive regional category. This indicates that respondents when visiting sharia salons and spas have agreed to receive recommended services (R) in beauty care based on sharia values.

Furthermore, the mean for Activity is 4.16 or is in a very positive regional category, which means that the perception of visitors to sharia salons and spa treatments has been agreed upon when using sharia salons and spas. Activities received by sharia salon and spas customers are most agreed upon by visitors consisting of activities that are prohibited from being accepted or requested, namely tattooing body parts and recommended activities to be accepted and requested, namely the use of halal-based care products. The results of this study enrich the concepts and concepts of the sharia salon and spa standard concept developed by researchers from the results of the first year research and Liu and Wall (2010).

*Benefits Analysis That Was Spreaded (Post-Travel).* The third objective of this research is to analyze the perception of benefits (post-travel) that is felt after health tourism tourists use sharia salons and spas. Perception of activity in this study was measured by 6 (six) indicators, namely the Benefits of Transcendence with God (B1), Benefits of Physical and Appearance Health (B2), Benefits of Escape and Relaxation (B3), Benefits of discovering new and important things (B4) , Benefits of strengthening self-confidence (B5), Benefits of Providing Fun (B6). Recapitulation of respondents' answers for each indicator described in Table 3 as follows:

Table 3 – Recapitulation of Visitor Perceptions of Sharia Salons and Spas Based on Benefits

Indicator	Respondents' Selected Scale Percentage					Mean Score
	1	2	3	4	5	
B1	0,0	10,0	17,0	48,0	25,0	3,8800
B2	0,0	0,0	6,0	64,0	30,0	4,2400
B3	0,0	1,0	4,0	48,0	47,0	4,4100
B4	0,0	1,0	9,0	63,0	27,0	4,1600
B5	0,0	1,0	16,0	53,0	30,0	4,1200
B6	0,0	0,0	6,0	65,0	30,0	4,2500
Average Mean of Benefits						4,1767

Source: Data Processed (2018).

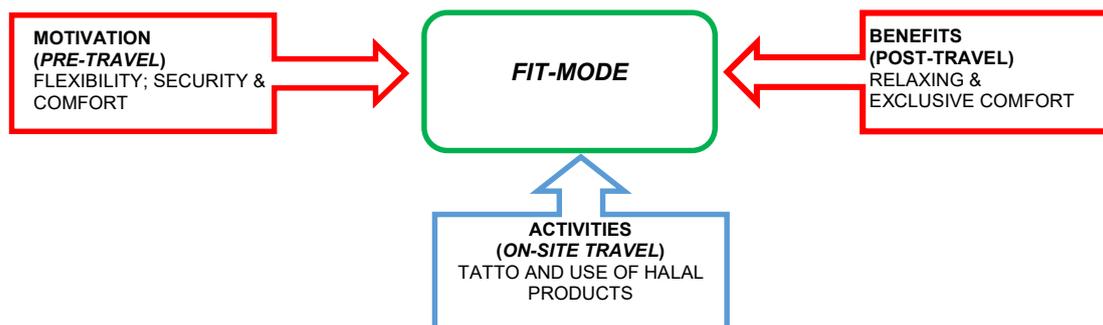


Figure 1 – The compatibility between Motivation, Activities and Benefits of Visitors to Sharia Salons and Spas

In terms of the perceived benefit (B) the highest mean score is 4,4100, the benefit felt after using salon and spa services is that sharia can be comfortable and relaxed because it is exclusive to Muslim women (B3). This shows that respondents after visiting sharia salons and spas get the most important benefits, namely wanting exclusive and special places and beauty care services, separate from Muslim male and female non-Muslim men and women to maintain privacy and Muslim aurat so that it is more flexible and comfortable in getting beauty care. This is not available at conventional salons and spas so that it is the most important benefit for respondents after visiting sharia salons and spas. The results of the descriptive statistical analysis also show that the mean for benefits is 4.1767 or is included in the very positive regional category. This indicates that respondents after using salon and spa services in sharia have benefited as expected. The results of this study enrich the results of research by Voigt et al (2011) who have developed the Model Benefits of Wellness Tourism Scale (BWTS). Furthermore, it is considered to indicate Fit-Mode between the desired motivation before using the service, the activity received while using the service and the benefits felt after using salon and spa services as described in Figure 1.

## CONCLUSION

The results of this study indicate the compatibility (*Fit-Mode*) between the desired motivation before using the service, the activities received during the use of services and the benefits felt after using sharia salon and spa services. For further research, it is hoped that this research can be an important reference regarding sharia salon and spa because there has not been found research on consumer behavior from the perspective of sharia salon and spa customers in previous studies. Further research to test empirically the concepts and models in various sharia salon and spa visitors in other locations both at home and abroad is highly recommended.

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DOI <https://doi.org/10.18551/rjoas.2018-12.24>

## **INTERGENERATIONAL POVERTY AND FAMILY PLANNING PROGRAM IN CENTRAL SULAWESI PROVINCE, INDONESIA**

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### **ABSTRACT**

This study aimed to analyze the influence of family planning on intergenerational poverty of children's education level, the influence of Indonesian Family Planning Program (KB) on poverty, the influence of education, and the influence of husband's and wife's employment field on poverty. The population in this study was husband and wife couples of KB participants and non-KB participants and poor and non-poor people in Central Sulawesi Province. The data used was data from the 2015 National Socio-Economic Survey, which was sourced from BPS (Central Bureau of Statistics), Central Sulawesi Province. The analysis method used was Chi-Square and multiple regression analysis. The results of the study showed that KB influenced the breakdown of the intergenerational poverty chain of children's education level in Central Sulawesi Province. Chi-Square test results obtained  $X^2$  count of 29.096 with p-value with sig of 0.000. Far below the alpha 0.05 which showed that there was a very significant relationship between parents' education level and children's education level. On the other hand, the influence of family planning variable on poverty was negative, namely -79338,086, the influence of husband's education level variable was positive and significant at 99088,078 on the average household income, while the influence of wife's education level on the average household income was 105930,163. The influence of husband's employment field on the average household income was 144715,717, and the influence of wife's employment field variable was positive, namely 54399,094 on the average household income. The contribution of the five variables to the dependent variable was 0.80 or 80 percent. This means the ability to explain the five variables in this study in explaining the dependent variable was 80 percent. On the other hand, the amount of other variable influences was 20 percent against changes in the rise and fall of income or poverty.

### **KEY WORDS**

Intergenerational poverty, family, planning program, public service.

As a national development goal, improving community's welfare should be strived to improve from time to time. Such efforts, therefore, cannot be separated from the role of the government. This role has been formed in various strategies for improving community welfare. Among the strategies carried out by the government for the improvement of community's welfare are marked by the formulation of policies through budget politics in the form of an increase in the state budget, including efforts to achieve economic growth targets that cover the improvement of society from poverty.

To reduce the number of poor people, the government implements it in the form of policy, namely by allocating funds through the state budget every year, which shows an increasing trend. Data from 2004 showed the amount of funds allocated from the state budget was 18 trillion rupiah. In 2010, the budget for the poor increased to 94 trillion rupiah.

Various policies and programs have been carried out by the government as an effort to improve community welfare. The example of various approaches and strategies for poverty reduction that can be carried out by the government, namely; a national policy that directly touches the poor in the form of direct cash assistance as an effort to encourage the supply side, the establishment of poverty reduction committees, etc.

The national budget policy for poverty must have been translated into smaller regions, such as in the Central Sulawesi Province. The Regional Budget (APBD) tends to increase, which is marked by an increase in the budget in 2012, from Rp. 1.78 trillion to 2.38 trillion in

2014. This increase was not necessarily an increase in economic growth, even economic growth fell from 9.53 percent to 5.07 percent. From another aspect, the budget trend has a positive impact on increasing people's income through the expansion of employment and various other economic activities, which is marked by an increase in per capita income from the population, namely from Rp. 22.62 million in 2011 to Rp. 31.88 million in 2014. Along with that, the number of those absorbed in employment increased from 1,250,485 people in 2011 to 1,386,103 people in 2014. An increase in the number of working people corrected the open unemployment rate from 4.27 percent in 2011 to 2.92 percent in 2014. (BPS/Central Bureau of Statistics, Central Sulawesi Province, 2016).

Government efforts in alleviating poverty are marked by the implementation of a national program in the form of Integrated Poverty Reduction Program Based on Village Improvement (PTPK-BBK). This effort is not limited to physical development, but extends to empowerment in the form of increasing human resources and providing KUR capital, and agriculture, hunting and forestry businesses by 23.69 percent. The government has also prepared funds of Rp. 40 billion, which is allocated to several regencies and cities in Central Sulawesi Province for village improvement programs (Bank Indonesia, 2015: 68). Along with the ongoing efforts to prevent people from poverty through the distribution of rice to the poor (*raskin*). The reduction of the poor population in Central Sulawesi Province from a total of 557,400 people, equivalent to 22.42 percent of the total population in 2007 to 387,060 people, equivalent to 13.61 percent of the total population in September 2014, has been a sign of the initial positive impact of the policy.

Poverty is not right if judged based on the number of poor people alone, because there is a poverty dimension that needs to get serious attention in the form of chronic poverty, namely poverty that occurs due to poverty derived by parents to their children. Hartoyo's findings (2014) in Indramayu showed that most of the respondents surveyed experienced the same conditions as the parents: they lived in poverty like their parents. In line with the findings of Maarten Van Ham (2012), who previously found in Sweden that children who lived at home with poor parents would experience a poor life like their parents at the time they became adults. Both of these findings have corroborated the evidence of chronic poverty.

Poverty reduction efforts are therefore not free from population planning activities such as family planning program, namely a family program to reduce population growth. This program has a positive influence on the productivity of the population and state budget. Studies conducted by a non-governmental organization (Countdown Europe, 2015) showed that family planning program could help prevent household poverty. Countries with low fertility rates and slower population growth experienced high productivity growth, more savings and more effective investments. In addition, financing for the family planning program will provide significant benefits in the state income burden. By financing contraceptives for US \$ 3.6 billion per year, it has had an impact on the reduction in health care costs for newborns and their mothers by US \$ 5.1 billion per year, as well as the cost of providing post-abortion care by US \$ 4,140 million per year. Every US \$ 1 spent on a family planning program will save at least US \$ 4 which should be spent treating complications from an unwanted pregnancy.

A large population and high growth rate can be a cause of poverty, therefore reducing the rate of population growth can be a major effort to reduce poverty. National family planning program is considered as a proven program to reduce birth rates so as to inhibit the rate of population growth in Central Sulawesi Province. Although the results of population census (*SP*) in 2010 and 2013 population registrations showed that the population of Central Sulawesi people has increased from 2,635,009 people to 2,7785,488 inhabitants, but relative population growth during 1980-1990, 1990-2000, and 2000-2010 tended to decline from 2.87 percent to 2.52 percent and finally to 1.95 percent.

Therefore, this study aims:

- To analyze the influence of family planning program (*KB*) on poverty in Central Sulawesi Province;

- To analyze the influence of family planning program (*KB*) on the breakdown of intergenerational poverty chain of children's education level in Central Sulawesi Province;
- To analyze the influence of husband's education level on poverty in Central Sulawesi Province;
- To analyze the influence of wife's education level on poverty in Central Sulawesi Province;
- To analyze the influence of husband's employment field on poverty in Central Sulawesi Province;
- To analyze the influence of wife's employment field on poverty in Central Sulawesi Province.

## LITERATURE REVIEW

Poverty is defined as the inability of the population to meet the minimum food requirements equivalent to 2100 calories per capita per day coupled with the minimum non-food needs (BPS,2016). Poverty in terms of income is a level of income or revenue of a person, family and society that is below the certain poverty line, mainly due to the low mastery of assets such as land, capital and business opportunities.

The poor are always in a state of helplessness or inability to meet basic needs, namely inability to (1) carry out productive business activities, (2) reach access to socio-economic resources, (3) determine their own destiny and always get discriminatory treatment, and (4) free themselves from poor mentality and culture and always having low dignity and self-esteem. This helplessness and inability create a poor behavior and mentality which leads to the loss of independence in trying and enjoying dignified welfare (Arsyad, 2010: 300)

According to Ludwig and Mayer (2006), there were three main variables that greatly affected intergenerational poverty, namely education, environment and family. School, in this case, education, was seen as an institution where children could get knowledge and skills that were very important for long-term economic success. Families had an important role to play in supporting and stimulating children's achievements in education. Their results also revealed that there was a relationship between parents' characteristics and their children's income after adulthood. Furthermore, the results of this study also showed that there was no correlation between religious obedience of parents and intergenerational poverty.

Jenkins and Siedler (2007) explain that the process of poverty begins at the family level. The ability and education of parents will affect the future conditions of children through the passage of time and consumption given by parents to children. In this case, the ability of parents to provide quality food consumption with good nutrition to children will affect the child's ability and quality in the future. Health and education are included as transferred human capital.

Stenberg (2000, in Sugiyarto, 2008) suggests three explanations of intergenerational poverty transmission, namely through the factors of culture, behavior, and economic structure related to economic policy. In the behavioral-cultural factor, it describes the transmission of poverty culture such as lack of proper education, poor finance, and lack of social participation in poor families. Policy factor is related to the welfare system in society. Welfare benefits for poor families can stimulate a culture of poverty and trap poor families in poverty.

The policy to expand opportunities to get education for the poor is not a guarantee for them to get out of poverty if there are no jobs for them to work. Todaro also states that getting a higher degree does not necessarily mean increasing the ability to do productive work. Education that is oriented towards modern urban sector work will not always have an impact on job creation. Skill-oriented education can help the poor to create their own jobs. Therefore, investment in skill education is more suitable, especially at the high school level and higher education level so that the poor can create their own jobs.

Family planning is essentially a program that plays an important role in creating future generations of Indonesian people who are qualified and able to compete with other nations. If

each family plans the birth of a child responsibly, we will have a future generation of high quality and ready to be used by country.

*Frame of Reference.* The purpose of family planning is to regulate the desired pregnancy, which is the ideal number of children, namely 2 children. With a total of 2 children, parents have the ability to raise and care them well. With a small number of children for parents, there is a lot of free time that can be realized for economic activities outside the home. The results of research conducted by (Nurdyana, et al. 2012) showed that the variable number of children less than 3 (2 children) had a negative influence on poverty and was significant at 1% confidence level. Conversely, the number of 3 children and above had a positive influence on poverty.

Housewives being active at work will provide additional income for the family. The increase in household income will have an impact on increasing the purchasing power on the education and health of children. The increase in education will affect the quality of human resources. Quality human resources will have an impact on increasing productivity. By increasing productivity, it directly increases their income and thus they will get out of the circle of poverty. This is in line with Becker (1995), who stated that investment in education and other human capital was one of the most effective ways to increase decent income and health of the poor.

Expansion of employment is a factor that contributes to poverty reduction. Quality education will make it easier for the poor to get jobs that can provide high income so that they can get out of the poverty trap.

*Hypotheses.* From a framework that is built from the theories adopted in this study, the researchers formulated the research hypotheses, as follows:

- Family Planning Program (KB) influences the breakdown of intergenerational poverty chain of children's education level in Central Sulawesi Province;
- Family Planning Program (KB) has a negative influence on poverty in Central Sulawesi Province;
- Husband's education level has a positive and significant influence on poverty in Central Sulawesi Province;
- Wife's education level has a positive and significant influence on poverty in Central Sulawesi Province;
- Husband's employment field has a positive and significant influence on poverty in Central Sulawesi Province;
- Wife's employment field has a positive and significant influence on poverty in Central Sulawesi Province.

## **METHODS OF RESEARCH**

The data used in the study were secondary data from the National Socio-Economic Survey in 2015. While the data sources were from the BPS/Central Bureau of Statistics of Central Sulawesi Province. Other sources were obtained from the BKKBN/ National Population and Family Planning Agency of Central Sulawesi Province.

*Operationalization of Research Variables:*

- Family planning is the participation of respondent's households in family planning. KB membership status was measured using a nominal scale, namely 1 for KB participant and 0 for non-KB participant (dummy variable);
- Intergenerational poverty is poverty from parents who are passed on to children. This study used a proxy of children's education level to see the existence of intergenerational poverty;
- Parent education is the education level that is completed which is indicated by a letter of graduation;
- Revenue is the average amount of per capita income obtained by households in this study;

- Employment field is the field of employment of respondents in the work grouped in: 0 = does not work; 1 = agriculture field and 2 = non-agriculture field;
- Poverty Size used the average per capita income approach per month with reference to the poverty limit criteria of BPS in 2015. The poverty line indicator used was Rp. 338,443 per capita per month.

*Data Analysis Method.* Data analysis method used to analyze the data of this research was descriptive analysis and associative analysis. Descriptive analysis used cross tabulation analysis and continued with Chi-square analysis, while associative analysis used multiple regression analysis approach. To answer:

- The first research question, the researchers used Chi-Square analysis method with the following formulation:

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

Where:  $f_o$  = Frequency of Observation;  $f_e$  = Frequency of Expectation.

Criteria for testing hypotheses:

- $H_o = 0$ , there is no difference in children's education level between KB participants and non-KB participants.
- $H_a \neq 0$ , there are differences in children's education level between KB participants and non-KB participants.

Testing criteria:

- $H_o$ , is accepted if  $\chi^2$  count  $\leq \chi^2_{\alpha(k-n)}$ ;
- $H_a$ , is accepted if  $\chi^2$  count  $> \chi^2_{\alpha(k-n)}$ .

- The second, third, fourth, and fifth research questions, the researchers used multiple regression analysis with the following equation model.

$$Y = a_0 + b_1D + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

Where:  $Y$  = Average income per capita;  $a$  = intercept (constant);  $b_1$  = regression coefficient for  $D$  (KB);  $D$  = a dummy free variable with two categories;  $b_2$  = regression coefficient for  $X_2$  (Husband's education level);  $b_3$  = regression coefficient for  $X_3$  (Wife's education level);  $b_4$  = regression coefficient for  $X_4$  (Husband's employment field);  $b_5$  = regression coefficient for  $X_5$  (Wife's employment field).

- Testing of Partial Regression Coefficients (t test). This test was conducted to see the significance of the influence of the independent variable on the dependent variable. The hypothesis used were as follows:

$H_o: b_1 = 0$ , KB does not influence poverty;

$H_a: b_1 < 0$ , KB has negative and significant influence on poverty;

$H_o: b_2 = 0$ , Husband's education level does not influence poverty;

$H_a: b_2 > 0$ , Husband's education level has negative and significant influence on poverty;

$H_o: b_3 = 0$ , Wife's education level does not influence poverty;

$H_a: b_3 > 0$ , Wife's education level has negative and significant influence on poverty;

$H_o: b_4 = 0$ , Husband's employment field does not influence poverty;

$H_a: b_4 > 0$ , Husband's employment field has negative and significant influence on poverty;

$H_o: b_5 = 0$ , Wife's employment field does not influence poverty;

$H_a: b_5 > 0$ , Wife's employment field has negative and significant influence on poverty.

## RESULTS AND DISCUSSION

*The relationship between participation in Family Planning and Children's Education Level.* The more children, the greater the burden on parents to raise their children. In households that have a small number of children will have the ability to educate their children

at a higher education level. Conversely, in households that have a large number of children, they will experience barriers in sending their children to a higher level. The results of this study confirmed this statement, as seen in Table 1.

Table 1 – Cross Tabulation Between Children's Education and Family Planning Status

Children Education Level	KB Status		Total
	With KB	Without KB	
Low/Primary	563 (62.9)	1508 (52.8 %)	2071
Middle/Secondary	293 (32.7%)	1217 (42.7)	1510
Higher	39 (4.4%)	127(4.5%)	166
Total	895 (100 %)	2852 (100%)	3747

Source: Data is processed from the results of the National Socio-Economic Survey (Susenas), Year 2015.

Table 2 – Results of t-test with Chi Square Test

n/n	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.096 <sup>a</sup>	2	.000
Likelihood Ratio	29.535	2	.000
Linear-by-Linear Association	20.625	1	.000
N of Valid Cases	3747		

a. 0 cells (.0%) have expected count less than 5.  
The minimum expected count is 39.65.

Table 2 shows the difference in the number of children with secondary and higher level of education from households that participated in family planning and households that did not participate have family planning. The absolute and relative number of children who were able to reach up to secondary and higher education levels was found more in households with family planning compared to households without family planning. In secondary education level, the number of children from non-family planning households was 293 or relatively 32.7%, while for households with family planning, there were 1,217 people or 42.7%. The same grouping pattern also occurred in higher education. Households with family planning were slightly higher compared to the children education's level from households that did not participate in family planning.

This difference was further strengthened by Chi-square analysis where the chi-square test results in a Pearson chi-square ( $X^2$  count) of 29.096 with a p-value of sig 0.000 was far below the confidence level of 0.05, this means rejecting the null hypothesis and accepting the alternative hypothesis which stated that there was a significant difference between children's education level from families who participated in family planning and families who did not participate in family planning to access education. Thus it can be said that family planning was able to break the intergenerational poverty chain in the field of children's education level.

The family planning program is a program implemented by the government with the aim of reducing population birth rates, this program will in principle limit birth to fertile age couples (PUS), so that in the long run it is expected to contribute to the improvement of community welfare. This view is a consideration for the importance of expanded family planning program and it is expected that more and more people will participate.

To increase family planning participation, at the beginning of the launch of this program, the government has issued a policy in the form of procuring contraceptives (Alkon) which was distributed to the KB participants for free. However, along with increasing needs and limited government budgets, the government only provided long-term contraceptives, on the other hand the needs of the community increased so that its availability became very limited. This situation had an impact on the increasing number of couples of childbearing age who wanted to participate in family planning but did not have the ability to get it (unmet need).

One of the prerequisites for building an ordinary least square (OLS) multiple regression model is by first going through a classic assumption test.

Multicollinearity test aims to test whether the correlation between independent variables is found in regression model. Testing the presence or absence of multicollinearity can be seen from the values of Tolerance and Variance Inflation Factor (VIF). The value commonly used to show the presence of multicollinearity is if the Tolerance value is  $<0.1$  or  $VIF > 10$ . Based on Table 4.20, it can be seen that the Tolerance value of the five independent variables in this study was greater than 0.1 and the value of (VIF) also showed the number smaller than 10. This means that the multiple regression model used in this study showed no correlation between independent variables or there was no multicollinearity.

Table 3 – Results of Relationship Test between Independent Variables Using Collinearity Test

Independent Variable	Collinearity Statistics		Remarks
	Tolerance	VIF	
KB	0.999	1.0001	No multicollinearity
Husband's Education Level	0.574	1.743	No multicollinearity
Wife's Education Level	0.580	1.724	No multicollinearity
Husband's Employment Field	0.834	1.200	No multicollinearity
Wife's Employment Field	0.913	1.095	No multicollinearity

Scatterplot

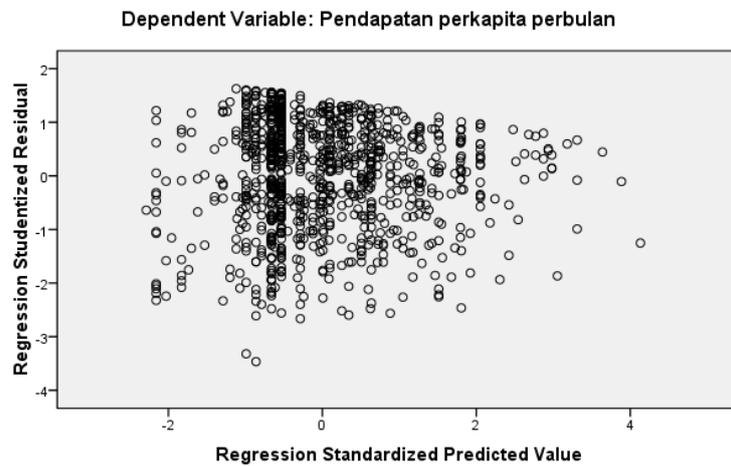


Figure 1 – Results of Heteroscedasticity Test

Based on data processing through the use of the SPSS program, the standard and non standard regression coefficients were obtained as shown in Table 4.

Table 4 – Results of Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	141278.587	43019.248		3.284	.001
	KB (X1)	-79338.086	28371.183	-.043	-2.796	.005
	Husband's education level (X2)	99088.078	13268.779	.151	7.468	.000
	Wife's education level (X3)	105930.163	13453.497	.158	7.874	.000
	Husband's employment field (X4)	144715.717	25711.060	.094	5.629	.000
	Wife's employment field (X5)	54399.094	14976.005	.058	3.632	.000

a. Dependent Variable: Per capita income per month

*The Influence of KB participation variable (X<sub>1</sub>) on poverty.* The results of this study showed that the coefficient of the direction of family planning variable on poverty was negative at -79,338.086 which meant if there was a reduction in children by 1 person, it would have an impact on increasing the average family income by 79,338.06. Or in other words, a group of husband and wife who participated in family planning would have an

impact on the increasing average household income as a result of the reduced number of children they had. The results of this study were in line with research conducted by Faturochman. et, al. 1998 who showed that the correlation between income and number of children was -0.41, which showed that family planning was negatively related to income, but affected the reduction in household expenses as a result of the small number of children. The results of other studies conducted by Natsir, et al (2016), Arianti, et al. (2012), and Nurdyana et al. (2012) stated that there was a negative relationship between income and number of children. This means that the more children in a household of reproductive age couples, they would be more likely to be trapped in a circle of poverty. Thus it can be said that the participation of households of reproductive age couples in family planning can increase income. In line with this statement, the research conducted by (Budiono, et al, 2012) concluded that the number of household members under the age of 15 years had a positive influence on poverty at a 1% significance level. The marginal influence value was 0.0347, which can be interpreted that the addition of one person to the number of household members under the age of 15 from the average would increase the likelihood of households falling in poverty by 3.47 percent.

The results of this study were also in line with the results of research conducted by Countdown 2015, which showed the benefits for countries that run family planning program if the cost of the need to meet the needs of unmet need for modern contraception in developing countries increased by US \$ 3.6 billion per year. The existence of these costs has had an impact on the reduction in the cost of health services for newborns by US \$ 5.1 billion per year, and the cost of providing post-abortion care decreased by US \$ 140 million per year. The results of this study also proved that Central Sulawesi Province needed to continue implement KB program as a strategic program in alleviating poverty in this area.

The number of children had a positive influence on poverty because a large number of children would affect the average household income. Research conducted by (Natsir et. Al, 2016) showed the relationship that the increasing number of children who lived would increase the weight of household burden in meeting the basic needs of children under five. The results of logistic regression showed that the odds ratio was 0.701. Then the probability of children under five who lived in households that had children over 1 (one) was  $1/0.701 = 1.427$  times became absolute poor compared to children under five who lived in households that only had one child under five. The high opportunities that occurred in households with more than one child under five illustrated that the regulation of birth spacing was one of the dominant factors in the occurrence of absolute poverty in children.

*The Influence of Husband's Education Level variable ( $X_2$ ) on poverty.* Education and health have had a significant influence on poverty reduction and China's economic growth. Education influences fertility decline and is supported by the policy of *1 household 1 child* which has contributed to the reduction in fertility rates. Improving education and improving health have an influence on increasing the quality of human capital skills and the quality of human resources of the Chinese population. This has affected the increase in productivity and the decline in poverty rates in China. In line with this, it has an impact on China's economic growth (Sen, 1999).

Improving the quality of human resources through education can have a long-term impact on the termination of the cycle of poverty. The higher the education level of the husband, the greater the knowledge he has, especially the knowledge related to behavior by how to build a household to be free from poverty. Higher education has the opportunity to get higher jobs than those with lower level of education. The results of this study indicated that the magnitude of the coefficient of education direction on the average household income was 99,088.078. The direction of the influence of the husband's education level on the family's average income was positive and significant with a p value of 0.000 far below the confidence level of 0.05. The results of testing this hypothesis gave the meaning of rejecting the null hypothesis and accepting an alternative hypothesis which stated that the husband's education level had a positive influence on income. This means that the higher the education level, the higher the average household income level.

*The Influence of Wife's Education Level variable ( $X_3$ ) on poverty.* Like husband's education level, wife's education level contributed to household income. The higher the wife's education level, the greater the opportunity to get a job. The results of this study indicated that the influence of the wife's education level variable on income was positive at 105,930.163 which showed that the higher the wife's education level, the more likely it was to get a better job and the greater the possibility of an increase in income. Research conducted by (Arianti, *et al*, 2012) showed that there was a positive influence between education and poverty. The results of the regression coefficient were 494884,059 which mean that if there was an additional one year of education, it would increase monthly income by Rp 49,484,059. Research conducted by Jonaidi (2012) showed that there was a negative relationship between literacy and poverty. The result of the regression coefficient between literacy and poverty was equal to -0.3024, which meant that every increase in population literacy by 1 percent caused a decrease in the number of people living below the poverty line by 0.3024 percent.

The results of this study were in line with the results of studies conducted by economists who show that education is one of the factors that can release the population from the confines of poverty. The study conducted by Schultz *et al* (1964) stated that one of the several important factors that led to the rapid growth of the American economy was education financing which was relatively always increasing. This study showed that the dollar invested in education brought a greater increase in national income than the dollar used for other infrastructure development because there was no meaning of physical capital built without the support of the existence of quality human capital.

The results of this study were also in line with the statement (UNFPA, 2011) which stated that to break the intergenerational poverty chain; it can be done through investments in education and health, especially education and health for women and girls. By investing in education and health, it will have an impact on increasing family productivity in the long run. Todaro (2011) stated that women's involvement in alleviating poverty was not only as a complement, but women's involvement must be made the most important and consistent and effective basis for alleviating poverty.

*The Influence of Husband's Employment Field variable ( $X_4$ ) on poverty.* The husband is a household head who has the responsibility to fulfill all the needs of the child and his wife. To be able to reach a more prosperous life, a husband as the head of the household always makes every effort to get something to meet the needs of his family. For husbands who have a job, fulfilling their family's life needs is not as difficult as an unemployed husband. The results of research conducted by Nurdyana, *et al.* (2012) revealed that the variable household heads's employment in the agricultural sector had a significant influence on poverty.

The status of work is divided into employed and unemployed, which has an influence on poverty in a household of a married couple. Those who are unemployed will have a great opportunity to be trapped in the confines of poverty. Conversely, those who have jobs, they are less likely to live in poverty. With the income earned by their work, they can meet the needs they want. The results of this study indicated a positive relationship between the husbands who works with the level of income. This means that a husband who has a job will have the possibility not to be confined to a circle of poverty.

The results of the regression coefficient in this study obtained a value of 144,715.717 which gave meaning if a husband works then he would give a direct influence on increasing the average income of their household by 144,715.717 rupiahs. Thus the higher the level of income, the greater the possibility of not being trapped in poverty. The results of this study were in line with research conducted by Putri *et al* (2013) which stated that the type of work had a positive and partially significant influence on the income of poor households. While the results of research conducted by Wirawan, *et al.* (2015) who stated that unemployment partially had a positive and significant influence on the number of poor people in Bali Province.

*The Influence of Wife's Employment Field variable ( $X_5$ ) on poverty.* When the number of children in a household is small, a lot of free time is owned by the family to be able to earn

an additional income for their household. Thus the allocation of time for carrying out economic activities is influenced by demographic factors. A number of studies have found (Todaro, 2011) that if the share of women's income in the household is relatively high, discrimination against girls will be smaller, and women will be better able to meet their own needs and raise their children. Conversely, if household income is very little, then almost all women's income is used to meet the needs of family nutrition. Because the share of the contribution of men's income to household needs is smaller, the increase in male income is not proportional to the increase in funds needed to fulfill their daily needs.

Wife education is very influential on the jobs involved. Data from research showed that the higher the level of wife education, the more likely she was to be involved in work. That is to say, a high education level heightens the level of partitioning of women or wives in working primarily on non-agricultural employment. The results showed that the influence of women's education in this case the wife had a positive influence on income. The result of the regression coefficient between the wife's employment field and income was positive at 54,399.094. This means that if a working wife would have an influence of 54,399.094 rupiahs on the increase in their household income.

The results of this study were in line with the time allocation theory that the fewer number of children born, then there would be more and more free time to do economic activities through work to increase income in the household. The wife has a double burden in the household. The wife has a double duty, in addition to earning a living through work as a housewife who employs domestic work, namely cooking and caring for children.

### **CONCLUSION AND SUGGESTIONS**

Based on the results of the research and analysis conducted by researchers, it can be concluded that:

- Family planning program have influenced the intergenerational poverty chain in children's education level in Central Sulawesi Province;
- Family planning program is identified as having a negative and significant influence on the average household income;
- Husband's education level has a positive and significant influence on the average household income;
- Wife's education level has a positive and significant influence on the average household income;
- Husband's employment field has a positive and significant influence on the average household income;
- Simultaneously, the five variables namely family planning participation, husband's education level, wife's education level, husband's employment field and wife's employment field that were studied has a very significant influence on income (poverty);
- R Square of 0.123. According to Hair, et al (2010), R Square figure of 0.123 with a sample of more than 1000 (one thousand) equivalent to R Square 0.80 means that the contribution of the five variables to the rise and fall of poverty in Central Sulawesi Province is 80%. While the contribution of other variables is  $1 - 0.80 = 0.20$ . This means that the magnitude of the influence or contribution of variables outside the variables analyzed in this research model is 20 percent.

Suggestions that can be submitted for specific policy makers of the National Population and Family Planning Agency are as follows:

- The results show that family planning program is able to break intergenerational poverty chain in the field of education. Therefore, it is necessary for the government, in this case, the National Population and Family Planning Agency, to maintain a free distribution program for contraceptives for sub-age couples, especially for the poor;
- Education is the highest variable in determining the rise in the level of income or poverty. If the poor have access to assistance in education, then they are likely to be

able to get adequate education and be able to get jobs which pay them better so they can get out of the poverty trap. Conversely, if they cannot access education, then they will not be able to pass on something to their next generation so they can be trapped in poverty from one generation to the next;

- There is a need for policy efforts that focus on reducing poverty. With a more targeted policy, it allows for the increase in income of poor people which can further stimulate their demand or power for local products to meet their daily needs such as food and clothing as a whole. Thus, it can move the wheels of the local economy.

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DOI <https://doi.org/10.18551/rjoas.2018-12.25>

**INVESTMENT FEASIBILITY ANALYSIS IN PLANNING THE ESTABLISHMENT OF HEALTHY FOOD RESTAURANT AND CATERING BUSINESS “HEALTHY KITCHEN” OF PT DAPUR KULINER SEHAT**

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**ABSTRACT**

Investment is a plan to invest resources that aims to obtain benefits in the future. It also applies to the establishment of healthy food restaurant and catering business. This study aims to determine the level of business feasibility in healthy food restaurant and catering “Healthy Kitchen” which is designed based on financial aspects. In addition, this study also aims to determine the rate of return of the business. The research was conducted to the business establishment plan of PT Dapur Kuliner Sehat. The data used in this study are secondary data in the form of raw material prices, sales projections for competitors in the healthy food culinary industry, and others. The data collection was conducted using observation and literature methods. The feasibility aspect used in this study is the financial aspect. The evaluation methods of the investment feasibility in financial aspects are Net Present Value (NPV), Payback Period (PP), Internal Rate of Return (IRR), Return on Investment (ROI), and investment sensitivity analysis. The findings showed that the plan in the establishment of PT Dapur Kuliner Sehat business has profitable business prospects so that it is feasible to be realized. That is indicated by the value of Payback Period method which showed that the Rate of Return on this healthy food restaurant and catering business is 2 years and 2 months. The Net Present Value method showed a positive value of IDR 86,662,424,281. The IRR method showed a value of 109.13% which is greater than the bank interest rate. The Return on Investment (ROI) method showed a ROI value of 17%, which means that the initial investment capital of IDR 2,138,855,361 will generate a net profit of 17%. Meanwhile, in the calculation of investment sensitivity analysis, if there is a decrease in sales of 20%, the value of the Internal Rate of Return (IRR) is 89.90%, the Net Present Value (NPV) is IDR 72,298,091,942, and the payback period is 3 years and 3 months.

**KEY WORDS**

Investment, feasibility analysis, business feasibility, healthy food, restaurant, catering.

The large number of people with degenerative diseases supports the need for healthy food consumption, considering that these patients must be more concerned with the food they consume. Based on data from the Health Research and Development Agency (2016), the number of consumers suffering degenerative diseases in Jakarta in 2016 included 26,572 people with diabetes, 403 people with chronic kidney, 70,538 people with hypertension, and 6,049 people with coronary hearts. Thus, the total number of consumers suffering from the diseases is 103,562 people per year. Based on data from the Health Research and Development Agency (2016), it was found that the number of people aged 40 years and over who were interested in consuming healthy food was 1,992,583. Meanwhile, the number of people with diabetes, chronic kidney disease, hypertension and coronary heart disease in Jakarta was 103,562 people. So, if the three data are summed, it can be concluded that the overall number of enthusiasts of healthy food is 2,096,145 people per year. Meanwhile, the number of restaurants and catering that provide healthy food in Jakarta is limited to only twelve restaurants and catering; which only serves 287,640 people per year. Based on that calculation, the average total demand is 2,096,145 people per year which is then reduced by the number of offers of 287,640 people per year. Therefore, there is still a gap between requests and offers of 1,808,505 people per year. Therefore, it can be

concluded that there is still a gap between the number of requests and offers. It means that there are still problems in which the number of consumers who need healthy food cannot be supplied by the existing restaurants and catering. So, there is a considerable opportunity for newcomers in the healthy food industry to reach the number of unmet demands.

Based on the description of the above background, the author is willing to take existing business opportunities by establishing a healthy food restaurant and catering. However, only analyzing investment feasibility cannot determine whether or not the business is feasible. Thus, the author initially conducted a research about investment feasibility analysis in planning the establishment of healthy food restaurant and catering business "Healthy Kitchen" of PT Dapur Kuliner Sehat in Jakarta.

## THEORETICAL FRAMEWORK

*Payback Period (PP) Method.* The Payback Period shows how long (in a few years) an investment will get a payback. Assessment of investment projects using this method is based on the duration of the investment to be covered with annual cash flow that does not include interest in the calculation.

*Net Present Value (NPV) Method.* Net Present Value (NPV) is a standard financial assessment method for long-term projects (De Reyck et. al., 2008; Shrieves & Wachowicz Jr, 2001 ). This method uses a discount interest rate that will affect cash flow. The discount rate is the interest rate set by the government at commercial banks. This is different from the payback period which does not pay attention to the time value of money (Pasqual, et. al., 2001). In this method the present value of money is more valuable than the value of money in the future because it can be invested, saved, or deposited in a certain period of time and will get additional profits from its interest (Petković et. al., 2016). NPV can be calculated from the amount of net cash during the project period, with the general formula as follows:

$$NPV = \frac{1st\ year\ net\ cash}{(1+r)} + \frac{2nd\ year\ net\ cash}{(1+r)^2} + \dots + \frac{n\text{-}year\ net\ cash}{(1+r)^n} - investment\ value$$

Where: n = investment project age; r = interest rate; Net cash = net cash flow in that year; Investment value = initial investment capital in the 0 year.

If the NPV is > 0, the investment is considered as profitable and worthy of being accepted.

*Internal Rate of Return (IRR) Method.* In addition to using the NPV method, the Internal Rate Return (IRR) method is also used as a standard to assess the feasibility of long-term project investment (Hartman & Schafrick, 2004). If the interest rate NPV method has been previously set, the IRR actually calculates the interest rate. IRR is defined as the discount rate when the NPV is zero. In other words, IRR is the interest rate when the value of the initial investment equals the future value of the cash flow throughout the life of the project; with the following formula:

$$IRR = P - C1 \times \frac{P2 - P1}{C2 - C1}$$

Where: P1 = interest rate 1; P2 = interest rate 2; C1 = value NPV 1; C2 = value NPV 2.

If the IRR at the end of the project life is greater than the discount rate, the project can be accepted. If the IRR value gets bigger, then the profit of the project is also getting bigger.

*Return on Investment (ROI) Method.* Return on investment is the ability of a company to generate profits that will be used to cover investments they are going to issue (Erdogmus et. al., 2004). This ratio sees the extent to which the productivity of the assets owned is able to provide returns as expected. This ratio is calculated by comparing the value of post-tax net income with the company's asset value. The calculation of the ratio of return on investment is assessed by the following formula:

$$ROI = \frac{Post\text{-}Tax\ Net\ Income}{Total\ Assets}$$

A good Return on Investment (ROI) value depends on the standards of the business industry. The Return on Investment (ROI) value of 10% is considered to be good.

*Investment Sensitivity Analysis Method.* Since the parameter values in technical economics studies commonly estimate the magnitude, it is clear that these values cannot avoid the error factor (Jovanović, 1999). It means that the values of these parameters may be larger or smaller than the estimation results obtained or changed at certain times. Changes that occur in parameter values will certainly result in changes at the level of output or results indicated by an alternative investment. These changes in the level of output or results allow decisions to change from one alternative to another. If changes in these factors or parameters cause a decision to change, then the decision is sensitive to changes in the value of these parameters or factors. To find out how sensitive a decision is to changes in factors or parameters that influence it, then any decision-making on technical economics should be accompanied by sensitivity analysis. This analysis will provide an overview of the extent to which a decision will be strong enough to deal with changes in the influencing factors or parameters. Sensitivity analysis is carried out by changing the value of a parameter at a certain time to then see how it affects the accessibility of an investment alternative. The parameters that can influence the changes in investment value include price changes, delay in project implementation, increase in costs, and inaccurate estimates of production results.

The objectives of Sensitivity Analysis include: 1) assessing what will happen with the results of the feasibility analysis of an investment or business activity if there is a change in the calculation of costs or benefits, 2) the feasibility analysis of a business or business calculation generally based on projections containing uncertainty about what will happen in the future, 3) analysis of post investment criteria is applied to see what will happen to the economic conditions and the results of business analysis in the changes or inaccuracies in the calculation of costs or benefits.

## RESULTS AND DISCUSSION

*Initial Investment Capital.* In planning the value of the initial investment, PT Dapur Kuliner Sehat has planned the initial investment costs before the company runs. The investment aims to purchase assets and finance working capital needed to run the company's operational processes, building renovations and purchase company assets. Investment Capital which is needed for the initial establishment of PT Dapur Kuliner Sehat is IDR 2,138,855,361. Several types of investments needed by PT Dapur Kuliner Sehat and the size of the investment value can be seen in the following table.

The following is the amount of the initial investment needs of PT Dapur Kuliner Sehat.

Table 1 – Planning of Investment Costs

Initial Investment Costs	Total
Licensing Cost	IDR 12,300,000
Tool Purchase Cost	IDR 382,217,999
Information System (IT) and Mobile Application Costs	IDR 55,000,000
Building Rental Cost (1 year)	IDR 670,000,000
Renovation and Interior Design Costs	IDR 35,000,000
Equipment Purchase Cost	IDR 143,615,400
Logo Making Cost	IDR 1,500,000
Packaging Design Making Cost	IDR 1,890,000
Advertising, Promotion, and Pre-Operational Marketing Costs	IDR 10,640,000
Opening Ceremony Cost	IDR 11,000,000
Employee Salary and Benefit Costs	IDR 487,909,232
Employee Recruitment and Training Costs	IDR 25,553,000
Miscellaneous Costs	IDR 27,234,256
Total Working Capital	IDR 1,863,859,887
Save Money	IDR 274,995,475
Total of Investment	IDR 2,138,855,361

*Income.* The net income of PT Dapur Kuliner Sehat comes from healthy food restaurant sales and healthy food catering package sales for one month plus other sales such as asset sales minus sales discounts and sales returns. The most possible estimated income of PT Dapur Kuliner Sehat is calculated from the expected sales volume of the target market share. The market share taken by the Healthy Culinary Kitchen is 10% of the number of opportunities in the healthy food culinary industry. Thus, the number of sales projections is adjusted to the market share, the production and service capacity of PT Dapur Kuliner Sehat. The following is a projection of the number of sales (portion) of PT Dapur Kuliner Sehat.

Table 2 – Calculation of the Number of Sold Portions

Components	Total
Request	IDR 2,096,145
Offer	IDR 287,640
Opportunity	IDR 1,808,505
% of Opportunity	86%
Market Share	10%
Total Sales Projection	IDR 180,675

The following is a projection of net income for PT Dapur Kuliner Sehat.

Table 3 – Recapitulation of Company Income

Year	Income
1	IDR 18,254,687,900
2	IDR 21,605,619,330
3	IDR 26,336,634,793
4	IDR 33,320,262,535
5	IDR 80,505,056,548
6	IDR 92,897,224,351
7	IDR 108,373,625,954
8	IDR 128,768,927,256
9	IDR 299,070,720,152
10	IDR 352,774,695,102

*Expenses.* The costs incurred by PT Dapur Kuliner Sehat include sales cost, marketing cost, general and administrative expenses, and tax burden. Sales cost is cost incurred in connection with the sales business, such as the cost of promotional cost and advertising cost, raw material cost and operational cost.

The following is the detail of the sales cost of PT Dapur Kuliner Sehat.

Table 4 – Sales Cost of PT Dapur Kuliner Sehat

Components	Costs in the 1 <sup>st</sup> Year
Salary Expense	IDR 857,310,000
Maintenance Expense	IDR 75,000,000
Depreciation Expense	IDR 46,134,408
Total of Fixed Costs	IDR 978,444,408
Operating Cost	
Raw Material Cost	IDR 5,934,943,070
Promotion and Advertising Cost	IDR 44,988,000
Overhead	IDR 120,220,800
Total of Operating Cost	IDR 6,100,151,870
Total Cost	IDR 7,078,596,278

The marketing department of PT Dapur Kuliner Sehat has targets to be achieved including increasing market share, increasing customer retention, increasing customer satisfaction, and increasing the brand. To achieve these targets, certain programs or strategies need to be implemented which of course need costs. The marketing costs needed are system maintenance cost and promotional cost.

The following is a detail of the marketing cost of PT Dapur Kuliner Sehat.

Table 5 – Sales Cost of PT Dapur Kuliner Sehat

Components	Costs in the 1 <sup>st</sup> Year
Search Engine Optimization (SEO) Maintenance, Website	IDR 5,988,000
Mobile Application	IDR 8,000,000
Installation of Ads on Social Media such as Instagram, Facebook, Youtube, etc.	IDR 18,000,000
Zomato	-
Birthday Gift	IDR 8,100,000
Discount	IDR 4,900,000
Total Cost	IDR 44,988,000

During the company's operational period, PT Dapur Kuliner Sehat must bear administrative and general expenses. These expenses must be paid when the company produces the product or not; such as human resources (HR) cost and the purchasing office stationery cost. Human resources (HR) expenses consist of salary expenses and work requirements for the human resources department. Salary expenses consist of basic salary, meal allowance, transportation allowance, position allowance, old age insurance, health insurance, and pension insurance. There are also employee insurance costs, payment cost for the Social Security Organizing Agency (BPJS) and annual bonuses for employees. Meanwhile, the costs of other human resources (HR) departments are recruitment costs. The other costs are the telephone payment cost and the purchasing office stationery cost. The following is the details of administrative and general expenses of PT. Dapur Kuliner Sehat.

Table 6 – Administrative and General Expenses of PT Dapur Kuliner Sehat

Components	Costs in the 1 <sup>st</sup> Year
Salary	IDR 4,512,000,000
Social Security Organizing Agency (BPJS) of Employment	IDR 216,919,812
Social Security Organizing Agency (BPJS) of Health	IDR 98,739,216
Insurance	IDR 315,600,000
Holiday Allowance	IDR 207,100,000
Bonus	IDR 203,760,000
Training and Development	IDR 25,000,000
Office Stationery	IDR 7,950,000
Electricity Payment	IDR 72,000,000
Telephone Payment	IDR 460,800
LPG Purchase	IDR 8,160,000
Total Cost	IDR 5,667,689,828

PT Dapur Kuliner Sehat will fulfill company tax obligations. The tax in question is the Corporate Income Tax (PPB). The amount of PPB, according to the applicable provisions, is 25%. In addition, PT Dapur Kuliner Sehat will also fulfill company obligations for income tax on employee salaries—based on the article 21—that will be calculated and paid for and reported by the company by issuing Tax Sector Letters (SSP) and Tax Annual Return (SPT) every month.

The following is the PT Dapur Kuliner Sehat's taxes:

Table 7 – Tax Burden of PT Dapur Kuliner Sehat

Components	Costs in the 1 <sup>st</sup> Year
Corporate Income Tax	IDR 35,268,474
Income Tax 21	IDR 4,659,776
Total Cost	IDR 39,928,250

*Investment Feasibility Analysis of PT Dapur Kuliner Sehat.* Based on our calculations, the payback period for investment capital of IDR 2,138,855,361 is 2 years and 2 months.

Based on the net present value calculation of PT Dapur Kuliner Sehat, it is found that the NPV is IDR 86,662,424,281 or NPV > 0. It means that the present value of total demand is greater than the present value of total costs, so that the investment is feasible.

Based on the calculation of the Internal Rate of Return of PT Dapur Kuliner Sehat, it is found that the IRR value is 109.13 percent. This value is greater than the discount value or

bank loan interest rate of 15%, so it is considered that this business project is profitable and feasible to run.

Based on the calculation of the Return on Investment of PT Dapur Kuliner Sehat that we have calculated previously, the first year has a value of 17%. It means that the initial investment capital of IDR 2,138,855,361 will generate a net profit of 17%, which is above the industry standard of 10%. Therefore, that this business is worth to do investment.

The following is an illustration of the description of how the sensitivity analysis of PT Dapur Kuliner Sehat during the decrease in product sales by 20 percent.

Table 8 – Sensitivity Analysis with Scenario of Decreasing Sales by 20 Percent

Description	Size	Total
Based on the projection	-	180,675
NPV *)	IDR	IDR 86,662,424,281
IRR	%	109.13%
PBP	Year	2 years and 2 months
Description	Size	Total
If the sales decrease by 20%	-	144,540
NPV *)	IDR	IDR 72,298,091,942
IRR	%	89.90%
PBP	Year	3 years and 3 months

In this calculation of sensitivity analysis, PT Dapur Kuliner Sehat made an assumption of calculating a decrease in sales of 20% of the value of the previous sales scenario. The sales decline of 20% still shows a positive signal. Thus, the value of the company can still be maintained.

## CONCLUSION

This business plan is feasible because it provides a high rate of return to its shareholders. This conclusion can be seen from the positive profit that has been recorded since the first year with an average growth of 103 percent, a positive Net Present Value of IDR 86,662,424,281, the Internal Rate of Return (IRR) of 109.13 percent. That exceeds the cost of equity capital by 22 percent. In addition, dividends have been made since the first year of operation of 40 percent of net income after tax. Payback period ranges from 2 years and 2 months. Meanwhile, in the calculation of investment sensitivity analysis, if there is a decrease in sales of 20%, the value of the Internal Rate of Return (IRR) is 89.90%, the Net Present Value (NPV) is IDR 72,298,091,942, and the payback period is 3 years and 3 months.

Thus, in terms of finance, this business plan is feasible to run. This research has shown that the investment feasibility analysis in the PT Dapur Kuliner Sehat business is very good from the financial aspects. This analysis shows that healthy food restaurant and catering business have good prospects. For further research, future researchers should explore the existing information in more detail so that the findings can be used as information material to develop healthy food restaurant and catering businesses.

Generally, there are still limitations in the business feasibility analysis of PT Dapur Kuliner Sehat (Restaurants and Catering “Healthy Kitchen”); among others, the analysis of competitor offers for healthy food restaurant and catering is calculated based on the secondary data, i.e. observations conducted by the researchers on the number of guests who came to the restaurant, not the primary data from competitors, i.e. data on the number of consumers and the amount of income.

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DOI <https://doi.org/10.18551/rjoas.2018-12.26>

## **STRATEGY OF AGROTOURISM POTENTIAL DEVELOPMENT IN AGROPOLITAN SENDANG AREA, TULUNGAGUNG EAST JAVA PROVINCE OF INDONESIA**

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### **ABSTRACT**

Since 2004, Sendang district has been designated as an agropolitan area. However, its development still faces so many obstacles until now, and result in a low economic income. The aims of this study are to analyze the potential for the development of agrotourism in Sendang as well as formulate appropriate strategies in accordance with its potential. The research method combined both qualitative and quantitative approach. A qualitative approach is used to explore the potential that can be developed as agrotourism, while a quantitative approach is used to formulate the most appropriate agrotourism development strategies. Data obtained from direct observation, semi-structured interview with stakeholders, and distributing questionnaires to 50 visitors. Then, the obtained results were analyzed using the SWOT strategy with IFAS and EFAS analysis. The results show that there are two villages that have more potential than the other villages, both of them are Geger Village and Sendang Village. Potentials found in Geger Village are agriculture, livestock, plantation, ornamental flower cultivation, natural tourism, historical and cultural tourism. While the potentials that exist in Sendang Village are livestock sector, historical tourism, craft and arts sector. The direction of the strategy for the development of agrotourism in the Agropolitan Sendang Area is in quadrant I. An aggressive strategy using the strength opportunity strategy (SO) is selected as the best strategy for Sendang. The strategy that will be developed is collecting data on tourism potential and tourist attraction objects; improving the management by involving the community; strengthening the synergy between local governments, private sector, and the surrounding community; actively conducting promotions and socialization.

### **KEY WORDS**

Agropolitan Sendang area, agrotourism development, potential, strategy, SWOT.

Agropolitan Area is one of the approaches to develop rural-base agriculture (Sunfianah and Haryono, 2014). The aim is to make the community or farmers able to sell their agricultural products directly, and reduce production and marketing costs (Syahrini, 2001). The realization of agribusiness efforts in rural and urban areas can accelerate regional economic development. The target of developing the agropolitan area is the empowerment of the community as agribusiness actors, the development of superior agricultural commodities, the institutional development and service providers for farmers, and the development of facilities and infrastructure (Buang, *et al.*, 2011). So far, the Agropolitan Program has not been widely known by the community and various facilities have not been optimally utilized (Farhanah and Prajanti, 2015). Agrotourism Area is a place where tourists can spend their holidays in the village by enjoying agricultural atmosphere at an economical cost. In addition,

it utilizes agricultural sector and allows tourists to gain knowledge, build business collaboration related to agriculture, and relax (Fleischer and Tchetchik, 2006). The transformation of agricultural areas into agrotourism will benefit the local society, as they will still be able to perform agricultural activities while on the other hand gain income from tourist visits. The interesting part of developing agrotourism in Indonesia is each region has various options to highlight different agrotourism attractions, including agricultural activity and local culture (Srivastava, 2016).

Since 2001, several regencies in East Java have implemented agropolitan development programs, one of them is Tulungagung regency. The agricultural sector in Tulungagung Regency has the potential to be the main capital for regional development. Based on the Decree of the regent No. 16 of 2004, Sendang has been designated as an agropolitan area with most of the population working as farmers and breeders. The implementation of agropolitan program in Sendang has a goal to improve the regional economy through superior commodities of horticulture and dairy cattle (Region Regulation of Tulungagung, 2004). Based on the Tulungagung Regent Regulation No. 24 of 2014, the aim of agropolitan development is to improve the regional economy and community welfare. However, community's income in Sendang is still low. Due to various obstacles faced by agropolitan development in Sendang (Prasetya, 2015). Accordingly, potential exploration must be accompanied by planning and development strategies.

Therefore, it is necessary to explore other potential so that the economy of Sendang's community will significantly be better. One of the potential is by developing agrotourism and utilizing agricultural products that already exist in the Agropolitan Sendang Region. So, this study aims to analyze the agrotourism potential and formulate appropriate strategies to develop agrotourism in accordance with the potential of the agropolitan sendang region.

## METHODS OF RESEARCH

**Study Site.** This research was conducted in the Agropolitan Sendang Region in Sendang District, Tulungagung Regency, East Java Province of Indonesia for 5 (five) months from May to September 2018. Sendang District has 11 villages and is located in the northwest of Tulungagung Regency.

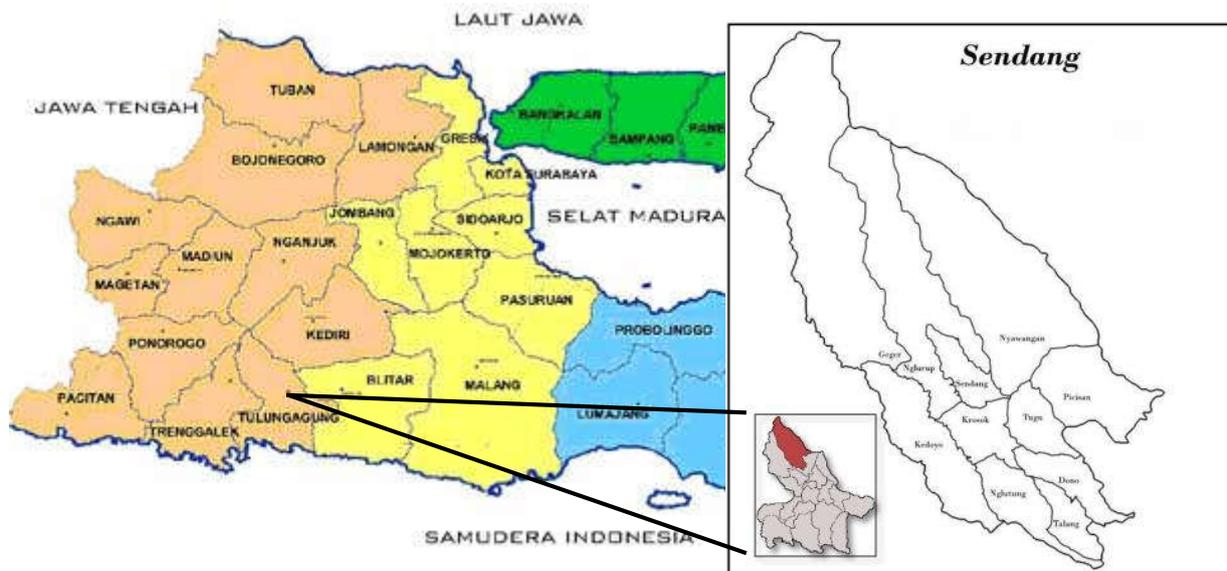


Figure 1 – Location of Studied Area

**Data Collection.** This research applied mixed method that combined two approaches, namely qualitative and quantitative. Qualitative approach was used to explore the potential that can be developed as agrotourism, while quantitative approach was used to analyze the strategy of developing agrotourism in Agropolitan Sendang Region. This study collected both

primary and secondary data. Primary data was obtained from direct observations in the field, distributing questionnaires to tourists, and performing semi-structured interview to communities around the study site. Whereas secondary data was obtained from relevant agencies and literature studies. Respondents in this study were people around agrotourism, tourists visiting Sendang Sub-district, and related agencies. The snowball sampling technique was conducted to select the respondents.

*Data Analysis.* Observation and interview data were analyzed using qualitative descriptive approach. While data of questionnaire was analyzed using quantitative descriptive approach. Strategy development was planned using SWOT analysis which consists of some aspects, including strength (S) and opportunities (O), weaknesses (W) and threats (T). An assessment (weighting) was measured by using IFAS-EFAS analysis to determine the basic concepts of agrotourism development. Then, the result was presented in the form of a quadrant to obtain an appropriate development strategy (Parmawati, *et al.*, 2018).

## RESULTS AND DISCUSSION

*The potential of Agropolitan Sendang Area.* Sendang district has a lot of potentials, including natural resources and social culture that can be developed into tourism. From eleven villages in Sendang district, two of them have enormous potency, namely Geger village and Sendang village. Some of the potency has already begun to be developed but still not managed properly. However, there are still plenty hidden potentials which deserve to be developed better.

*Geger Village.* As many as six potentials can be developed into various attractions in Geger village (Table 1). The first potency is the agricultural sector, as Geger village is the largest crops producer in Sendang district. Based on data, there are at least 14 types of crop in Geger village and total of 981 community work as farmers.

Table 1 – The Potential Attraction of Geger village

Potency	Tourist attraction
Agriculture	Producing vegetable and fruit noodles Organic product Beautiful scenery
Livestock	Milking Training on fertilizer production
Plantation	Tea plantation Coffee plantation Food truck of OMAH KOPI Producing banana chips and “sale pisang”
Ornamental flower cultivation	Photo spot Defloration
Natural tourism	Tracking Waterfall Beautiful scenery Swimming pool
Historical and Cultural tourism	Traditional ceremony of Buceng Robyong Penampihan temple

The community of Geger relies on mountain slopes for agriculture, because it's supported by enough water capacity to plant various crops. As an agricultural center, Geger village has the potential to be used for educational purpose related to crops cultivation. Some of the crops are processed into food, such as vegetable noodles, banana chips, and “sale pisang”. The second potency is in the livestock sector, as dairy farming contribute a lot in the economic of Geger village. In fact, Geger village is the largest good quality milk producer in Tulungagung. Moreover, Geger village has suitable weather to support dairy farming. Geger village has the most dairy farmers (865 farmers) among other villages in Sendang district with approximately 3792 dairy cattles. The third potencies are the tea and coffee plantation as the main commodity in Agropolitan Sendang Area. Geographically, Sendang located in

the highland which has a stable temperature and humidity for high-quality tea and coffee production. Sendang district produced various tea products, including red tea, green tea, and herbal tea. According to Koththagoda and Dissanayake (2017), recently, many countries are developing tea as tourist attraction. Tea tourism is a tourist concept that emphasizes recreation while gaining experience and education. Tea has its own historical identity, tradition and culture that can attract tourists to come and visit. Meanwhile, coffee varieties that can be found are Robusta, Arabica, and Liberika. Sendang's coffee is planted at the elevation of 700-1200 masl at the foot of Wilis mountain. According to Baffes (2005), coffee is a valuable commodity after oil as it can be enjoyed by all people. 90% of coffee production is very influential on the country's economy. The existence of coffee tourism is one way that can overcome the economic difficulties faced by farmers.

The fourth potency is ornamental flower cultivation in Geger village, which is the largest producer of ornamental flowers, especially Chrysanthemums. This flower has attractive shapes and colors which makes it popular among ornamental plant's lover. Besides its popularity as ornamental plant, Chrysanthemum also functions as medicine which makes its economic value. Accordingly, Chrysanthemum cultivation can be a promising business (Prasetio, 2010). The visitors do not need to pay for the entrance ticket, however visitors can buy these flowers at an average price of Rp. 15.000,- /10 flowers. Moreover, beautiful greenhouse is also available for the visitors. The fifth potency is Lawean waterfall, a natural tourism in Sendang district. This waterfall is originated from the slopes of Mount Wilis which has elevation of 1200 masl. Visitors need to walk for 3 km to reach the waterfall. Lawean waterfall offers a calm atmosphere, cool and fresh air, and natural view that is well-preserved. The hill with the flow of beautiful waterfall complements the beauty of Lawean waterfall. More interestingly, local beliefs, stated that swimming in Lawean can cure all diseases, also attract more visitors to come. The last potency of Geger village is its historical and cultural tourism. The well-known historical tourism in Sendang is Penampihan temple. Penampihan Temple used to be a place of worship since the era of Mataram Hindu, Singosari, Kediri to Majapahit. "Wilis" was engraved on the inscription which later known as the name of Mount Wilis. Every 1st Suro there is always a Buceng Robyong ceremony centered on Penampihan Temple. This ceremony is carried out as a form of preservation of springs. This ceremony is held every 1 year.

Table 2 – The Potential Attraction of Sendang village

Potency	Tourist attraction
Livestock	Milking Pasteurization Biogas training Training on fertilizer production Making milk products
Historical tourism	Mbah Bodo grave site Arga Wilis guest house Traditional ceremony of Siraman Barongan
Craft and Art sector	Making "Batik Tulis" of Sendang Karawitan

*Sendang Village.* The potency of Sendang village is less than Geger village. Sendang village only has 3 potential sectors, including livestock, historical tourism, craft and art sector (Table 2). The most prominent livestock sector of Sendang District is the dairy farm, as the milk quality is as good as the one produced by Geger village. It also provides educational facilities related to biogas production and milk pasteurization that can be experienced directly during the visit. Milk will be processed into several products, such as yoghurt and milk with various flavors. There are also milk crackers, milk sticks and milk candy. According to Tong, *et al.* (2016), in recent years, tourists have increasingly emphasized the importance of culinary or food experiences when choosing tourist destinations. The second potency is historical tourism, known as Mbah Bodo grave site which located close to Arga Wilis guesthouse. There are collections of statues in the grave. Sendang village always holds a

traditional ceremony called Siraman Barongan every August 17th. This ceremony is a splash event carried out by traditional elders to all artists in Sendang district. According to Noonan (2017), the diversity of tourist attractions can appeal tourists' interest to stay longer. As cultural tourism, a tour in Sendang village will be able to broaden life's views and experiences by learning customs, historical heritage, religious ceremonies, activities of the local community, and works produced.



Figure 2— The potential tourism attraction of Agropolitan Sendang Area. (a) Lawean waterfall (b) Chrysanthemum flowers (c) Penampihan temple (d) Food product from livestock sector (e) Training on batik production (f) Milk and yoghurt products with various flavors

One of the best known craft in Tulungagung is “batik”, produced in Sendang village. Batik from Sendang village has its own uniqueness as it is only producing “batik tulis”, so each motif will be limited edition. There are various fabrics used, including cotton, satin, or silk with synthetic or natural dyes from leaves. The price is range from 250 thousand to million rupiah, depends on the fabric, motif, and coloring ordered. Tourists can observe and self-experience the process of making batik. According to Nyawo and Mubangizi (2015), the growth of the tourism industry can be considered as successful if a tourist area has a stable business growth, one of it is through art and craft market. The presence of craft SMEs product has the potential to provide job vacancy for local residents. The craft sector is very instrumental in the development and growth of rural economies.

*Agrotourism Development Strategy in Agropolitan Sendang Area.* Direction for the strategy of developing agrotourism in Agropolitan Sendang Area was determined using SWOT analysis. After identifying the potential, the next stage was performing analysis by assessing internal and external factors using the IFAS and EFAS matrix. Based on the table, the value of internal factor strength (S) and weakness (W) are 1.94 and 1.55, respectively (Table 3). Sendang district has unspoiled tourism potential. Moreover, the community of Sendang district has begun to understand the concept of agrotourism and support the development of agrotourism. This is proven by the openness of the community to tourists. The example of community’s participation is renting homestay. It’s also evidence that the community is aware of the business opportunities that will be generated. This involvement is important to improve the quality and living standards, tourist expectations, protection of nature and culture (Katarzyna, 2010).

Table 3 – Internal Strategy Factor Analysis

Internal Factor	Weight	Rating	Score
<b>Strenght (S)</b>			
Community response to the development of agrotourism in the Agropolitan Sendang Area	0.09	3	0.27
The openness of the community to accepts tourists	0.08	3	0.24
The participation of Agropolitan Sendang Area towards the agrotourism development	0.09	4	0.36
The existence of community economic motivation in the Agropolitan Sendang Area to increase their income	0.08	3	0.24
The presense of traditional arts and historical relics in the Agropolitan Sendang Area	0.08	3	0.24
Tourism potential in the Agropolitan Sendang area is still natural	0.08	4	0.32
Community understanding of agrotourism	0.09	3	0.27
<b>Total</b>	<b>0.59</b>		<b>1.94</b>
<b>Weakness (W)</b>			
Lack of promotion	0.09	4	0.36
lack of adequate accessibility to the Agropolitan Sendang area	0.09	4	0.36
location of Agropolitan area far from the center of Tulungagung regency	0.08	3	0.24
Agropolitan area doesn't have garbage dump or landfills	0.09	3	0.27
Lack of community interest in managing craft	0.08	4	0.32
<b>Total</b>	<b>0.43</b>		<b>1.55</b>

However, community knowledge about agrotourism management is still very lacking, so it's still constrained in promoting agrotourism. Therefore, it is necessary to hold socialization for the community with experts, so that the development of agrotourism runs optimally. In addition, the community also needs the participation of both central and village government to support the development activities. Adequate facilities will provide comfort and convenience for tourists, just as explained by Pratiwi. *et al* (2016).

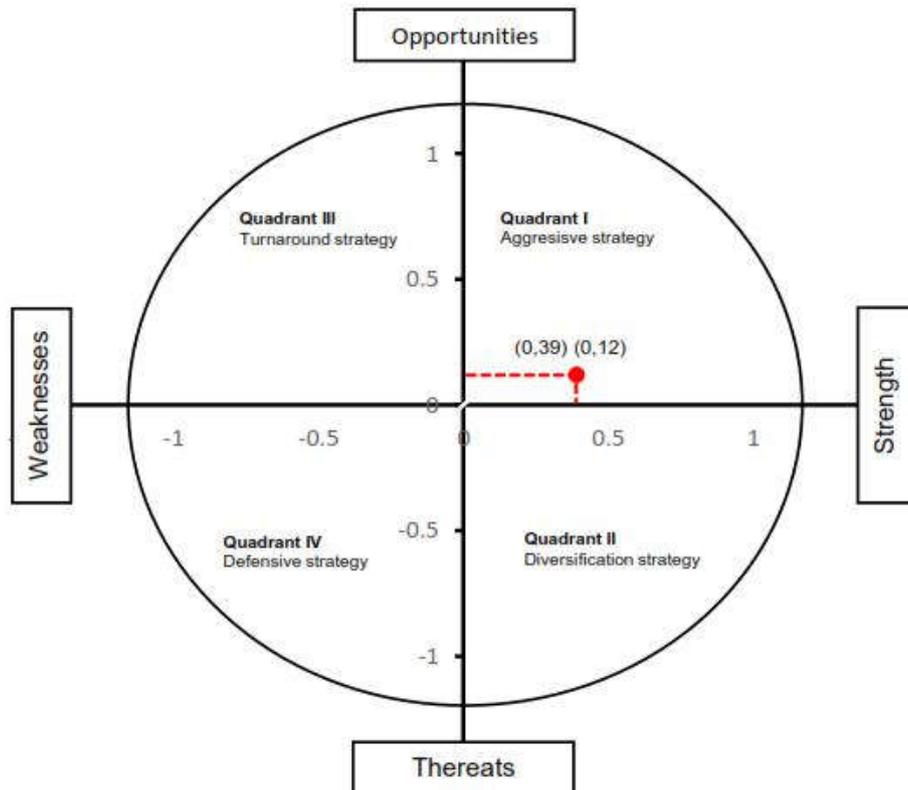


Figure 3— Agropolitan Sendang Area on IFAS-EFAS Analysis Strategy Quadrant

The results are that the external factor opportunity (O) and threat (T) have a value of 1.62 and 1.5, respectively (Table 4). Sendang district has abundant natural resources and various kinds of tourism potential. It can be considered as a great opportunity to develop

agrotourism in Sendang District. In this case, both the government and community should be able to take advantage of the opportunities. They have along with maintaining the environmental sustainability. The existence of tourism development can give positive or negative impacts.

Table 4— External Strategy Factor Analysis

External Factor	Weight	Rating	Score
<b>Opportunity (O)</b>			
It has variety of tourist attractions (natural, historical, religious, and culinary tourism)	0.09	3	0.27
Compliance of the community of Agropolitan Sendang Region to community leaders	0.08	3	0.24
The abundance of natural resources	0.1	3	0.3
Potential tourists from domestic and abroad	0.1	3	0.3
The role of communication media	0.08	3	0.24
Opportunities are still open because only Sendang District is an Agropolitan Area	0.09	3	0.27
<b>Total</b>	<b>0.54</b>		<b>1.62</b>
<b>Threat (T)</b>			
Lack of policies and participation from local governments that support the development of agrotourism	0.09	4	0.36
Community are less concerned about developing creativity	0.1	3	0.3
There are still many community who do not care about the environment	0.11	3	0.33
Road infrastructure to Sendang district that enters other Districts is still inadequate	0.09	3	0.27
Educational background of the Sendang District community	0.08	3	0.24
<b>Total</b>	<b>0.47</b>		<b>1.5</b>

The positive impact is the development of new infrastructure that can be utilized by all parties, while the negative impact is the possibility of threatening environmental sustainability if the government and society do not make greater efforts to protect it. That one of the main tourist sites of a particular region consists of natural resources (Mogollon, *et al.*, 2011). If the community has a low level of education regarding to the importance of environment sustainability, it's possible that the awareness to protect the nature will be low too. Therefore, the community needs the participation of the local government to help developing Sendang district.

SWOT quadrant analysis was combining the analysis of both internal and external factors. The goal is to get the quadrant position which will later be used as a reference for the development of agrotourism in the Agropolitan Area, Sendang District. The value was obtained from the differences within internal factor scores (strengths - weaknesses) and the differences within external factor scores (opportunities - threats) with the following calculations:

$$\text{Strengths} - \text{Weaknesses} = 1,94 - 1,55 = 0,39;$$

$$\text{Opportunities} - \text{Threats} = 1,62 - 1,50 = 0,12.$$

The analysis results show that the development of agrotourism in the Agropolitan Sendang Region was in the quadrant I position, using an aggressive strategy. This position is very profitable because the internal strength can be used to take advantage of various opportunities. Agropolitan Sendang area can continue to develop the existing potentials while reducing the weaknesses. The direction of the strategy for the development of agrotourism in the Agropolitan Sendang Area is explained below:

- Data collection, related to the development of tourism potential and objects of tourist attraction in the entire Sendang District. The collected potential data will facilitate the development effort by highlighting the distinct potential own by each village. This data also beneficial to easily manage the development strategy, environmental damage and exploitation. Another advantage facilitating tourists to choose the desired tour easily.
- Improving the management by involving the local community, because they have an important role in planning, implementing, managing and evaluating the development strategy. This serves to provide an opportunity for the community to enjoy the benefits of the developed tourism. This kind of involvement will encourage the community to

provide support and active participation in preserving the environment, since they have a sense of belonging to the potential that exists. In addition, it will also improve the quality of human resources related to tourism issues.

- Strengthening the synergy between local governments, private sector and surrounding communities. Synergy needs to be developed to create mutual agreement in efforts to conserve nature so that no damage will occur due to tourism development. Each institution has its own authority to preserve the environment. Without cooperation, the goal will be very difficult to achieve. Of course there must be formulations to provide solutions.
- Promotion and socialization by highlighting the strengths own by each region such as traditional arts or traditional ceremonies held in Sendang District. The participation of social media plays an important role in the process of promotion and socialization regarding to the development of agrotourism in Agropolitan Sendang Area. Socialization to the community is expected to increase people's understanding of agrotourism and its benefits. Besides that, it can support the quality improvement of human resources in the development of agrotourism. On the other hand, promotional efforts are expected to increase tourist visits to Agropolitan Sendang Area.

## CONCLUSION

Based on the research that has been conducted, it can be concluded that out of 11 villages in Sendang district, there are two villages that have the most potential to be developed into agrotourism namely Geger Village and Sendang Village. Geger Village has potential in regard to agriculture, livestock, plantation, ornamental flower cultivation, nature, historical and cultural tourism. While Sendang Village has potential related to the livestock, historical tourism, the arts and crafts sector. Geger village is famous for its agricultural products while Sendang Village is famous for its livestock products.

Directions for the development strategy of agrotourism in Sendang district including: data collection of tourism potential and tourist attraction objects; improve the management by involving the community; strengthen the synergy between local governments, private sector, and the surrounding community; actively conduct promotions and socialization.

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DOI <https://doi.org/10.18551/rjoas.2018-12.27>

## **THE ANALYSIS TOWARD FACTORS THAT AFFECT SALES WORK PERFORMANCE AMONG INSURANCE AGENTS OF PT. SINAR MAS BOGOR**

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### **ABSTRACT**

This study aims to determine the effect of organizational customer orientation towards customer orientation, and also examined the effect of environmental sales condition on adaptive selling, as well as the influence of consumers' orientation and adaptive selling on insurance agent performance. The study was conducted on 37 insurance policy agents at PT. Asuransi Sinar Mas in Bogor. The analysis used Partial Least Square (PLS). The results showed that the organizational customer orientation has significantly positive effect on consumer orientation. Environment sales conditions also have positive significant effect on adaptive selling. In addition, consumer orientation and adaptive selling also have significantly positively effect on the salespersons performance.

### **KEY WORDS**

Organizational customer orientation, customer orientation, environmental sales conditions.

The tight competitions between companies has demanded the salesmen to develop some competitiveness points through relational approach more intensively, thus the business will be continuously developed. That is why the companies must be able to transform their salesman to be adaptive. Roman, S. and Iacobucci, D. (2010) states that the effectiveness of adaptive sales is effects by the working environment. Meanwhile, according to Rentz et al. (2002) salesman must be able to filter some sales techniques that will be use later on the field, thus it will be easier for them to adapt with the environment and condition of market. That is why the implementation of adaptive sales is effects by the working environment.

Another factor that affects the working performance of salesman is customer orientation and customer oriented selling. the characteristic of customer orientation sales which is implemented by some companies are keep in good touch with the customers, diagnose the customer's need, trying to build long term relationship with customers, and overcome the problems which has something to do with the quality of product and services from companies (Flaherty et al., 2001). Brasher et all (2007) firmly stated that customer orientation is learned behavior which is affected by environment factors, which is adapted during several times. The organization custom helps to develop the behavior and attitude of sales performance (Rozell et al., 2003). That is why the culture of companies who applies customer orientation is in positive outcome within customer orientation approach.

The salesman who applies customer orientation will create plus points that will give more attraction in product offer and become a strong candidate of predictor for future market (Franke and Piller, 2004). This method is already proven by support in cross buying, customer maintenance, and affect direct buying (Dean, 2007).

In insurance market, the human resource is one of important aspect where the companies are must to be able to manage the resource more effective in other to compete with other companies. Because, insurance is one of company type who use services which is very crucial in attracting more customers. The business is very prospective market, and the potential markets are still lots of variety, thus, it will give a long term benefit for the company. The development of macro business that contributes in nation's income for society is one of indication that shows increasing demand of insurance use among society. In summary, the ability of company to attract new customer and maintain the old one will be an important barometer for insurance company.

## METHODS OF RESEARCH

The study belongs to one of casual research, because the research problems stated in the paper is the result of previous studies that needs for supports, examination, and development of conceptualization from the latest facts (Ferdinand, 2006). The data collection technique is using questionnaire. The series of questions has connection with the organizational customer orientation, market's environment, customer orientation, adaptive sales, and salesman working performance. The indications of customer oriented organization environment is taken from Cross et all (2007) within 6 indicators, the indication of sales environment is taken from Franke and Park (2006) within 3 indicators, the customer orientation indications is taken from Cross et all (2007) within 10 indicators, the indications of adaptive sales is taken from Franke and Park (2006) within 5 indicators, and the salesman performance indicators are taken from Cross et all (2007) within 5 indicators.

The respondents of research consist of 37 insurance agents of Sinar Mas Bogor. The questionnaire is handed directly to them. The scale used in this experiment is Likert scale within 5 levels. The analysis techniques in this study is Partial Least Square which is component based predictive model within variance based approach or component based. it means that the data must not meet the ideal criteria, which has not estimated the scale, data distribution, and total sample. In the PLS analysis, it does not require big data assumption, the data must be normal multivariate distributed, and must meet the determinacy condition (Ghozali, 2008:4).

## RESULT OF STUDY

According to the 37 respondents, the sex of respondents are dominated by male which is 27 men or 72,97%, which contains most of 30-40 years old people or 56,76%. The level of education among respondents are dominated by bachelor degree which are 78 people or 56,12%. On one hand, most of respondents have served the company for approximately 3 to 4 years of working which are 19 people or 51,35%.

Table 1 – Statistic Description

Variable	Average	Deviation Standard
X <sub>1</sub>	3,79	0,53
X <sub>2</sub>	3,81	0,61
Z <sub>1</sub>	3,71	0,57
Z <sub>2</sub>	3,71	0,64
Y	3,69	0,73

The descriptive statistic shows in the table 1 that the average number of organizational customer orientation is 3,79 within deviation standard of 0,53, it shows the variation of organizational customer orientation which is 14,03%. The average value of sales environment is 3,81 within 0,61 deviation standard, it shows the variation of sales environment about 16,04%. The average value of customer orientation is 3,71 within 0,57 deviation standard, it shows the variation of customer orientation about 15,44%. the average value of adaptive sales is 3,71 within 0,64 deviation standard, it shows the variation of adaptive sales about 17,23%. The average value of salesman working performance is 3,69 within 0,73 deviation standard, it shows the variation of salesman working performance about 19,85%.

The result of convergent validity analysis, shown in table 2, it stated that all declaration items for each variable is valid as it possesses above 0,7 loading factor value.

The result of discriminant validity examination by comparing the square root of Average Variance Extracted (AVE) for each construct to another. The model results in consistent value within convergent validity test in previous step. The construct root of AVE variable is indicated in bold number, it shows the higher value than construct variable correlation to other variables.

Table 2 – The Outer Loading Value

Variable	Indicator	Loading Factor
Customer Orientation Working Environment ( $X_1$ )	Develop the commitment toward customer.	0,8294
	Provide valuable product to customer.	0,8844
	Understand the customer expectation.	0,9121
	Fulfill the customer satisfaction.	0,7928
	Provide product's prototype.	0,8366
	Measure the customer satisfaction.	0,8073
Sales Environment ( $X_2$ )	The needs and customer type.	0,9260
	Sales situation type.	0,9031
	Products provided by company.	0,7876
Customer Orientation ( $Z_1$ )	Help the customers to find his objective.	0,8262
	Help the customers to find his objective by giving satisfaction.	0,8231
	Reveal the customer expectation.	0,8165
	Help customer discussing the needs.	0,8199
	Provide customer with information and not oppression.	0,8305
	Help customer finding the expected products.	0,8251
	Offer the proper and expected products to the customers.	0,8496
	Answer the questions from customer.	0,8297
	Provide customers with good argument to help them make a better decision.	0,8260
Provide customer with precise data about the products.	0,8189	
Adaptive Sales ( $Z_2$ )	Use different approaches techniques for different customers.	0,9299
	Interchange the approaches technique during interaction with customers.	0,8934
	Reveal the information about customer in order to give them with proper needs.	0,7906
	Effectively interchange the presentation.	0,8633
Sales Working Performance ( $Y$ )	Must be sensitive toward customer need.	0,7212
	The quantity target.	0,8488
	The ability to achieve the target.	0,8913
	The quality of sales working performance related to relationship with customers.	0,8406
	The quality of sales working performance related to time, cost, and planning management.	0,9094
	The quality of sales working performance related to knowledge about customer background.	0,9546

Table 3 – The AVE Root Comparison with Latent Variable Correlation

Variable	X1	X2	Y	Z1	Z2
Customer Orientation Working Environment ( $X_1$ )	0.8448	0	0	0	0
Sales Environment ( $X_2$ )	0.5625	0.8744	0	0	0
Sales Working Performance ( $Y$ )	0.2297	0.53	0.8899	0	0
Customer Orientation ( $Z_1$ )	0.558	0.6435	0.7108	0.8266	0
Adaptive Sales ( $Z_2$ )	0.2303	0.5872	0.8034	0.5714	0.8430

Source: The result of PLS analysis.

Discriminant validity can also be seen in the cross loading value between the indicator and the construct. It can be seen that the correlation of consumer-oriented organizational environment ( $X_1$ ) with the indicator is higher than the correlation of consumer-oriented organizational environment indicator ( $X_1$ ) with sales environment construct ( $X_2$ ), consumer orientation ( $Z_1$ ), adaptive sales ( $Z_2$ ), and salesman performance ( $Y$ ). This also applies to the other four variables, which indicate that the latent construct predicts the block indicator better than the other block indicators. The results can be seen in Table 4.

The result of reliability test within composite reliability analysis is displayed on table 5, it shows that each research variables has composite reliability over 0,70. thus, it could be concluded that each variable possessed good reliability.

The result of structural model is displayed on table 6. the coefficient path test is performed by comparing the t table value on significance level of 5%, it is about 1,96. If the t statistic value is higher than t table value which is 1,96, the coefficient path is certainly significant. According to the structural model, it could be concluded that the customer oriented organization ( $X_1$ ) is positively significant affected toward customer orientation( $Z_1$ ), the sales environment ( $X_2$ ) is positively significant affected toward adaptive sales ( $Z_2$ ),

customer orientation ( $Z_2$ ) is positively significant affected toward salesman work performance (Y), and adaptive sales is positively significant affected toward salesman work performance (Y).

Table 4 – Cross Loading Factor

Indicator	X1	X2	Y	Z1	Z2
X1.1	0.8294	0.3317	0.0922	0.3386	0.1031
X1.2	0.8844	0.4701	0.2063	0.5052	0.1911
X1.3	0.9121	0.5119	0.2209	0.4862	0.245
X1.4	0.7928	0.3411	-0.0111	0.3179	-0.0771
X1.5	0.8366	0.4878	0.097	0.3598	0.1313
X1.6	0.8073	0.5895	0.3745	0.6449	0.3779
X2.1	0.4302	0.926	0.4937	0.5601	0.5545
X2.2	0.4976	0.9031	0.5514	0.6058	0.5172
X2.3	0.5631	0.7876	0.3329	0.5222	0.4643
Y1	0.1683	0.3962	0.8488	0.6109	0.6005
Y2	0.2036	0.5148	0.8913	0.699	0.6954
Y3	0.1917	0.5554	0.8406	0.6395	0.7641
Y4	0.2662	0.4472	0.9094	0.5901	0.7166
Y5	0.1911	0.4327	0.9546	0.6192	0.78
Z1.1	0.4535	0.5076	0.5782	0.8262	0.577
Z1.2	0.2819	0.4009	0.5983	0.8231	0.4264
Z1.3	0.3688	0.439	0.5609	0.8165	0.4402
Z1.4	0.4516	0.6133	0.5431	0.8199	0.4521
Z1.5	0.4329	0.5234	0.7259	0.8305	0.5021
Z1.6	0.5894	0.4635	0.5408	0.8251	0.4919
Z1.7	0.6337	0.6402	0.5735	0.8496	0.5235
Z1.8	0.5151	0.5173	0.5365	0.8297	0.3604
Z1.9	0.4644	0.642	0.6188	0.826	0.4578
Z1.10	0.3546	0.5398	0.5854	0.8189	0.4739
Z2.1	0.2891	0.5898	0.8404	0.5543	0.9299
Z2.2	0.2342	0.574	0.7548	0.5496	0.8934
Z2.3	0.0942	0.4511	0.5423	0.3923	0.7906
Z2.4	0.242	0.4967	0.6499	0.5334	0.8633
Z2.5	0.0384	0.3012	0.53	0.3268	0.7212

Table 5 – The Result of Composite Reliability and Cronbach Alpha

Variable	Composite Reliability	Cronbach Alpha
Customer Orientation Working Environment ( $X_1$ )	0.9372	0.9214
Sales Environment ( $X_2$ )	0.9065	0.8435
Sales Working Performance (Y)	0.9500	0.9337
Customer Orientation ( $Z_1$ )	0.9557	0.9485
Adaptive Sales ( $Z_2$ )	0.9241	0.8971

Source: The result of PLS analysis.

Table 6 – The Examination of Coefficient Significance Path Structural Model

Relation	Coefficient path	t statistics	Note
$X_1 \rightarrow Z_1$	0.5580	6.3696	Significant
$X_2 \rightarrow Z_2$	0.5872	4.8267	Significant
$Z_1 \rightarrow Y$	0.3739	2.4091	Significant
$Z_2 \rightarrow Y$	0.5898	5.0143	Significant

According to Hair et al (2014), generally the R value is 0,75; 0,50; or 0,25 the endogen construct could be described respectively as substantial, moderate, and weak affection. The  $R^2$  Value for customer orientation variable ( $Z_1$ ), adaptive sales ( $Z_2$ ) and salesman work performance (Y) are 0,3114; 0,3449; 0,7396. The customer orientation ( $Z_1$ ), adaptive sales ( $Z_2$ ) and salesman work performance (Y) shows moderate affection.

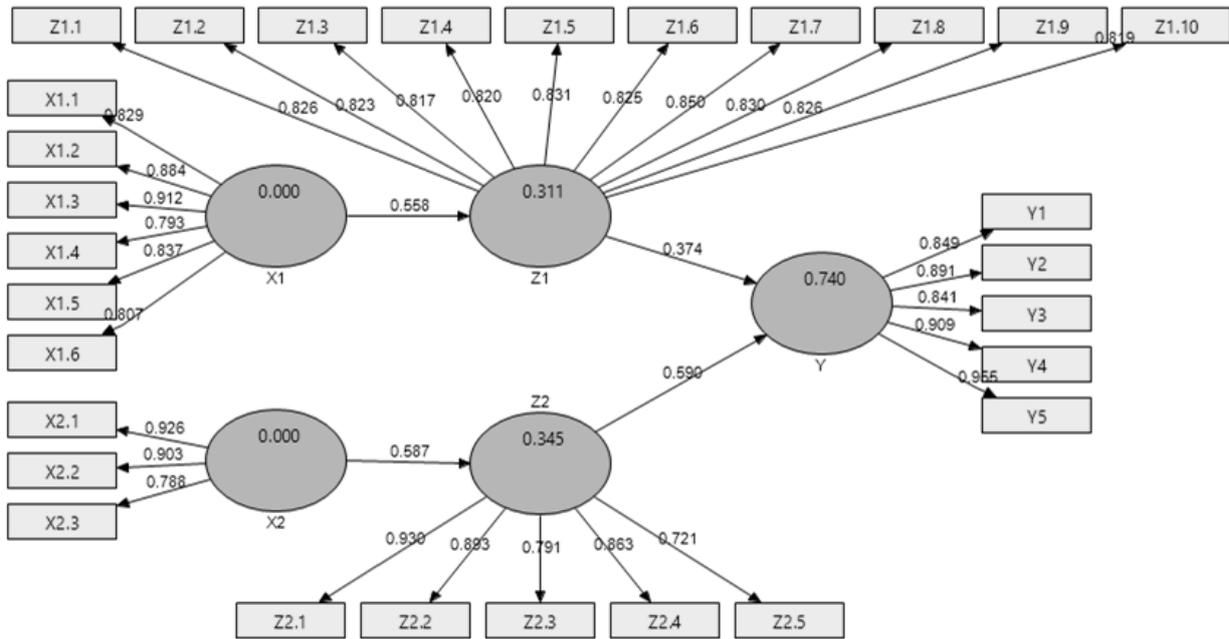


Figure 1 – The result of Partial Least Square analysis

The R Square ( $R^2$ ) value and stone geyser ( $Q^2$ ) for each endogen construct is displayed on table 7.

Table 7 – The value of R Square ( $R^2$ ) and Stone-Geisser ( $Q^2$ )

Endogen variable	$R^2$ Value	$Q^2$ Value
Customer Orientation ( $Z_1$ )	0,3114	0,2072
Adaptive Sales ( $Z_2$ )	0,3449	0,2395
Sales Working Performance (Y)	0,7396	0,5798

The  $Q^2$  value which is higher than zero (0) shows path model predictive relevance for the corresponding construct. The Stone-Geisser value ( $Q^2$ ) for customer orientation ( $Z_1$ ), adaptive sales ( $Z_2$ ) and salesman work performance (Y) are 0,2072; 0,2395; 0,5798. as those Stone-Geisser value are higher than zero, it means that the model possessed predictive relevance for each construct.

### DISCUSSION OF RESULTS

According to the results of the analysis, it can be concluded that the path coefficient is positive with a t value of 6.3696 > t table value of 1.96, this indicates that the consumer-oriented organizational environment ( $X_1$ ) has a positive significant effect on consumer orientation ( $Z_1$ ). Therefore, the first hypothesis which states that the environment of consumer-oriented organization (organizational customer orientation) has a significant positive effect on the orientation of consumer salesmen is accepted.

The consumer-oriented organizational environment will make consumers feel comfortable because they feel cared for. This will have a positive effect on insurance agents in making a better approach to consumers. Your insurance agent will feel comfortable working, because they are supported by a climate and a consumer-oriented corporate culture. This supports the study of Cross et al. (2007) which shows that organizational consumer orientation or consumer orientation environment has a significant effect on consumer orientation. This result is also consistent with the opinion of Stock and Hoyer (2005), that sales people who adopt consumer orientation are the result of organizational and marketing management practices that also focus on consumer orientation.

Second, According to the result of analysis, it is revealed that the path coefficient value is positive within 2,4091 t value which is higher than 1,96. This shows that the customer orientation ( $Z_1$ ) is positive significant affected toward the salesman work performance (Y). That is why, the second hypothesis stated that the customer orientation from salesman is positively affected toward the work performance is accepted.

If an insurance salesman is willing to collect the customer demand and help them to discuss of what they need, the agent will earn a good relationship with customers. It will help the agent to offer appropriate products and bale to sell the products within high quantity. This result supports the cross et all research (2007) and Srinada (2003) who state that the salesman resource is able to increase sales expectation through approach that has customer orientation principles. Franke and Piller (2004) the salesman who has customer orientation is able to identify and satisfy the customer's expectation. The same result is also declared by Dean (2007), he stated that the customer orientation approach will able to increase the sales volume through the cross-buying possibility.

Third, According to the result of analysis, it is revealed that the coefficient path has positive value within 4,8267 t statistic value, it is higher than the t table which is 1,96. It shows that the sales environment ( $X_2$ ) is positive significant affected toward adaptive sales ( $Z_2$ ). Thus, the third hypothesis stated that sales environment contribute positive effects toward adaptive selling performed by salesman, is accepted.

The different situation will make the salesman to change its strategy to deliver the information toward customers by using different approaches. The insurance agent will also change the presentation within different variations based on the number of products provided by the company. The varieties of product offering will guide the salesman to fulfill the expectation of the customers. The agent will be able to diagnose the problems faced by customers and the varieties of product offering will help them to find solution above what customers expected to receive.

The result supports Irianti's research which stated that the varieties and knowledge amount the details of product, the selling environment also plays important role in order to increase the selling rate. In consistency with the opinion from Franke and Park (2006), that the product's varieties will help the salesman to provide more options to the customer to fulfill their expectations. Giacobbe (2006), also stated that the characteristics of selling environment which is connected with customer expectation, sales situation types, and sold products plays important role on the economic wheels.

Last Result, according to the analysis, it could be shown that the coefficient path has positive value within t statistic value about 5,0143 which is higher than the t table principles, 1,96. It shows that the adaptive selling ( $Z_1$ ) give positive significant impact towards the work performance of the salesman agents (Y). That is why, this hypothesis stated that the adaptive selling give positive significant impact towards the work performance of salesman, is accepted.

The result support Irianti's study (2008) and Srinanda (2003) who stated that the service orientation affects the work performance. Meanwhile, Keillor et all (2000) also stated that successful salesman are those who able to adapt the communication style while performing interaction with customers. In consistency with Roman and Iacobucci (2010), he stated that the adaptive selling is conceptualized as smart working where the salesman is able to identify the varieties of selling situation in order to implement the correct selling approaches.

## CONCLUSION AND SUGGESTIONS

Based on the result and discussion of study, there are several conclusions as follow:

- The more conducive environment organization in supporting the expectation of the customers, the better ability of customer orientation approach which is performed by the salesman.
- The better ability of customer orientation approach which is performed by the salesman, the better quality and quantity of salesman work performance.

- The more support towards selling environment, the more adaptive salesman will be in transaction as the companies possesses effective resource in transaction process.
- The more salesmen who are adaptive to sell the products, the better choice in determining proper communication style while interacting with customer. Thus, the productivity and working performances will be higher as well.

And there are several managerial implication that could become suggestions of the study, they are:

- The companies need to hold a gathering, it is an event for the customers to build relationships or introduction or offering to new products or special products. By inviting the potential customers periodically, the companies must involve salesman to get better understanding with customers. Thus, it will increase the selling with customer orientation.
- The company needs to hold continuing workshop or training for the salesman, it will train them to be more sensitive and understand the market situation that must be faced every day. The training will focus on the special products in order to explore more markets.
- Company must provide continuing Focus Group Discussion in every unit, it is discussion about the practice of sales in markets within significance situation, and thus the sales man will have several options to improve their working performance through peer co-workers discussion.
- Company needs to build integrated working environment in order to give positive impact for the salesman, create the productive atmosphere in the office. Thus, there will be a good communication among salesmen without being ego, they must share the information about how to handle the customers about administration process, and the product's benefit, or even the competitors.

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DOI <https://doi.org/10.18551/rjoas.2018-12.28>

**THE INFLUENCE OF PRODUCTION, EXPORTS PRICE, EXCHANGE RATE, GRATEKS-2/GERNAS POLICY, AND EXPORT DUTIES ON COCOA COMMODITY EXPORTS IN SOUTH SULAWESI, INDONESIA**

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**ABSTRACT**

The objective of this research is to analyze the influence of production, exports price, exchange rate, Grateks-2/Gernas policy, and export duties policy on cocoa exports in South Sulawesi using data from 1986 until 2015 and employing an analysis technique of Error Correlation Model (ECM). This study has already found that cocoa production, exports price, long-terms and short-terms exchange rate give a positive influence, while the production rate gives a significant influence on cocoa exports in South Sulawesi. It means that during the analysis time period, the production rate still shows a significant influence on cocoa bean export. However, if regarded from the data development in 2010, the exports development of cocoa bean actually showed a steady decrease since 2011. On the other hand, the production increased at that time, if further analyzed with long data so can be projected that the relationship of production with cocoa bean exports will be totally different along with the growth of domestic industry. Later on, Grateks-2/Gernas policy of cocoa shows a different result. This variable has a positive and negative relationship between long-term and short-term period respectively, and both of them have a significant influence or not enough evidence. The exports duties have a negative and significant influence. This result can be seen both in the long-term and short-term period meaning that the government policy of PMK Number 067/PMK.011/2010 of applying export duties work well to switch exports from cocoa bean to produced cocoa, this matter can be seen from the development of produced cocoa production, applied capacity development and investment in produced cocoa production drastically increasing every year.

**KEY WORDS**

Production, exports rate, Grateks-2/Gernas, exchange rate, export duties, cocoa export.

South Sulawesi is one of the provinces in Indonesia that produce the cocoa commodity and the largest producer among all cocoa producing provinces in Indonesia.

Following the declining number of cocoa exports so this research is directed to see the variables determining the intended increase or decline. The following several studies will show variables which influence that exports, among others, are conducted by Abologba, Onyekwere, Agbonkolor, and Umar (2010) about Determining factor of agriculture Exports with selected commodity, i.e. Cocoa and Rubber in Nigeria. They try to observe factors that influence agricultural exports with special reference, i.e. cocoa and rubber by using secondary data with regression analysis tool of Ordinary Least Squares (OLS). OLS finding shows that rubber exports are significantly influenced by local rubber production, producer price, exchange rate, domestic consumption, and interest rate. While the world rubber price is not significant. For cocoa, OLS shows that cocoa output, domestic consumption, and rainfall significantly influence cocoa exports. While the producer price, global cocoa price, exchange rate, and interest rate are not significant. This study is supported by Grafoute Amoro and Yao Shen's (2013) finding who try to conduct a similar study with a different place, which was in Gading Beach. They study about Determining Factor of Agricultural

Exports, especially Cocoa and Rubber at the Gading beach by employing secondary data. Analysis technique used was ordinary Least Squares (OLS) Regression to analyze relevant data. OLS finding discloses that the rubber exports are significantly influenced by rubber production, producer price, value, consumption and interest rate. For cocoa, OLS shows that cocoa output, domestic consumption, and rainfall significantly influence cocoa exports.

This is in accordance with the study conducted by Okoruwa (2003) observing export determinant of traditional agriculture in Nigeria, with one of the commodities observed is cocoa and the data collected for 37 years by contemplating Cointegration and Correlation model (ECM) analysis. The research result proves that agricultural exports to the United States, Netherland, English, German, and France, are influenced by domestic output, population growth, quantity supplied by competitor countries, production index of competitor countries, and time trend. However, domestic output and population growth rate are the most significant factors that influence agriculture exports in importing countries.

It is totally different from the study conducted by Kannan (2013) trying to test the factor determining natural rubber exports in India. OLS finding admits that natural rubber exports influenced by stock, world price, domestic price, world population have a significant influence on natural rubber exports, while the production is not, as with the study conducted by Khalifah (2016) finding that the production of sesame export and production relationship have a significant influence on cotton exports. This is extremely different from what Abologba, Onyekwere, Agbonkpolor, and Umar (2010), Grafoute Amoro and Yao Shen (2013) found that exactly discover significance rate at rainfall variable.

Furthermore, a discussion about the exchange rate, in line with Abolagba's (2010) finding above, a study carried out by Mesike (2010) also found a negative relationship between rubber export and exchange rate. This means that the lower exchange rate during the domestic currency devaluation causes an export increase. Domestic consumption has a negative relationship with rubber export. This means that the decrease in domestic consumption will cause an export supply increase and vice versa.

## MATERIALS AND METHODS OF RESEARCH

Following the problem of this research, which is by analyzing the determinant factor of South Sulawesi's cocoa commodity exports, so this research design employees a statistical quantitative approach with time series data analysis. The intended model of time series data analysis is Error Correction Model (ECM).

This approach is used because time series data is frequently non-stationary that causes spurious regression. Spurious regression is a situation by which the regression result shows a significant coefficient statistically and a high value of the coefficient of determination but the relationship among variables within the model is not correlated to each other. The proper model for non-stationer time series data is Error Correlation Model (Widarjono: 2013).

Time series data analysis method is used to test whether Production Rate, Exports price, Exchange Rate, Grateks-2/Gernas Policy, and Export duties have a significant influence or not on cocoa commodity exports in South Sulawesi. While the model of ECM-EG is employed to overcome non-stationer time series data problem and spurious regression problem.

A general formula of time series data used is as follows:

$$Y_t = \alpha + \beta X_t + \varepsilon_t; t = 1, 2, \dots T$$

Where: T = The number of time series data.

That formula can be elaborated in a clearer form as follows:

$$qxc = \beta_0 + \beta_1 qpc_t + \beta_2 xpc_t + \beta_3 er_t + \beta_4 g2gc_t + \beta_5 xdc_t + e$$

Where: qxc = the dependent variable represents the quantity exported from cocoa bean in kilograms.

The independent variables are: qpc = quantities produced of cocoa bean in kilograms; xpc = export prices of cocoa beans (US\$) are stated in FOB prices; er = exchange rate (Rp/US\$); g2gc = policy of Grateks-2/Gernas (*Dummy Variable*). (there is policy=1, no policy=0).

Grateks-2/gernas is the abbreviation of South Sulawesi Government program that encourage farmer to orient their products for export to gain higher selling price/national movements: xdc = export duty policy of cocoa (*Dummy Variable*). (there is policy=1, no policy=0);  $\beta_0$  = constants;  $\beta$  = coefficient of regression; e = error term.

While Engel-Granger's Error Correction Model (ECM) is as follows:

$$\Delta qxc = \beta_0 + \beta_1 \Delta qpc_t + \beta_2 \Delta xpc_t + \beta_3 \Delta er_t + \beta_4 g2gc_t + \beta_5 xdc_t + EC_t + e$$

Where:  $EC_t$  = Error Correction (residual lag 1).

## RESULTS AND DISCUSSION

An important thing from the usage of regression and time series data is the problem of data stationary. Time series data is frequently not stationary that causes spurious regression result. A correct model for non-stationary time series data is employeeng error correction model.

A number of testing conducted in an analysis stage among others; unit root test, cointegration test, regression test by using Error Correlation Model (ECM) and classical test. That testing stage in a data analysis was elaborated from the following classical assumption test.

**Stationary Detection: Unit Root Test.** Data stationary testing is conducted to achieve a stationary condition at the observed variable, both independent and dependent variable. That testing uses an Augmented Dickey-Fuller and Philip-Pheron testing where the ECM requirement is the non-stationary at level 0. Therefore, it has to be differentiated at the degree of 1. The hypotheses of this research are:

- The observed variable has non-stationary data;
- The observed variable has a stationary data.

The observed variable has a non-stationary data and accepts hypothesis H0, which is if the significance value of ADF or PP test at the particular level is bigger than alpha 5%. If this condition happens so it needs to conduct retesting by increasing integrity degree to the maximum to get stationary data condition, which is if the significance value is smaller than alpha 5%.

Table 1 – The Result of Data Stationary Test

Level	Variable	ADF		PP	
		Sig	Description	Sig	Description
Level 0	Ekspor (qxc)	0.3944	Not-Stationary	0.4047	Not-Stationary
	Production (qpc)	0.3620	Not-Stationary	0.3459	Not-Stationary
	Exports Price (xpc)	0.8668	Non-Stationary	0.9819	Not-Stationary
	Exchange Rate (er)	0.9213	Non-Stationary	0.9133	Not-Stationary
Level 1	Ekspor (qxc)	0.0000	Stationary	0.0000	Stationary
	Production (qpc)	0.0112	Stationary	0.0112	Stationary
	Exports Price (xpc)	0.0111	Stationary	0.0111	Stationary
	Exchange Rate (er)	0.0038	Stationary	0.0038	Stationary

Source: Analysis result, processed data.

Based on table 1, it can be known that the significance value of ADF or PP at the level 0 of all variables > 0.05 that can be concluded that the data used is not stationary. The test result at level 1 (diff 1) shows that all variables have been stationary at the level of 1 difference and ECM requirement has been fulfilled.

**Cointegration Test Result (Engle-Granger).** Engle-granger test is conducted to determine whether there is or not cointegration relationship between independent variable

and dependent variable through residual test from the obtained equation. This test is conducted using the Engle-Granger test. Economically, the cointegrated variable is a condition where there is a long-term relationship among that variable. The result of the cointegration test is as follows:

Table 2 – Cointegration Test Result

RESID01 has a unit root			
Constant			
0 (Automatic based on SIC, MAXLAG=7)			
		t-Statistic	
Augmented Dickey-Fuller test statistic		-5.908025	0.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

\*MacKinnon (1996) one-sided p-values.

Cointegration test at residual shows that probability value obtained is 0.0000 by which it is smaller than alpha 5%. Therefore, it can be stated that there is cointegration between the independent and dependent variable. This indicates that the variable is long-run equilibrium.

*Model Estimation Result of Long-term Cocoa Commodity Exports Determinant Variable.* The following is the regression result to get an empirical model with forming variable of cocoa commodity exports = f (production, exports price, exchange rate, grateks-2/gernas policy, exports duties can be seen after the following table explanation:

Table 3 – Parameter Estimation Result of Long-term Model

Variable	Coefficient	Error	t-Statistic	Prob
C	31530633	20118796	1.567223	0.1302
Product (qpc)	0.717692	0.139443	5.146849	0.0000***
Export Prices (xpc)	2656037	15120904	0.175653	0.8620
Exchange Rate (er)	473.5314	2941.172	0.161001	0.8734
Grateks-2/Gernas (g2gc)	10522228	17563752	0.599088	0.5547
Export Duty (xdc)	-94781664	24880203	-3.809521	0.0009***
R-squared	0.845202	Mean dependent var		1.21E+08
Adjusted R-squared	0.812952	S.D. dependent var		67142492
S.E. of Regression	29038473	Akaike info criterion		37.38300
Sum squared resid	2.02E+16	Schwarz criterion		37.66324
Log likelihood	-554.7450	Hannan-Quinn criter.		37.47265
F-Statistic	26.20811	Durbin-Watson stat		2.146863
Prob (F-statistic)	0.000000			

Source: Data Processed. \*)  $\alpha = 10\%$ , \*\*)  $\alpha = 5\%$ , \*\*\*)  $\alpha = 1\%$ .

#### *Partial Test (t-test):*

- Production (qpc) has a probability value of 0.0000 smaller than the alpha error rate = 5% so that individually has had enough evidence that production (qpc) has a significant influence on Exports Volume (qxc);
- Exports price (xpc) has Probability value by 0.8620 bigger than the alpha error rate of 5% so that individually said to not have enough evidence to state that the Exports price (xpc) has a significant influence on Exports Volume (qxc);
- Exchange rate (er) has a probability value of 0.8734 bigger than the alpha error rate of 5% so that individually stated that it has no strong evidence to state that the Exchange Rate (er) has a significant influence on Exports Volume (qxc);
- Grateks-2/Gernas (g2gc) has a Prob value of 0.5547 bigger than the alpha error rate of 5% so that individually stated that having no strong evidence to state that Grateks-2/Gernas (g2gc) has a significant influence on Exports Volume (qxc);

- Exports duties (xdc) have a probability value of 0.0009 smaller than the alpha error rate of 5% so that individually stated that it has already had strong evidence to state that Exports duties have a significant influence on Export Volume (qxc).

*Simultaneous Test (F-test).* Because the probability value of 0.000 is bigger than the alpha error rate by 5% so that jointly the independent variable, i.e. Production (qpc), Exports Price (xpc), and Exports Duties (xdc) have a significant influence on Exports Volume Change (qxc).

The equation of the formed long-term model:

$$qxc_t = 31530633 + 0.717692qpc_t + 2656037xpc_t + 473.5314er_t + 10522228g2gc_t - 94781664xdc_t$$

The value of ( $R^2$ ) by 0.845202 or 84.52% means that the diversity Exports Volume (qxc) variable can be explained by independent variable, i.e. production (qpc), exports price (xpc), exchange rate (er), grateks-2/gernas (g2gc), and exports duties.

The equation above is a long-term equation model which shows that duties variable is the most dominant variable to influence long-term cocoa commodity exports. This can be proven from the coefficient size of export duties variable compared to another variable that influences coca commodity export.

*Variable Model Estimation Result of Short-term Cocoa Commodity Determinant.* The following is the regression result to get an empirical model of ECM with a determinant variable of coca commodity export = f (production, exports price, exchange rate, grateks-2/gernas policy, export duties) can be seen after the table explanation below:

Table 4 – Estimation Result of ECM Model Parameter

Variable	Coefficient	t-Statistic	Prob
C	6966545	0.981205	0.3372
Product D(qpc)	0.420756	2.520600	0.0195***
Export Prices D(xpc)	460505.2	0.038671	0.9695
Exchange Rate D(er)	5207.257	1.380670	0.1812
Grateks-2/Gernas (g2gc)	-8312287	-0.967481	0.3438
Export Duty (xdc)	-22390105	-2.118955	0.0456**
RESID01(-1)	-0.917173	-5.323597	0.0000
R-squared ( $R^2$ )	0.6334		
F-Statistic	6.337361		
Probability (F-statistic)	0.000552		

Source: Data Processed \*)  $\alpha = 10\%$ , \*\*)  $\alpha = 5\%$ , \*\*\*)  $\alpha = 1\%$ .

Partial Test (t-test):

- Production D (qpc) has a Probability value of 0.0195 smaller than the alpha error rate of 5% so that individually has strong evidence to state that production D (qpc) has a significant influence on Export Volume (qxc);
- Export Price D (xpc) has a Probability value of 0.9695 bigger than the alpha error rate of 5% so that individually stated that it has no strong evidence to state that the export price D (xpc) has a significant influence on Exports Volume (qxc);
- Exchange Rate D (er) has a probability value of 0.1812 bigger than the alpha error rate of 5% so that individually stated that it has no strong evidence to state that the exchange rate D (er) has a significant influence on Export Volume (qxc);
- Grateks-2/Gernas (g2gc) has a Probability value of 0.3438 bigger than the alpha error rate of 5% so that individually stated that it has no clear evidence to state that Grateks-2/Gernas (g2gc) has a significant influence on Export Volume (qxc);
- Export duties (xdc) has a Probability value of 0.0456 smaller than the alpha error rate of 5% so that individually stated that it has clear evidence to state that the export duties (xdc) have a significant influence on Export Volume (qxc);
- RESID01 (ECT<sub>-1</sub>) has a Probability value of 0.000 or smaller than the alpha error rate of 5% so that individually stated that ECT has a significant influence on Export Volume (qxc).

*Simultaneous Test (F-test).* Because the probability value is 0.000 or smaller than the alpha error rate of 5% so that jointly independent variable, i.e. production D (qpc), Export Prices D (xpc), Exchange Rate D (er), Grateks-2/gernas (g2gc), export duties (xdc) and  $ECT_{t-1}$  have a significant influence on Change qxc.

The formed ECM equation:

$$\Delta qxc = 6966545 + 0.420756\Delta qpc_t + 460505.2\Delta xpc_t + 5207.257\Delta er_t - 8312287g2gc_t - 22390105xdc_t - 0.917173ECT_{t-1}$$

( $R^2$ ) value of 0.6333 or 63.33% means that variable diversity qxc can be explained by independent variable, i.e. Production D (qpc), Export Price D (xpc), Exchange Rate (xdc), and  $ECT_{t-1}$ . The remaining of 36.67 is influenced by another variable not included in the model.

## CONCLUSION

Following the problem, theory, hypotheses, analysis method, and finding about determinant factor of South Sulawesi's cocoa commodity export, this research give some conclusions below:

Analysis result shows that cocoa production, export price, exchange rate, both long-term, and short-term give a positive influence, but the one giving significant influence is the production level to South Sulawesi's cocoa export meaning that in a time period of production rate analysis still shows a significant influence on cocoa bean export, but if considering data development after 2010, export development of cocoa bean actually shows a steady decrease started in 2001 while the production increased in the same year, if furtherly analyzed with long data so it can be projected that the relationship of production and cocoa bean export will be contrary to the development of domestic industry.

Grateks-2/gernas policy of cocoa shows a different result. This variable has a positive and negative relationship for a long term and short term period respectively and both of them has no significant influence or enough evidence. This also proves that actually the program run by the government, referring to the production result, increases because in 2010 to 2011 cocoa production increase but actually showed a steady decrease of cocoa bean, if analyzed from the program of an increase in production so that the data from the discussion result gives information that the government program is successful, but there is a conflict with other policies in part of cocoa bean exports.

Export duties (Export tax) have a negative and significant influence. This can be seen from both long-term and short-term meaning that the government policy by applying export duties will be able to decrease South Sulawesi's cocoa bean export. In this case, the policy issued by the government, which is PMK Number 067/PMK.001/2010 works enough to switch export from cocoa bean to produced cocoa, this can be seen from cococal production development and the development of applied capacity and investment in increasng cocoa production dratically increasee every year.

Finally, long-term equation generally gives us information that the variable of Production (qpc), Export price (xpc), Exchange Rate (er), Grateks-2/gernas (g2gc), and Export duties (xdc) simultaneously has a significant influence on Cocoa Export Volume (qxc). This can be seen from the probability value (F-statistics) by 0.000000 or smaller than the alpha rate of 0.05 (5%), and short-term equation gives us information that the variable of production (qpc), Export Price (xpc), Exchnage Rate (er), Grateks-2/gernas (g2gc), and Export duties (xdc) simultaneously has a significant influence on cocoa Export Volume (qxc). This also can be seen from the probability value (F-statistic) by 0.000552 or smaller than the alpha rate of 0.05 (5%). In addition, based on the speed of adjustment value, there is 91.72 percent of imbalance at the short-term influence of production (qpc), Export Price (xpc), Exchange Rate (er), Grateks-2/gernas (g2gc), and Export Duties (xdc) to the Cocoa Export Volume (qxc) corrected every period.

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DOI <https://doi.org/10.18551/rjoas.2018-12.29>

## TRUE-TO-TYPENESS STATUS OF CERTIFIED PARENT AND COMMERCIAL CITRUS PLANTS

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### ABSTRACT

In 1987 Indonesia started to produce virus-free (VF) mother plants by using shoot-tip-grafting (STG) technique. To date, the propagation and distribution of VF plants are made through several stages of certified protected parent plants, i.e. Foundation Blocks (FB) and Budwood Multiplication Blocks (BMB). FB, BMB, and commercial farmer plants are derived from propagated of STG, FB, and BMB trees, respectively. The research was done in June – December 2017 at Plant Breeding Laboratory, Indonesian Citrus and Subtropical Fruit Research Institut (ICSFRI). Eighty-three and 66 samples were derived from parent and seedling and production, respectively. The cultivars used were Mandarin Batu 55, SoE, Terigas, and Tangerine Pontianak, and Banjar collected from five provinces. As a control for every cultivar, a single collection mother tree was used. The method used was based on the similarities between DNA band plant samples and control produced both by five ISSR and retrotransposon markers. The purpose of this research was to evaluate genetic deviations of parent virus-free and commercial citrus plants derived from five provinces. The results indicated that 5.1 and 8.2 % were off type plants, with the degree of genetic deviation was among 4.9-36.4% and 3.7-23.1% for parent and commercial samples, respectively. For parent plants of cv. Batu 55 and Pontianak were all on type, but not for others samples. This result indicated that management both at screen house and field needs to be done carefully, so that the quality of the commercial seeds and plants produced remain the same as the parent.

### KEY WORDS

Budwood multiplication block, cultivar, citrus, DNA, foundation block, true to type, virus.

The success of citrus farming is determined by various factors, including the quality of planted seeds, maintenance, and the efficiency of the existing supply chain. The high quality citrus seeds are defined as free-systemic pathogenic plants such as Citrus Vein Phloem Degeneration (CVPD), Citrus Tristeza Virus (CTV), Citrus Vein enation virus (CVEV), Citrus Exocortis Viroid (CEV), and Citrus Psorosis Virus (CPsV); are guaranteed of the purity of both their scion and rootstock; and the stages of the production process are in accordance with the regulation of seed supervision and certification, so that the plants produced are virus-free (VF) and true-to-type to their parents (Devy et al., 2015).

In accordance with the national standard of virus-free citrus plant-making process, the VF mother plants are produced by using shoot-tip-grafting (STG) technique which become the source materials for Foundation Blocks (FB). Then the BF plants are used to make Budwood Multiplication Blocks (BMB). To prevent re-infection in the field, the BF and BMB parent plants are managed in an insect proof screen house. In order to ensure the health and quality of the budwood produced, the BMB plant is only allowed to be harvested for three consecutive years.

The need for availability of high-quality plants in large quantities requires a good planning. Information about the accurate BMB plant conditions would determine the next VF plant production process. During the 2009-2014 period, IAARD through ICSFRI had

produced and distributed 4,437 and 27,647 plants of BF and BMB, respectively to 26 provinces (Harwanto and Utomo 2014). If each BMB plant produced 200 buds or seedling plants, then there were at least 5,529,400 VF citrus plants produced by farmers that required planting area of about 11,058 hectares.

To produce high-quality citrus plants, the purity of the scion and rootstock must be guaranteed, the greater the degree of purity, the higher the similarity with their parent. If there is a genetic deviation in the certified parent and seedling plants, it will cause a difference in the productivity and quality of the fruit produced. Various methods of morphological, physiological, cytological, isozyme and molecular observation are used to detect genetic stability of plants. The development of molecular methods completes the weaknesses of conventional breeding in the identification process (JinPing et al., 2009). This method has a higher accuracy for the identification of plant genetic stability (Bhattacharyya et al., 2014; Carra et al., 2012; Saha et al., 2014).

One of the tools for identifying diversity in plants is a molecular marker based on repetitive sequences. Repeated sequences are spread along the genome as a dominant element of the nuclear-genome and organelle (Alzohairy et al., 2014; Kalendar et al., 1999). Two popular types of repeat sequences are inter-simple repeat sequence (ISSR) and retrotransposon. The ISSR uses short sequences of oligonucleotides, 2-6 bases, repeated in a series of sequences, simple repeat sequences, spread throughout the eukaryotic genome (Tautz and Renz, 1984), which are present both within the gene intron region and non-coding genes (Scarano et al., 2002a) so that the number of repetitions along the genome is high. As a primer, ISSR markers are easy to do, simple, fast, consistent, require low DNA print quantity (10-30 bp), able to distinguish individuals with close relationship and do not require much information to design primers (Zietkiewicz et al., 1994). This marker has been successfully employed for evaluating the genetic diversity (Uzun et al, 2009; Kumar et al, 2010; Marak and Laskar, 2010; Biswas et al., 2010; Munankarmi et al., 2018). According to Martasari et al. (2012), the ISSR procedure is an informative and suitable approach to the examination of the molecular polymorphism and the phylogenetic relationships in the Indonesian Siam cultivars. Whereas retrotransposon is a repetitive primary class of DNA, which consists of 40-60% of the genome in plants, dominant with a long, clear base arrangement, a stable sequence, and insertion of new polymorphisms produced by the active side by replication (Hirochika, 1995; Weising et al., 2005). The purpose of this research was to evaluate genetic deviations of certified parent virus-free and commercial plants derived from five provinces when they compared to the mother plants.

## MATERIALS AND METHODS OF RESEARCH

The research was conducted from June to December 2017 at the Breeding Laboratory of ICiSFRI. The samples were young citrus leaves of five cultivars namely Mandarin Batu 55, M. SoE, M. Terigas, Tangerine Pontianak, and T. Banjar. They were collected from five provinces, i.e. East Java (KP. Puntren, KP. Tlekung, KP. Kliran, Banyuwangi, Nongkojajar/Pasuruan, Tumpang/Dist. Malang, and Batu City, West Kalimantan (BBI Anjungan, KP. Monterado, Citrus Center, and Diperta Kab. Sambas), South Kalimantan (farmer in Tapin, UPBH Labuhan-Tapin, BBH Dahirang-Batola, UPBH Sangkal-Banjar Baru), Riau (Kabar District), and NTT (Nonbes BBI, Diperta Denali, SoE District, and Baituka). The total samples analyzed from five citrus varieties were 92 and 66 samples derived from certified parent (BF and BMB) and seedling/production, respectively. The BF samples were taken from each plant, while others were composite from 10 plants. As a control for every cultivar, sample from mother plant that is a duplicate of VF plant produced by using shoot-tip-grafting (STG) technique was used. The types of varieties, seed classes, and sampling locations are listed in Table 1.

The level of genetic similarity of citrus leaf samples was analyzed using 5 ISSR markers, namely (AG) 8YT, (GA) 8YG, BDB (TCC) 5, (AC) 8YG and (GT) 8YC and 5 retrotransposon markers (LTR1, LTR2, LTR3, LTR4, and LT5).

Extraction, isolation and quantification of DNA:

They were carried out by following the CTAB method (Doyle and Doyle, 1990). The samples were managed following the metode of bulk segregant analysis (BSA). A total of 100 mgs of leaf samples were ground in 1.5 ml of extraction buffer (2% CTAB, 20 mM EDTA, 100 mM Tris HCl, 1.4 M NaCl, 2% PVP and 0.2% mercapto-ethanol). Scour mixture and extraction buffer were incubated at 65°C for 30 minutes. The mixture was allowed to stand for 2 minutes at room temperature then added with Na-acetate (1/10 x volume) and 1 ml CHISAM (chloroform: isoamil-alcohol 24: 1).

Table 1 – Cultivar, Total and origin of samples for DNA diversity analysis

Cultivar	Sample of	Total	Derived from
M. Batu55	BF	1	KP. Punten
	BMB	6	KP. Punten, KP. Tlekung
	Seedling	-	-
	Prod plant	15	Batu, Dist. Malang
M. SoE	BF	3	BBI Nonbes, BBI Riau
	BMB	20	KP. Punten, BBI Nonbes, Diperta Denali, SoE & Baituka Farmers
	Seedling	8	Diperta Denali, SoE Farmers
	Prod plant	-	-
M. Terigas	BF	2	KP. Punten, BBI Anjungan
	BMB	11	KP. Punten, Banyuwangi farmers, BBI Anjungan, KP. Monterado, Dist. Sambas
	Seedling	4	BBI Anjungan, Citrus Center
	Prod plant	9	Citrus Center, Tumpang, KP. Kliran
T. Pontianak	BF	3	KP. Punten, BBI Anjungan
	BMB	16	KP. Punten, Banyuwangi farmers, BBI Anjungan, KP. Monterado, Dist. Sambas
	Seedling	11	Banyuwangi, BBI Anjungan, BBI Nongkojajar, Kab. Sambas farmer
	Prod plant	19	Banyuwang & Dist. Sambas farmers, Citrus Center, Tumpang, Ponco Kusumo, & Karang Anyar
T. Banjar	BF	4	KP. Punten, UPBH Labuhan, BBH Dahirang, UPBH Sangkal
	BMB	26	KP. Punten, Riau & Dist Tapin farmers, BBH Dahirang, UPBH Sangkal
	Seedling	-	-
	Prod plant	-	-
Total of samples		158	-

Separation of the mixture was carried out by centrifugation for 10 minutes at a 12,000 rpm speed. The supernatant formed is taken and transferred to a new centrifuge tube then added with Na-acetate (1/10 x volume), followed by the addition of isopropanol (0.6 x volume) for DNA precipitation. This mixture was centrifuged at a speed of 12,000 rpm for 10 minutes to precipitate DNA.

The deposit DNA was washed with 70% ethanol, dried and reconstituted with 500  $\mu$  TE buffer. The DNA was added with 1  $\mu$  RNase and incubated at 37°C for 30 minutes; and the supernatant was collected after centrifugation for 10 minutes at a speed of 12,000 rpm, supplemented with Na-acetate (1/10 x volume) and absolute ethanol (2.5 x volume) for DNA precipitation. DNA precipitation is assisted by centrifugation at a speed of 12,000 rpm for 10 minutes. The deposit of DNA is washed with 70% ethanol, dried and reconstituted with 50-100 TE buffer.

Amplification and DNA separation with 10 ISSR and retrotransposon markers:

50 ng of DNA and 0.5 pmol of primer are put into PCR buffer (Dream Tag Green-PCR Master Mix, Thermo Scientific). Amplification was done with a PCR (Thermocycler-Biometra) machine. The amplification of the ISSR marker begins with a denaturation cycle of 94°C for 3 minutes, followed by 28 denaturation cycles of 94°C for 45 seconds, annealing temperature of 53°C for 1 minute, with an extension of 72°C for 2 minutes. The PCR cycle for the ISSR marker was ended with 1 final extension cycle at 72°C for 10 minutes (Scarano et al., 2002b).

Amplification with retrotransposon markers begins with a denaturation cycle of 94°C for 5 minutes, followed by 30 denaturation cycles of 94°C for 1 minute, annealing at 45°C for 2

minutes, extension of 72°C for 3 minutes and ending with one final extension cycle at 72°C for 10 minutes with a cooling temperature of 4°C (Crowley, 2011).

Separation of DNA bands from amplification was done by electrophoresis method on agarose gel (Vivantis, # PC0701) 2.5% containing ethidium bromide (10 mg / l) in a solution of 0.5 x TBE for 60 minutes at a current strength of 100 volts. DNA bands detection was done with a biodocumentation system (BioDoc -Biorad).

Variables observed:

Observations were made on the DNA band profile produced by electrophoresis. Addition or loss of DNA bands compared to the control indicated the presence of an off-type.

Data analysis:

DNA profile translates into binary data based on the presence of a band (1) and no DNA band (0). DNA bands from the results of marker molecular analysis are considered as 1 character representing 1 DNA locus. DNA bands with the same migration rate are assumed to be homologous loci. Binary data is used to construct a similarity matrix (qualitative data). The percentage of diversity is calculated using the DARWin5 (Dissimilarities Analysis Representation for Windows) software. The percentage of diversity indicates the presence of off-type.

## RESULTS AND DISCUSSION

*Certified parent plants of BF and BMB.* From the 92 BF and BMB samples, 8 of BMB ones (8,7%) were off type, namely Mandarin SoE, Mandarin Terigas and Tangerin Banjar cultivars. Whereas in BF, none of the 13 samples deviated (Table 2). In Mandarin SoE, results of its DNA separation with ISSR (AG) 8YT marker indicated that all BF samples are same as their control, but not on BMB ones on (Figure 1).

Table 2 – Status of genetic deviations of five citrus cultivars of BF and BMB based on the results of DNA amplification using 10 ISSR markers and retrotransposon markers

Cultivars	Total Samples	Kind of Samples	No (%) <i>off type</i>
M. Batu 55	1	Mother plant	control
	1	BF	0 (0)
	6	BMB	0 (0)
M. SoE	1	Mother plant	control
	3	BF	0 (0)
	20	BMB	4 (20)
M. Terigas	1	Mother plant	kontrol
	2	BF	0 (0)
	11	BMB	1 (9.1)
T. Pontianak	1	Mother plant	kontrol
	3	BF	0 (0)
	16	BMB	0 (0)
T. Banjar	1	Mother plant	control
	4	BF	0
	26	BMB	3 (11.5)
Total BF and BMB samples	92		8 (8.7%)

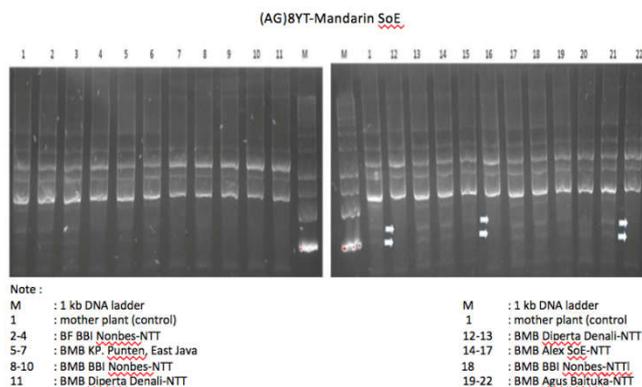


Figure 1 – Mandarin SoE DNA amplification with (AG)8YT marker of 22 samples based on ISSR method

The degree of genetic deviation of BMB plants compared to their control were between 4.9 sd. 39.1%, which the smallest and the biggest were in the Mandarin SoE and Tangerine Banjar, respectively (Table 2). Four samples, i.e. M.Terigas (Banyuwangi/ East Java) and 3 composite samples of T. Banjar (Kampar/Riau) had genetic deviations > 5% so they were not suitable to be used as parent plants (Table 3.; Figure 2.). According to Sharma et al. (2015), 95% value of genetic similarity among the grapefruit variants indicated a low level of variation. However, in spite of their low genetic base, they had a very wide phenotypic visible variation.

Table 1 – The degree of genetic deviation of BMB based on amplification result of 10 ISSR and retrotransposon markers

Cultivar	No. of samples	Origin of samples	Degree of deviation (%)
M. SoE	11	BMB Diperta Denali (NTT)	4.9
	15	BMB Alex-SoE (NTT)	4.9
	21	BMB Agus, Baituka (NTT)	4.9
	22	idem	4.9
M. Terigas	7	BMB Banyuwangi	10.3
T. Banjar	16	BMB Joneri - Kampar (Riau)	5.6
	18	BMB Baidarus - Kampar (Riau)	36.1
	21	idem	11.1

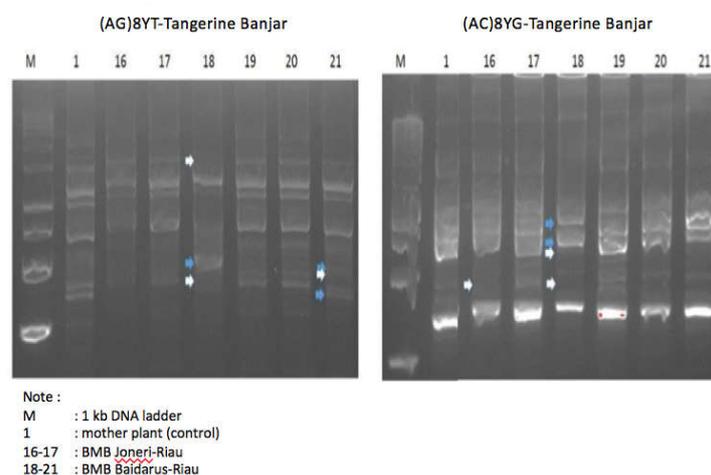


Figure 2 – Tangerine Banjar DNA amplification with (AG) 8YT and (AC)8YG markers of 6 samples based on ISSR method

Table 2 – Status of genetic deviations of five citrus cultivars of seedling and cultivated plants based on the results of DNA amplification using 10 ISSR markers and retrotransposon markers

Cultivars	Total Samples	Kind of Samples	No (%) off type)
M. Batu 55	1	Mother plant	control
	15	Cultivated plant	2 (13.3)
M. SoE	1	Mother plant	control
	8	Seedling plant	4 (50)
M. Terigas	1	Mother plant	control
	4	Seedling plant	1 (25)
	9	Cultivated plant	2 (22,2)
T. Pontianak	1	Mother plant	control
	11	Seedling plant	3 (27.3)
	19	Cultivated plant	1 (5,3)
Total of seedling & Cultivated plant samples		66	13 (19.7%)

The percentage of off type would be higher in plants that have farther distance from their mother plant. Seedling and BMB takes the source materials from BMB and BF, respectively, while the BF itself is taken them from VF mother plant. From this scheme, the seedling plants had the furthest distance compared to the others. This appears in their

genetic deviation status, from 158 samples, off type of the parent plants (BF and BMB) and commercial plants (seedling and produce plants) were 8 (5.1%) and 13 samples (8.2%), respectively. This result is consistent with the research of Uzun et al (2009), where genetic variation was found in 4-year-old lemon plants that were propagated vegetatively. The differences analyzed using RAPD and ISSR are thought to be caused by mutations (Sharma et al., 2015).

Table 3 – The degree of genetic deviation of seedling and cultivated plant based on amplification result of 10 ISSR and retrotransposon markers

Cultivar	No. of samples	Origin of samples	Degree of deviation (%)
M. Batu55	16	Cultv. plants (Batu/East Java)	5,6
	18	idem	5,6
M. SoE	25	Seedling plants Diperta Denali (NTT)	4,9
	27	Seedling plants Alex SoE (NTT)	7,3
	29	idem	7,3
	32	Seedling plants Melki-SoE (NTT)	3,7
M. Terigas	17	Seedling plants BBI Anjungan (Kalbar)	23.1
	21	Cultv. plants Citrus Center (Kalbar)	12.8
	22	idem	10.3
T. Pontianak	25	Seedling plants Nongkojajar (East Java)	2,7
	29	Seedling plants Awang Sambas (Kalbar)	8,1
	30	Seedling plants Anjungan (Kalbar)	2,7
	46	Cultv. plants Poncokusumo (East Java)	5,4

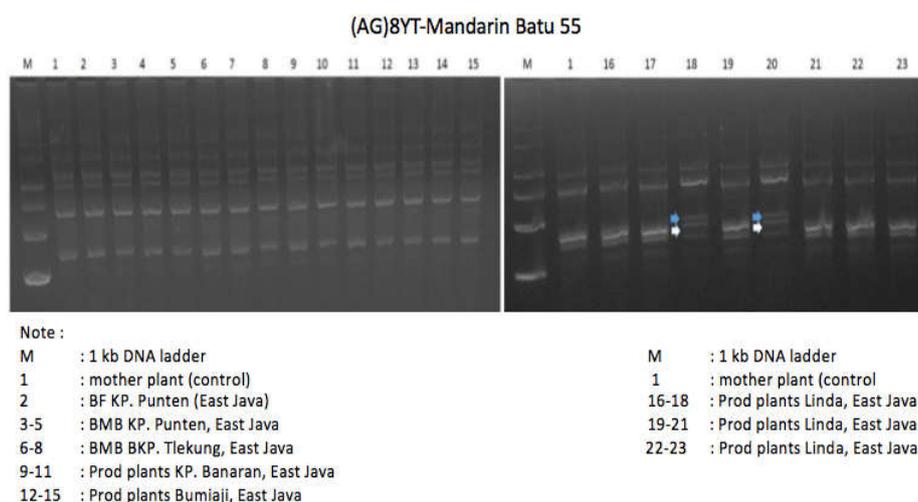


Figure 3 – Mandarin Batu 55 DNA amplification with (AG)8YT marker of 23 samples based on ISSR method

Mutations in plants can occur naturally, where mutant plants produced could have shifting in their properties, for example become sterile, which can be a limiting factor for fertilization and seed production (Bender et al, 2017). According to Nishiura (2018), the mutations in buds generally cause variations in low to high levels of plants or somatic tissues, so that the differences can be seen, measured and are consistent. In general, mutations in buds arise from changes in the character of genes (called "points" of mutations) produced by chromosomal aberrations or abnormal segregation, which causes loss, duplication, or rearrangement of genes (Qin et al., 2015).

## CONCLUSION

This research indicated that genetic diversity occurs at the all level plants, but not BF. In BMB, it was found to be very low (5.1%), however in commercial ones (seedling and cultivated plants) were 8.2%. The amount of its deviation was 4.9-36.1% and 2.7-23.1%, respectively.

## ACKNOWLEDGEMENTS

We are thankful to IAARD for financial assistance for this work and all ISFRI Breeding Lab. Staffs for providing lab facilities.

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DOI <https://doi.org/10.18551/rjoas.2018-12.30>

## **TECHNICAL EFFICIENCY OF TIDAL RICE FARMING IN SOUTH KALIMANTAN, INDONESIA: STOCHASTIC FRONTIER ANALYSIS APPROACH**

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### **ABSTRACT**

Development of tidal land for rice cultivation continues in South Kalimantan, but there are obstacles that must be faced, namely one of which is the low productivity caused by technical efficiency of input use. Technical efficiency is the ability of farms to produce maximum output by using a specific input. This research objectives were to analyze the factors affecting tidal rice production, analyze the technical efficiency of tidal paddy farming using Stochastic Frontier Analysis (SFA) approach and analyze the determinant factors affecting technical inefficiency tidal wetland rice farming. Data collected from interviews with 50 farmers of paddy and analyzed with Frontier 4.1 software to answer the first and second objectives, as well as all the parameters for efficiency levels estimated by maximum likelihood method (MLE) using Stata program ver. 11 to answer the third goal. The results showed that production of paddy farm influenced significantly by factors of area planted, inorganic fertilizers and pesticides. The average technical efficiency is already high at 0.9996, approaching 1.0000 as technical efficiency index expected. The inability of farmers in achieving maximum production solely due to managerial farmers' factor of 0.01 percent, while 99.99 percent are caused by other factors. The deciding factor affecting technical inefficiency of rice farming is the number of household members and the frequency of extension.

### **KEY WORDS**

Technical efficiency, paddy farm, tidal rice fields, stochastic frontier analysis.

Tidal land belonging marsh area that is affected by the huge tidal overflow and doubles pairs from rivers or the sea, either directly or indirectly. These lands belong to the wetland ecosystem with the potential to be developed into agricultural land. The land that has been used as rice fields in Kalimantan until 2006 covering an area of 333,601 ha (H.Subagio et al., 2015). South Kalimantan had 178,908 ha of tidal rice fields that have been cultivated, the highest for the region of Borneo, where most of the 102,361 ha, or an area in Barito Kuala (Department of Agriculture TPH South Kalimantan, 2016).

Utilization of tidal land in the form of marginal lands for paddy is not easy. It should be understood that the typical properties of tidal land. Failure understanding of the tidal land characteristics can make rice field development will be faced with many problems.

Rice productivity is still relatively low becomes a problem on tidal land. Low productivity is allegedly closely associated with the issue of efficient use of inputs. Allocation of input use also allegedly still not optimal (Kurniawan, AY 2010).

One indicator of efficiency is that if a certain number of outputs can be generated using a combination of fewer inputs. The efficiency will reduce production costs. The minimum cost of production which will make output more competitive prices and will ultimately improve the competitiveness (Kurniawan, AY 2010).

This research aimed to analyze the factors affecting tidal rice production, analyze the technical efficiency of tidal rice farming using Stochastic Frontier Analysis (SFA) approach and analyze the determinant factors affecting technical inefficiency on tidal rice farming.

## METHODS OF RESEARCH

*Determination of Research Areas and Farmers Sample.* This study was conducted in South Kalimantan province, which is a center of tidal rice production, and a granary in Indonesia. However, productivity of paddy fields are still far below the average of national productivity.

The sampling method used was multistage cluster sampling. In the first stage sampling was selected one district with the most extensive tidal rice cultivation, which was Barito Kuala (Batola) District.

In the second stage, the election of a sub-district sample that had the largest area of tidal rice production in Batola District, which was the Tabunganen Sub-District. Followed by a third phase, namely the selection of the sample village that became a production center, which was the Village of Tabunganen Pemurus. In the fourth stage of the election of a simple random sample of farmers, which was taken 10% of the total population of tidal land rice farmers in the sample village, as many as 50 respondents out of 495 rice farmers in the village of Tabunganen Pemurus.

*Data Analysis Method.* Research carried out a micro analysis that focuses on the theoretical and empirical study of the real condition of the tidal rice farming in South Kalimantan Province. Tidal rice farming performance that would be assessed include production capabilities, the level of technical efficiency of farming using stochastic frontier production function approach (stochastic frontier production) as well as internal factors and external are believed to affect the level of efficiency of tidal rice farming is being investigated.

The production function used is the Cobb-Douglas stochastic frontier production function. The selection of the Cobb-Douglas production function as an approach based on consideration for the measurement of technical efficiency by using the approach of the input side and the output side of an integrated, requires a homogeneous production function. The production function that meet the criteria are homogenous Cobb-Douglas production function, because the prevailing assumption of Cobb-Douglas is constant return to scale. In addition, the shape of the production function is to reduce the heteroscedasticity occurrence and the form of this function most widely used in research, in particular, research fields of agriculture, as well as the calculation is simple and can be done with a computer program that has been provided.

*Stochastic Frontier Production Function Model.* Specifications model used to estimate parameters of estimation of Cobb Douglas production function approach is Stochastic Frontier Production. Factors thought to directly affect the production are the factors of production used by farmers, covering a total area of land, seeds, inorganic fertilizers (N, P, K), pesticides and labor.

The analysis was conducted by Frontier 4.1 software. The empirical model of Cobb-Douglas stochastic frontier production function used in this study were formulated in the following equation:

$$\ln PD = \beta_0 + \beta_1 \ln LL_i + \beta_2 \ln BN_i + \beta_3 \ln PAO_i + \beta_4 \ln PP_i + \beta_5 \ln TK_i + (V_i - U_i) \quad (1)$$

Where: PD = Total output (production) (kg); LL = Area planted (ha); BN = Number of seeds (kg); PAO = The amount of inorganic fertilizer or NPK (kg); PP = Total pesticides (lt); TK = Total labor (HOK); i = Number of respondents;  $V_i - U_i$  = error term (effect of inefficiency in the model);  $V_i$  = random variables related to external factors (climate, pests / diseases and error modeling) spreading symmetric and normal spread ( $V_{ij} \sim N(0, \sigma v^2)$ );  $U_i$  = non-negative random variables and assumed to affect the level of technical and inefficiencies associated with internal factors and distribution are half normal ( $u_{it} \sim |N(0, \sigma v^2)|$ ).

The expected value of the coefficient is:  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5 > 0$ .

*Technical Efficiency Measurement.* Measurement of technical efficiency of production of tidal rice farming for farmers-i estimated by the following formula (Coelli, et al, 2005):

$$TE_i = \frac{y_i}{y_i^*} = \frac{\exp(x_i\beta + v_i - u_i)}{\exp(x_i\beta + v_i)} = \exp(-u_i) \quad (2)$$

Where:  $y_i$  is the actual production of observations,  $y_i^*$  is the estimated production frontier derived from stochastic frontier production function. Technical efficiency to a farmer ranges between 0 and 1. The value of the technical efficiency is inversely related to technical inefficiency effects and is only used for functions that have a certain number of outputs and inputs (cross section data). Testing parameters of stochastic frontier and technical inefficiency effects done in two stages. The first stage is a  $\beta_j$  parameter estimation using Ordinary Least Squares (OLS), The second stage is the estimation of all the parameters  $\beta_0, \beta_j$  and variations in  $u_i$  and  $v_i$  by using Maximum Likelihood (MLE) at a confidence level of 5 percent and 10 percent.

Hypothesis testing is done by using the likelihood ratio statistic (likelihood ratio test) are generalized to decide to accept or reject the hypothesis. The value of the test statistic is calculated using the formula:

$$LR = -2 \left\{ \ln \left[ \frac{L(H_0)}{L(H_1)} \right] \right\} = -2 \{ \ln[L(H_0)] - \ln[L(H_1)] \} \quad (3)$$

Where:  $L(H_0)$  and  $L(H_1)$  respectively is the value of the likelihood function from the null hypothesis and the alternative hypothesis.

Test criteria:

- LR error one side  $> \chi^2_{\text{restraction}}$  (Kodde Palm Table), then reject  $H_0$ ;
- LR error one side  $< \chi^2_{\text{restraction}}$  (Kodde Palm Table), then accept  $H_0$ .

If the hypothesis is accepted, it means that not indicate a technical inefficiency effects, or no deviation in frontier production associated with technical inefficiency, but only related to the stochastic error.

*Inefficiency Analysis of Rice Farming.* To estimate the inefficiency factor or factors that affect the level of efficiency used a tobit regression model. The use of tobit regression is more appropriate because the value of the dependent variable, that is, efficiency index is limited (censored) between 0 and 100 (Greene 1991; Hossain 1988) in Bravo-Ureta and Pinheiro (1997) and Areerat, et.al. (2012). Model to calculate TE (Technical Efficiency) analyzed separately. Parameter estimation in tobit regression using MLE (Maximum Likelihood Estimator).

The independent variables are supposed to influence the level of technical efficiency in this study uses the same independent variables. Some researchers include Bravo-Ureta and Pinheiro (1997), and Kehinde and Awoyemi (2009) also uses the same independent variables to identify the source of technical inefficiency.

Model estimates of factors that affect the level of efficiency using Tobit models are presented as follows:

$$TE_i = \beta_0 + \beta_1 UP + \beta_2 PF + \beta_3 PL + \beta_4 PT + \beta_5 LL + \beta_6 AT + \beta_7 DD + \varepsilon \quad (4)$$

Where: TE = level of technical efficiency; UP = Age of Farmers (years); PF = formal education (years); PL = Frequency attend the training / counseling in the last year or informal education (times); PT = rice farming experience (years); LL = Area planted (ha); AT = Total number of households (people); DD = dummy variable for the main job; 1 = farmer; 0 = others.

All parameters of efficiency levels estimated by maximum likelihood method (MLE) using Stata program ver. 11. The likelihood ratio test was used to test the estimation of parameters simultaneously, while the test parameters are used:

Simultaneously test used to test parameters simultaneously.

$$H_0: \beta_1 = \beta_2 = \dots = \beta_k = 0$$

$$H_1: \text{At least there is one } \beta_i \neq 0$$

Statistical test:

$$x^2_{\text{calculated}} = -2 \ln \left( \frac{L_{\text{alternative}}}{L_{\text{full}}} \right)$$

Where:  $L_{\text{alternative}}$  = maximum possible value without loading the independent variables;  
 $L_{\text{full}}$  = Maximum possible value which contains the free variable.

Testing criteria:

By taking significance level of  $\alpha$ , then from Table of Distribution Chi-Square with probability =  $1 - \alpha$  and  $dk = k$  obtained  $x^2_{(1-\alpha; k)}$  then:  $H_0$  rejected if  $x^2_{\text{calculated}} > x^2_{(1-\alpha; k)}$  or if the probability  $x^2_{\text{calculated}} < \alpha$ .

Individual test:

This test is performed to examine each individually.  $\beta_j$

$$H_0: \beta_j = 0$$

$$H_1: \beta_j \neq 0$$

Statistical test:

$$W = \frac{\hat{\beta}_j}{SE(\hat{\beta}_j)}$$

Where:  $\hat{\beta}_j$  = the estimated coefficient of a certain predictor variable;  $SE(\hat{\beta}_j)$  = standard error.

Testing criteria:

$H_0$  is rejected at the level of specific  $\alpha$  if  $W > t_{\text{table}}$  or a probability value  $< \alpha$ .

## RESULTS AND DISCUSSION

*Technical Efficiency Analysis.* Each farmer has the ability to produce a number of different production. Differences in the amount produced by farmers are not only due to differences in the amount of inputs used, but also could be due to differences in the each farmer managerial skill. The production function estimated using the OLS can only see the average performance of farmers, and not able to see the difference between farmers managerial capabilities. To find out differences in production quantities are caused by differences in the managerial ability used Maximum Likelihood Estimation (MLE).

*Maximum Likelihood Estimation (MLE)* can explain the ratio between actual production results of farmers with production potential that should have been achieved by farmers. Comparison of this production will generate exponent value  $U_i$  ( $\exp u_i$ ) which is a technical coefficient. The efficiency coefficient value between zero and one. Farmers managerial ability described as technical efficiency levels. There are two steps to determine the value of technical efficiency. The steps are the OLS and MLE.

In OLS estimation only reveals a level of average production. The results of the OLS estimation method will be used as an initial value in the next estimation using MLE method to determine the best production level that can be achieved from the combined use of existing production factors (Coelli et al, 1998). The results of the analysis of frontier production function of rice farming using MLE estimates are presented in Table 1.

Based on the data presented in Table 1 showed the results of estimation of Cobb-Douglas Stochastic Frontier production function using MLE approach. In the MLE estimates, the variables that affect the rice production is area planted, inorganic fertilizers and pesticides. Input area planted impact on rice production at 99% significance level. The

regression coefficient of 0.7921 planting area shows that if the acreage is added by 1%, the production of rice will increase by 0.7921%, in other words if the rice production was about to be increased by 1% can be done through the addition of the acreage amounted to 1.2625%.

Table 1 – Results Parameter Estimation of Stochastic Frontier Production Function tidal rice farming using OLS and MLE

Variables	OLS			MLE		
	Coefficient	Sd. Error	t	Coefficient	Sd. Error	T
intercept	6.9523	1.0448	6.6542	6.9527	0.9636	7.2154
Area planted	0.7921	0.2192	3.6144	0.7921	0.2016	*** 3.9294
Number of Seeds	0.0593	0.0822	0.7216	0.0593	0.0776	0.7641
Number of Inorganic Fertilizer	0.0736	0.0189	3.8933	0.0736	0.0170	*** 4.3300
Number of Pesticides	-0.0307	0.0152	-2.0254	-0.0307	0.0141	** - 2.1764
Total manpower	0.1269	0.2034	0.6237	0.1269	0.1878	0.6756
Sigma-squared ( $\sigma_s^2 = \sigma^2 + \sigma_v^2$ )	0.0058			0.0051	0.0011	*** 4.8485
Gamma ( $\gamma = \frac{\sigma^2}{\sigma^2 + \sigma_v^2}$ )				0.0001	0.0334	0.0017
Log likelihood	61.0409			61.0409		

\* = significantly different at the 90 percent confidence level or  $t_{table} = 1.6794$   
 \*\* = significantly different at the level of 95 percent or  $t_{table} = 2.014.1$   
 \*\*\* = significantly different at the 99 percent confidence level or  $t_{table} = 2.6896$

Inorganic fertilizer inputs that affect the production of rice at 99% significance level. The regression coefficient of 0.0736 indicates inorganic fertilizer when the use of inorganic fertilizers added by 1%, the production of rice will increase by 0.0736%, in other words if the rice production was about to be increased by 1% can be done through the addition of inorganic fertilizer use by 13.5870%.

Input pesticides significantly affect rice production at 95% significance level. The regression coefficient of -0.0307 pesticides showed that rice production would decrease by 0.0307% if the use of pesticides increased 1%. This shows that the use of pesticides considered to be redundant with the average use of 1.34 l per ha. Excessive use of pesticides among others, can lead to death of natural enemies to pests, diseases and weeds rice (Kurniawan, AY 2010)

To test the hypothesis of the presence or absence of technical inefficiency effects can be seen through the  $\gamma$  grades.  $\gamma$  values in Table 2 is 0.0001 and significant at a confidence level of 99.99 percent. Thus there is the technical inefficiency effects that affect the level of production of each farmer resulting in farmers do not produce optimally. Value of 0.0001 indicates that the inability of farmers to achieve maximum production solely due to farmers managerial factor of 0.01 percent, while 99.99 percent are caused by other factors (inputs). Value of  $\sigma_s^2$  (sigma squared) is also an indicator of technical efficiency. Value of  $\sigma_s^2$  is the error term of the regression equation generated from a wide variety of external random ( $\sigma_v^2$ ) and a variety of technical inefficiency  $\sigma_u^2$ .  $\sigma_s^2$  is a total deviation that describes the actual rice production deviation ( $\gamma$ ) with a potential production that should have been achieved farmer ( $\gamma^*$ ). If the value of  $\sigma_s^2 = 0$ , then there is no difference between the actual production of the farmers with the potential production, so it can be said that technical efficiency is achieved. However, if the value  $> 0$ , then the farm has not been efficient. In Table 2 value is 0.0051 with a confidence level of 99%. This suggests that rice farming in the research area did not meet the technical efficiency. Thus, based on  $\gamma$  and  $\sigma_s^2$  values, it could be concluded that the tidal rice farming had not reached the technical efficiency.

The level of technical efficiency of each farmer had very diverse differences. The average technical efficiency in the research area was 0.9996. This means that the level of technical efficiency in the research area was quite high, because the average level of technical efficiency in the study area near the level expected efficiency that is equal to 1. The results also showed that the ability of farmers in using minimal input to generate a certain level of output is still necessary improved. Average efficiency level showed that the use of

physical inputs could still be saved; farmers should save input up to 0.0004 percent. Distribution of technical efficiency is presented in Table 2.

Table 2 – Distribution of technical efficiency levels achieved by rice farmers

No.	Technical Efficiency level	Number of Farmers	Percentage (%)
1.	0.99957225 to 0.99957458	13	26.00
2.	0.99957459 to 0.99957692	30	60.00
3.	From 0.99957693 to 0.99957926	7	14.00
Total		50	100.00
Minimum		0.99957225	
Maximum		0.99957924	
Average		0.99957551	

Based on the data presented in Table 2, showed that the highest efficiency value of which is owned by the farmer in the research area is 0.99957924, while the lowest efficiency value is 0.99957225. Distribution level of technical efficiency of farming in the study area showed that the highest proportion is in scale 0.99957459 - 0.99957692 amounted to 60.00%, while on a scale of 0.99957693 to 0.99957926 amounted to 14.00 percent. Based on technical efficiency levels of distribution there are 24 farmers (48%) were still below the average level of efficiency, while the remaining 26 (52%) are above the average level of efficiency.

*Analysis of Factors Affecting Technical Inefficiency.* TE value on the SFA approach has a variation that capable to be described by its independent variables. There are two variables in parameter values on the SFA model affecting TE. A significant factor affecting the TE is the number of household members at the level of 95% and the frequency of extension at 90% confidence level, as shown in Table 3.

Table 3 – Factors Affecting Rice Farming Technical Inefficiency

Variables	SFA			
	Coef.	Std. err	T	P> t
Intercept	0.9995729	0.000002	500000.00	0000
Age Farmers	0.000000543	0.00000122	0:44	0659
Formal education	0.000000149	0.00000102	1:46	0151
Frequency Extension	-0.000000449	0.000000235	-1.91	* 0062
Farming experience	0.000000145	0.000000119	0:12	0904
Plant Size	0.000000116	0.000000270	0:43	0669
Number of Household Members	-0.000000436	0.000000213	-2.05	** 0046
The main job	0.000000272	0.000000648	0:42	0667
Sigma Squared	0.00000128	0.000000130		
Log Likelihood	594.28546			
LR Chi2 (7)	14:04			
Prob> chi2	0.0505			
*** =	significantly different at the 90 percent confidence level or table = 1.6794			
** =	significantly different at the level of 95 percent or table = 2.0141			
*** =	significantly different at the 99 percent confidence level or table = 2.6896			

Number of household members found positive effect on technical inefficiency, which means that the greater the number of family members, the farmers tend to be less efficient technically. This finding was consistent with findings by Kurniawan (2010), which uses a variable dependency ratio, but different from the findings by Mariyah (2008). This suggests that rice farming was not the main livelihood. Farmers were still looking for another job, such as becoming building workers and small traders in order to meet the needs of his family. Consequently farmland were neglected.

Frequency of counseling also found positive effect on technical inefficiency, meaning that more and more often held extension, farmers tend to be less efficient technically. This finding is consistent with findings by Kurniawan and Aurbacher (2015). It is suspected that the more often farmers participated in the extension, the more he lost time to take care of

their farming land. Especially if rice farming has not been the only livelihood for the farmers and they still do other jobs, so that rice farming land less cared for properly.

### CONCLUSION

Tidal rice production is significantly affected by factors of area planted, inorganic fertilizers and pesticides. The average technical efficiency is already high at 0.9996, approaching 1.0000 as the expected level of efficiency. The inability of farmers in achieving maximum production solely due to farmers managerial factor of 0.01 percent, while 99.99 percent are caused by other factors (inputs). The deciding factor affecting technical inefficiency of rice farming is the number of household members and the frequency of extension.

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DOI <https://doi.org/10.18551/rjoas.2018-12.31>

## THE IMPACTS OF CORN IMPORT TARIFF REMOVAL ON ECONOMY, WELFARE AND POVERTY IN INDONESIA: COMPUTABLE GENERAL EQUILIBRIUM APPROACH

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### ABSTRACT

This study aims to analyze the impacts of corn import tariff removal on economy, welfare, and poverty in Indonesia. The analysis was conducted using static CGE model based on Social Accounting Matrix data and Input Output Table data of 2008 and SUSENAS data. The result shows that corn import tariff removal impacted on economic performances, such as decreasing domestic production, import, and export of involved sectors, yet increasing domestic production of corn sector and other agriculture sectors. The increase of domestic production resulted on the raising of income level on all household classifications in the study, so that it raised the welfare. Import tariff removal impacted on the decrease of poverty level because household welfare increased so that it can fulfill their daily needs. The increase of welfare on all classifications of household impacted on the decrease of poverty, which included the level of poverty, the level of poverty gap, and the level of poverty inequality.

### KEY WORDS

General Equilibrium, tariff, import, domestic production, welfare, poverty.

Corn is one of the important food commodities that contributed to the national economy. The food contribution toward GDP in 2010 amounted to 13.93%. Corn as the second source of carbohydrate after rice plays a role in supporting food security, the adequacy of animal feed supplies, and even recently used as a raw material of alternative energy (biofuel). In the diversification of food consumption, corn is used to reduce the dependence on the staple food of rice. Corn also plays a role in the feed industry and other food industries, which requires a greater supply than for direct consumption.

Total consumption of corn during the period of 2008-2012 continued to increase in an average of 5.41%/ year. In 2012, the total consumption reached 20.39 million tons far above the year of 2008 which only reached 16.62 million tons, although consumption in 2012 declined slightly compared to the year of 2011 which reached 20.51 million tons. Total consumption here included direct consumption by households, feed uses, seeds and processing industries (food and non-food). The growth rate of total consumption is faster than production growth rate which only reached 3.21% / year. In 2012, corn production reached 19.38 million tons, while in 2008 only reached 16.32 million tons. As a result, there is a production deficit since 2010 that reached 1.74 million tons, then surged again in 2011 to 3.28 million tons. In 2012, the deficit declined sharply (due to the rapid increase in production) but still remained substantial at 1.02 million tons (BPS, 2013, Bappenas, 2013).

Various efforts were made to fulfill domestic corn demands due to the production deficit. One way to do this is to import corn. Import volume continued to increase during 2008-2011, especially since 2010 which increased dramatically, from 286,541 tons in 2008 to 1,527,516 tons in 2010 and to 2,889,174 tons in 2011, while in 2012 there was a decrease in imports to 1,889,431 tons. The decline in import volume in 2012 caused by a significant increase in production amounted to 2,146,858 tons or 12.46% compared to 2011.

Dependency on corn import causes the involving of Indonesia in international trade followed by some accompanying changes. According to the theory of international trade, unimpeded cross-border trade potentially gives benefit to each country through specialization

of commodity production which is preferred by those countries. However, in fact, the more an economy is liberalized; it does not directly increase the welfare of involved countries. Many studies have shown that trade liberalization can give either advantages or disadvantages, depending on the point of view.

The determination of import tariff will affect on domestic corn price, so that it becomes more expensive. The corn price at the consumer level is the impacts of domestic and imported corn prices. By determining import tariff as government's efforts to protect domestic corn producers, it is expected to improve their welfare. On the other hand, agreements that have been approved by the government to gradually reduce import tariff which will eventually be 0% will affect the import prices and domestic prices of corn. In this case, corn producers are as the harmed parties. It was stated by Anindita and Reed (2008), if import tariff was removed, there would be a scheme to pay the losses of domestic producers as a result of the increase of welfare in the economy.

The changes of economic environment such as the removal of import tariff will result in the agents in economy (households, government and companies) to be more prosperous or less prosperous. Thus, a study on import tariff removal of corn on economic performance and public welfare and poverty in Indonesia is considered necessary to be conducted in order to obtain an input as an effort of improving the economic performance and welfare of the community. This study aims to find out the impact of corn import tariff toward the performance of domestic production, export, import, welfare and poverty in Indonesia by using computable general equilibrium approach.

### THEORETICAL REVIEW

*Import tariff for small country case.* Tariff implementation on small country will not affect the term of trade. Country A will produce at a point where the ratio of the domestic marginal cost is equal to the ratio of world exchange in order to maximize the welfare. The following picture shows free market equilibrium. Slope TT is a world price ratio, production is at  $P_1$ , consumption is at  $C_1$ . If Slope TT is tangent indifference curve of  $i_1$ , it means country A exports either clothing or food.

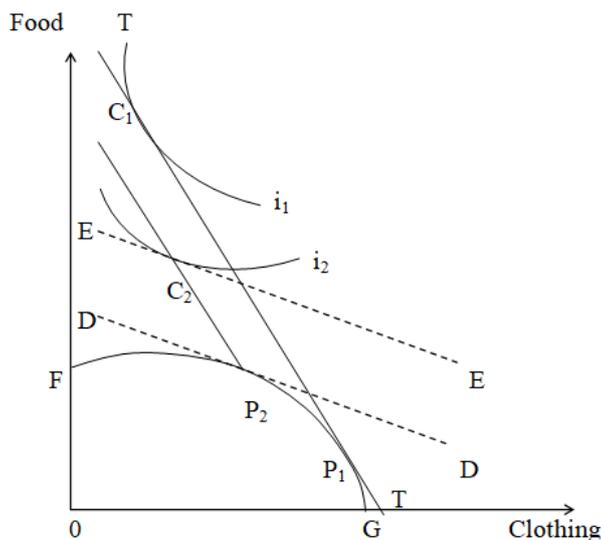


Figure 1 – Import Tariffs of Small Country Case on General Equilibrium Model (Dunn Jr and Mutti, 2000)

Implementation of import tariff in country A will affect on the increase of domestic food. The increase of domestic food prices causes the differences of domestic exchange ratio with the term of trade. It is proven with Slope DD which is domestic exchange ratio is sloping than slope TT which is world exchange ratio. The increase of domestic food prices drives

producers to increase food productions and decrease clothing productions (at point  $P_2$ ), where domestic price line (DD) is tangent the production- possibility curve.

If world prices do not change, then international trade is along  $P_2C_2$  (parallel to TT). A new equilibrium is reached when there are two conditions: first, when the EE domestic price line is tangent the indifference curve of  $i_2$  which means that the MRS of consumption is equal to the consumer's domestic price ratio; second, when the world price line of  $P_2C_2$  crosses the tangent point of indifference curve with EE domestic price line at  $C_2$  point which means domestic price ratio deviates from world price ratio of tariff.

A new equilibrium happens if country A continues to export clothing and import food with amount which is smaller than before the tariff is applied. Tariff enforcement will increase domestic food production, so it will reduce the dependence on food imports. On the other hand, the export of clothing will decrease so it will reduce the welfare shown by the lower indifference curve. Thus tariff policy in the case of small country with a general equilibrium approach will decrease welfare.

*Welfare.* The consumer's economic environment can either be better or be worse. Economists try to develop tools to measure how consumers are affected by the changes of its economic environment. The tools used are compensating variation and equivalent variation. Compensating variation and equivalent variation is used for measuring welfare changes by measuring utility changes as a result of policy changes which effects in price changes and real income.

Compensating variation is an income adjustment that can restore consumers' welfare to an early utility level after an economic change (price change). For instance there is a tax increase so prices change from  $p^0$  to  $p^1$ . Therefore, the minimum amount that consumers are willing to accept is by returning the consumers to the early utility but with a new price in order to run the policy. The equivalent variation is an income adjustment after a price change to reach a new utility (after the change) with the previous price (before the change). Variant (1992) said that equivalent variation used current prices as a basis if there was an income change and its impact on utility. While compensating variation uses the new price as a basis to compensate consumers for price changes (compensation takes place after several changes so that compensating variation uses the new price after the change). Formulated as follows:

$$CV = e(p^1, u^0) - e(p^0, u^0) \quad (1)$$

$$EV = e(p^1, u^1) - e(p^0, u^1) \quad (2)$$

These two methods are a welfare measurement caused by price change. The exact measure which will be used depends on the situation and condition. Compensating variation is used when trying to set some compensation scheme at a new price, but if trying to get a reasonable measure of the willingness to pay then it is better to use an equivalent variation.

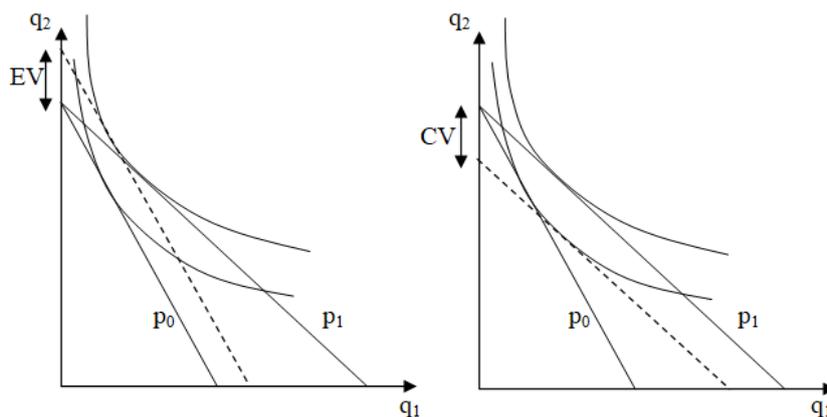


Figure 2 – Compensating Variation (CV) and Equivalent Variation (EV)

Equivalent variation is widely used as an indicator to measure welfare changes on studies using the CGE model, as a result of trade scenario change. There are two reasons: first, equivalent variation measures income changes at current prices and it facilitates the policymaker to assess the income at current prices rather than some hypothetical price. Second, when comparing more than one proposed policy change, compensating variation using different base prices for each new policy while equivalent variation keeps the base price at the status quo. Thus, equivalent variation is more appropriate for comparison between multiple projects.

*Poverty.* According to conventional viewpoint especially from monetary aspect, the welfare of household can be measured from obtained income level. Obtained income reflects an authority on commodity used for fulfill their daily needs. If obtained income causes inability of households in fulfilling their basic needs, then it causes the households' well-being deprived. The well-being deprivation is named poverty (World Bank, 2005). Someone or a household is considered poor if there is no income or sufficient consumptions which places them at the adequate minimum threshold. Poverty can be related with certain types of consumption, such as house, food, health, and education. Health dimension is often measured directly, for instance by measuring malnutrition or literacy.

Wider approach for well-being (and poverty) focuses on individual ability to be useful in society. It is said a poor if there is no major ability, such as there is no income or adequate education, or in a poor health, or feeling helpless, or having no political freedom. Thus, poverty is multidimension phenomenon. Efforts in overcoming poverty must be accompanied by other efforts comprehensively, for example higher average income evidently reduces poverty. Therefore it should be accompanied by some actions to empower poor habitants, ensure them towards faced risks or to overcome certain weaknesses (such as the availability of schools or inability of health).

## **MATERIALS AND METHODS OF RESEARCH**

Analysis methods used in this study was static CGE model, where general equilibrium model was developed by Hosoe, *et al* (2010), and specific model by Lofgren, *et al* (2002). This static CGE model was used for analyzing the impacts of corn import tariff removal on economic performances (domestic output, export, and import), income, welfare and poverty in Indonesia.

There were some steps had been done in using CGE model, firstly, building basic data which was appropriate with CGE model from I-O table and Social Accounting Matrix (SAM) of 2008. Agregation and disaggregation of sectors from Social Accounting Matrix (SAM) 105x105 was reduced to matrix 57x57 with 4 household classifications, they were farm workers households, agricultural entrepreneur households, rural non-agriculture households and urban non-agriculture households.

In order to build the basic data, these appointed assumptions had to be fulfilled, namely aggregate demand was equal with aggregate supply, pure profit amounted zero, cost incurred was equal with revenue. If the assumption was fulfilled, the data could be used as basic data of CGE model, and if it was not fulfilled, then it had to be rechecked. In production structure, the relation of input and output had to be known, and the elasticity value of the leontif function, CES, CET obtained from the previous studies. It used assumption of constant return to scale, and product prices was obtained from cost function.

The next step was calibration, modification and integration of elasticity values and parameter with basic data for determining the equilibrium. After finishing, then it was continued with policy simulation to find out the impacts towards economical performance and welfare. Next, comparing the simulation results with starting equilibrium and it was used for the alternative of policy evaluation, as stated in the objective of the study.

In this study, micro simulation was used to analyze poverty, while the CGE analysis result was obtained from the changes of macro household welfare. Thus, it was needed micro data from The National Socio Economic Survey (SUSENAS) as a conversion factor to

represent the changes of household income. This approach was named Integrated Multi-household CGE Anaysis (CGE-IMH).

## RESULTS AND DISCUSSION

*The Impacts of Corn Import Tariff Removal on Economic Performance.* Import tariff is one of the trade barriers determined by government to protect the domestic production from import goods, besides as an income source for the country. The rules of borderless world trade required the involved countries in world trade to decrease, even to remove all kinds of trade barriers, include import tariff. Indonesia as a party of world trade and a member of WTO has to obey the rule by decreasing and removing the import tariff.

*The Impacts of Corn Import Tariff Removal on Domestic Production.* The decrease and removal of corn import tariff is impacted on the economic sectors. If the corn import tariff is removed, domestic production of corn sector and other agriculture increased, while domestic production of other food crops sectors, poultry and its products, livestock and livestock products, forestry and hunting, fisheries, mining, oil and fat industries, other food, beverage and tobacco industries, other industries and services have decreased.

Table 1 – The Changes of Domestic Production Total due to the Decrease and Removal of Corn Import Tariff

Number	Sectors	Baseline (Trillion Rupiah)	Tariff 3%	Tariff 0%
1	Corn	405	0,494	0,741
2	Other food crops	563	-3,730	-3,375
3	Other agricultures	968	1,343	1,756
4	Poultry and its products	422	-2,370	-1,659
5	Livestock and livestock products	593	-3,710	-3,204
6	Forestry and hunting	110	-0,909	-2,727
7	Fishery	840	-2,500	-3,214
8	Mining	1.337	-4,712	-5,086
9	Oil and fat industries	2	-5,170	-5,550
10	Other food, beverage and tobacco industries	4.288	-4,454	-5,924
11	Other industries	6.127	-2,203	-2,269
12	Services	14.703	-1,503	-1,728

Source: Data Processing Results (2016).

Import tariff removal causes world price of corn transmitted to domestic market and causes a gap between world price of corn and domestic price of corn. It causes domestic production declines due to the cheaper imported goods prices. In fact, the production of corn and other agriculture increase as a result of the removal of import tariff, although the other sector production decreases. It means that there is another tariff rule implemented which causes the production of both sectors increases. Some studies showed different results with this study. Haryadi (2008) stated that the removal of trade barriers will decrease domestic production. Furthermore, the result study of Pangestika *et al.* stated that the removal of import tariff will decrease domestic production.

*The Impacts of the Increase and Removal of Corn Import Tariff towards Import.* The increase and the removal of corn import tariff has positive impacts on import of corn sector, other food crops, other food, beverage and tobacco industries, other industries and services. On the other hand, the increase and removal of corn import tariff will decrease import on other sectors, such as other agriculture, poultry and its products, livestock and livestock products, forestry and hunting, fishery, mining and oil and fat industries. The removal of corn import tariff will increase the demands on imported goods because it is cheaper than domestic prices. Furthermore it is functioned to keep the stocks of corn and other foods in the country so that it will not cause fluctuation in society. By removing corn import tariff, some sectors experience a deficit in import because the needs are fulfilled with the stocks of domestic production. Thus, it does not increase the use of import intermediate input in the

production processes. A study by Haryadi (2008) and Pangesty et al. (2015) stated that import will increase by removing the trade barriers.

Table 2 – The Changes of Import Total due to the Decrease and Removal of Corn Import Tariff

Number	Sectors	Baseline (Trillion Rupiah)	Tariff 3%	Tariff 0%
1	Corn	405	2,762	2,888
2	Other food crops	563	2,941	2,971
3	Other agricultures	968	-2,095	-2,089
4	Poultry and its products	422	-2,308	-2,231
5	Livestock and livestock products	593	-3,636	-2,727
6	Forestry and hunting	110	0	0
7	Fishery	840	0	0
8	Mining	1.337	-2,439	-2,256
9	Oil and fat industries	2	-3,673	-3,265
10	Other food, beverage and tobacco industries	4.288	2,486	2,543
11	Other industries	6.127	1,445	1,548
12	Services	14.703	2,046	2,224

Source: Data Processing Results (2016).

*The Impacts of the Decrease and Removal of Corn Import Tariff on Export.* The decrease and removal of import tariff has positive impacts on the export of corn sectors and other food crops, yet other agriculture sectors, poultry and its products, livestock and livestock products, forestry and hunting, fisheries, mining, other oil and fat industries, other foods, beverages and tobacco industries, other industries and services have decreased as showed in Table 3. It can be seen from the Table 3 that import tariff removal will increase export of several sectors and decrease other sectors in this study. This occurs when reviewed in a general equilibrium framework that composite goods are a combination of imported and domestically produced goods, which will be sold to both domestic and export markets. The size of exports is determined by the total of the composite goods. Exports will be done if domestic needs are fulfill.

Table 3 – The Changes of Export Total due to the Decrease and Removal of Corn Import Tariff

Number	Sectors	Baseline (Trillion Rupiah)	Tariff 3%	Tariff 0%
1	Corn	405	2,600	2,824
2	Other food crops	563	2,655	2,755
3	Other agricultures	968	-4,549	-4,704
4	Poultry and its products	422	2,750	2,895
5	Livestock and livestock products	593	-3,211	-4,043
6	Forestry and hunting	110	-2,712	-2,650
7	Fishery	840	-3,448	-3,103
8	Mining	1.337	-2,885	-2,803
9	Oil and fat industries	2	0	0
10	Other food, beverage and tobacco industries	4.288	-3,557	-3,482
11	Other industries	6.127	-2,737	-2,628
12	Services	14.703	-2,168	-2,144

Source: Data Processing Results (2016).

*The Impacts of Corn Import Tariff Removal on Income.* The reduction and removal of corn import tariff will increase income of all households (Table 5). This is due to the removal of import tariff which will lower domestic corn prices (to be cheaper) so that it will increase the real income of households as consumers. This finding is in line with the results of the study by Hayati et al (2014) that the removal of import tariff has a positive impact on food security, income and household welfare in Indonesia. The results of this study differ from Pudjiastuti et al (2013) that income of all economic agents will decline with the removal of import tariff.

*The Impacts of Corn Import Tariff Removal on Welfare.* The reduction and removal of import tariff influences the increase of household welfare in all classes. Farm workers households and rural non-agriculture households experience a higher welfare increase compared to other household groups. This is due to this household class as the owner of

labor production factor, that the removal of import tariff will increase the real income of households so that their welfare increases.

Table 4 – The Changes of Household Income due to the Decrease and Removal of Corn Import Tariff

Number	Households	Baseline (Trillion Rupiah)	Tariff 3%	Tariff 0%
1	Farm workers households	2.305	2,169	2,646
2	Agricultural entrepreneur households	2.413	2,155	2,611
3	Rural non-agriculture households	2.709	2,289	2,436
4	Urban non-agriculture households	2.650	2,566	2,830
5	Companies	5.740	2,125	2,491

Source: Data Processing Results (2016).

Table 5 – The Changes in Household Welfare Due to the Decrease and Removal of Corn Import Tariff

Number	Households	Baseline (Trillion Rupiah)	Tariff 3%	Tariff 0%
1	Farm workers households	164	1.829	2.439
2	Agricultural entrepreneur households	172	0.581	1.744
3	Rural non-agriculture households	193	2.591	3.109
4	Urban non-agriculture households	189	1.058	1.587
5	Companies	409	0.489	0.978

Source: Data Processing Results (2016).

*The Impacts of Corn Import Tariff Removal on Poverty.* The removal of import tariff affects the change of poverty map of households in Indonesia (Table 6). The calculation results show that with the removal of import tariff will reduce poverty for all household groups. This can be seen from the value of poverty incidence index (P0) in all household classifications of farm workers households, agricultural entrepreneur households, rural non-agriculture households and urban non-agriculture households. When compared with the baseline value, there will be a change of poverty percentage of each household classification of 5.21%, 1.61%, 7.69% and 3.42%, respectively.

Table 6 – The Changes of Household Poverty due to Corn Import Tariff Removal

Number	Households	Baseline (Trillion Rupiah)	Tariff 0%
		Index	
	Poverty Incidence (P0)	(percentage changes from the baseline)	
1	Farm workers households	0,1652	0,1566 (-5,21)
2	Agricultural entrepreneur households	0,1549	0,1524 (-1,61)
3	Rural non-agriculture households	0,0871	0,0804 (-7,69)
4	Urban non-agriculture households	0,0614	0,0593 (-3,42)
	The depth of poverty (P1)		
1	Farm workers households	0,0324	0,0300 (-7,41)
2	Agricultural entrepreneur households	0,0310	0,0303 (-2,26)
3	Rural non-agriculture households	0,0161	0,0144(-10,56)
4	Urban non-agriculture households	0,0121	0,0115 (-4,96)
	Poverty severity (P2)		
1	Farm workers households	0,0095	0,0087 (-8,42)
2	Agricultural entrepreneur households	0,0093	0,0090 (-3,23)
3	Rural non-agriculture households	0,0046	0,0040(-13,04)
4	Urban non-agriculture households	0,0035	0,0034 (-2,86)

Source: Data Processing Results (2016).

The depth of poverty (P1) and the severity of poverty (P2) decrease with the removal of import tariff proven by the percentage change in index compared to the baseline. A decrease in the depth of poverty means a narrower gap in the income of poor households with a poverty line, whereas a decrease in the severity of poverty indicates less income inequality among households.

## CONCLUSION

Based on the research of the study, it can be concluded that:

- The removal of corn import tariff is impacted on the economic performance, such as decreasing the domestic production, except corn and other agriculture, decreasing import except corn, other food crops, food industries, other foods, beverage and tobacco industries, other industries and services, and decreasing export except corn and other food crops and poultry.
- The removal of corn import tariff will increase the income of all household classifications, so it is impacted on the increase of all household classifications in this study.
- The removal of import tariff will decrease the level of poverty, the level of poverty gap, and the level of poverty inequality.

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DOI <https://doi.org/10.18551/rjoas.2018-12.32>

## THE ANALYSIS OF MANGROVE FOREST MANAGEMENT SUSTAINABILITY IN DAMAS BEACH, TRENGGALEK

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### ABSTRACT

It is reported that the mangrove forest in Damas Beach has suffered severe damage. This forest damage is caused by the conversion of land functions into coconut plantations and agricultural activities. Nevertheless, several activities of mangrove forest management awareness have been carried out. This socialization is an effort to restore the function of mangrove forests as a counterweight to the coastal ecosystem. The targets of this activity include the communities around mangrove forests, village-level policy makers, community leaders, primary school children as future generations, as well as the teachers. Therefore, the purpose of this study is to analyze the sustainability in mangrove forest management after the awareness raising activities took place. The data analysis used in this study is *RAPmangrove* which consists of a *Multi-Dimensional Scaling* analysis, *Monte Carlo*, and *leverage*. The sustainability of the mangrove forest ecosystem in Damas Beach is in the category of unsustainable because it experiences a change of function. The activities to change the function of mangrove forest lead to several issues of social conflict in its management. By that, the efforts that must be done to overcome this problem are mangrove rehabilitation, advanced community awareness building, mangroves management skill improvement, and arranging the ecosystem management plans of Damas Beach mangrove forest.

### KEY WORDS

Sustainability, management, awareness, mangrove.

The damage to mangrove forests in Damas Beach, Trenggalek Regency, East Java, Indonesia, tends to be caused by the behavior of local communities who consider that plantation crops provide more economic benefits compared to mangroves. This assumption forced the mangrove forest area in Damas Beach to drastically shrink; the area was replaced to be used as a coconut plantation and agricultural activities. The activity of changing the function of mangrove forest into an area that is considered to provide higher economic value is also found in other areas. In central Vietnam coastal area, the mangrove forest in 1990 has been used as a shrimp farming area. As a result, this shrimp cultivation development damaged the mangrove forests and caused environmental degradation as well as water pollution so that the shrimp production is no longer optimal. Consequently, the condition of the community becomes poorer (Hue and Scott, 2007). The community on the Akassa Delta Niger Island also shows that the dependence on the use of mangrove forest resources is very high. Almost all the coastal households are involved in activities that require raw materials from wood from mangrove forests (Eleanya et al, 2015).

The improvement of mangrove forest environment through mangrove forest rehabilitation activities has been carried out in many places. This mangrove forest rehabilitation shows an improvement in environmental quality which also able to create a better quality of life. In Panay Island, Philippines, there has been a rehabilitation of mangrove forests in some abandoned ponds area. These efforts have increased the Climate Change Mitigation and Adaptation (CCMA) in the coastal zone (Duncan et al, 2016). A study from Paul (2006) showed that the preservation of mangrove forest system in rural Caete Bay is very important to maintain the life quality of rural households. According to Rahman and

Asmawi (2016), to make the efforts of conserving mangrove forests work well, a very important component such as community participation and awareness is needed.

The activities of mangrove forest rehabilitation also have been carried out in the research area. In 2008, the rehabilitation was carried out at Damas Beach and Cengkong Beach. The rehabilitation at Cengkong Beach shows significant results, seeing from the increase in mangrove forests area. On the other hand, the rehabilitation effort performed at Cengkong Beach is in the form of mangrove ecotourism. The development of mangrove ecotourism in Cengkong Beach provides employment opportunities for people who live in the surrounding area. Purwanti et al (2017) found that some accessible productive activities done by the committee in Cengkong mangrove ecotourism are mud crab cultivation, Anadara scallop aquaculture, mangrove plant nurseries, food stalls, as well as boat rental and toilets. In addition, some people who live in the surrounding area of Cengkong Beach also carry out other productive activities such as crabs hunting, fishing, as well as selling food in stalls.

It is found that the forest rehabilitation activity in Damas Beach was less successful because there was still an expansion of coconut trees plantation in the area. The researchers carried out some awareness efforts through several activities including the introduction of fruit benefits from mangroves as foods for coastal women (Purwanti et al, 2016). This effort is carried out through negotiations with community leaders in Damas Beach through meetings and discussions. There is also an act of awareness building to elementary school students in the Damas Beach area.

Various efforts to realize mangrove forest management have been carried out both for women, communities, community leaders, and elementary school students. Therefore, this study aims to evaluate the sustainability of mangrove forest management on Damas Beach.

## MATERIALS AND METHODS OF RESEARCH

This study took place at Karanggandu Village, Watulimo District, Trenggalek Regency, Indonesia. The management of mangrove forests in the area of Damas Beach, Karanggandu experienced some problems in the conversion of land into coconut plantations so that this study is intended to assess the sustainability of mangrove forest ecosystems. According to Marimin (2002), the determination of the number of respondents (experts) must meet the appropriate requirements that are in accordance with science and authority. The respondents who are selected based on experts or authorities in the field of mangrove management are community leaders, Pokmaswas Kejung Samudra, Pokmaswas Jangkar Bahari, Village Devices, and Teachers of Karanggandu II Elementary School as many as 21 people. The data analysis is done with *RAPMangrove* which is an adjustment method of *RAPfish (Rapid Appraisal of Fisheries)* consisting of several analysis techniques (Eunike et al., 2018):

- *Multi-Dimensional Scaling (MDS)*: The ordination technique analyzed by MDS to determine the position of good and bad points. The point objects in MDS will be mapped into two or three-dimensional spaces and attempted as close as possible.
- *Monte Carlo (MC)*: Monte Carlo analysis evaluates the effect of random errors that are performed to predict the ordination value used. Monte Carlo results in this study are presented in the form of scatter plots in 25 replications.
- *Leverage*: Leverage analysis is done to find out the sensitive attributes in each dimension of sustainability used.

The sustainability specification is viewed from the ecological, economic, social, legal, and institutional dimensions. The analysis of *RAPMangrove* performed by using R. Dimension and variable software is presented in Table 1 below.

The index value of the sustainability of mangrove forest ecosystem management in the data analysis is grouped into four categories of sustainability status, namely: not sustainable, less sustainable, sufficient, and sustainable (Table 2).

Table 1 – Dimensions and Sustainability of Mangrove Forest Ecosystems in Damas Beach

Ecological Dimension	Economic Dimension
The suitability of mangrove area allocation	Community income derived from mangrove forest ecosystem
The availability of mangrove tree seeds	Job opportunities in the mangrove area
The diversity of mangrove trees	The availability of production inventory or recording of mangrove forest ecosystem
Mangrove capacity to resist abrasion and erosion	The availability of mangrove forest ecosystem utilization zones
The pollution in mangrove ecosystem areas	Training and counseling in the utilization of mangrove ecosystems through diversification of environmentally friendly mangrove processed products
The diversity of flora and organisms in the ecosystem	
The changes in habitat or organisms and mangrove area due to human intervention	
The availability of mangrove forest ecosystem conservation zones	
<i>Social Dimension</i>	<i>Legal and Institutional Dimensions</i>
Mangrove utilization conflict	The activeness of mangrove forest ecosystem management institutions
The mechanism to handle land conflicts	Communication and coordination of management institutions with relevant institutions in the management of mangrove forest ecosystem
Public awareness to conserve mangroves through local wisdom by planting or conserving mangroves	Mechanisms and rules for managing mangrove forests
Community participation in managing mangrove forest ecosystem	Obedience and compliance in the management regulation of mangrove forests
Community knowledge and perception regarding the function and benefits of mangrove forest ecosystem	Planning management of mangrove forest ecosystem
Community activities that damage mangrove forest ecosystem	Sanctions and law enforcement for communities that damage mangrove forest ecosystem
	The availability of extension agents/field officers to manage the mangrove forest ecosystem
	Local and village government policies regarding the management of mangrove forest ecosystem

Source: Karlina et al., (2016); Theresia et al., (2015); Muhsimin et al., (2018); Mukhlisi et al., (2014), and Kapuangan et al., (2016).

Table 2 – Sustainability Category

Index value	Category
0 – 25	Not sustainable
25 – 50	Less sustainable
50 – 75	Fairly sustainable
75 – 100	Sustainable

## RESULTS AND DISCUSSION

### *Awareness Activities for the Re-Management of Mangrove Forests in Damas Beach.*

The replanting of mangrove forests in Damas Beach was carried out in 2008. However, the activities of logging mangrove forests to be used as land for coconut trees plantation are still going on. It is known that the efforts to raise public awareness in managing the mangrove forests in Damas Beach also have been done. In 2015, the activities were implemented to introduce the benefits of mangrove forests to coastal ecosystems and the introduction of the benefits of mangrove fruits as food and non-food ingredients. The types of *pedadalbogem* (*Sonneratia sp*) mangrove fruit can be processed into mangrove syrup while the type of *Bruguiera sp* or *Avicenna spp (api-api)* mangrove fruit can be used for mangrove flour. This flour can be used as a base to make *api-api* brownies, *api-api* crackers, *api-api* dodol, and fire-fire spongecake (see Purwanti et al, 2016). This activity involved village officials as well as community leaders. Besides that, another awareness activity was to have a negotiation with the key figure or "God Father". This negotiation needs to be done because this man is the chairman of LMDH Argo Lestari who is entrusted by Perhutani to manage the forest in Karanggandu Village. This man also has access to the use of mangrove forests.

As a result of the damaged mangrove ecosystem, floods and landslides occurred on Damas Beach. It is important to note that landslides able to cause damage to coral reefs on Damas Beach. The damage to coral reef ecosystems in Damas coastal area is caused by human behavior; using unsustainable fishing gear and destructing the mangrove forest

ecosystems (Susilo et al, 2017). In 2017, the efforts to build the awareness of mangrove benefits were made on the coral reef ecosystem. In this activity, the techniques to make artificial coral reefs, as well as the economic and ecological benefits of coral reef planting, were introduced.

Not only that, but the efforts to build an awareness to elementary school students were also initiated through counseling by using model props of mangrove ecosystems management and posters installment. This activity also involved village officials and teachers. It is continued by inviting elementary school students accompanied by teachers to learn to plant mangroves in the mangrove ecotourism area at Cengkong Beach. Besides that, there was an activity of mangrove seeds planting on Damas Beach.

*The Sustainability Analysis of Mangrove Forest Ecosystems in Damas Beach.* The results of MDS analysis in *RAPMangrove* showed the index values of ecological, economic, social, as well as legal and institutional sustainability in the management of Damas Beach mangrove forest ecosystem sequentially by 58.68% (fairly sustainable), 35.06% (less sustainable), 46.29% (less sustainable), and 47.54% (less sustainable) (Figure 1). There are 10 types of mangroves on Damas Beach including *Acanthus illicifolius*, *Lumnitzera racemosa*, *Nypa fruticans*, *Ceriop descandra*, *Soneratia Alba*, *Rhizopora mucronata*, *Aegiceras corniculatum*, *Rhizopora apiculata*, *Heritiera globosa* and *Heritiera littoralis* (Purwanti et al., 2016). The mangrove forest ecosystems in Damas Beach experience a land conversion causing a degradation in the function and benefits of mangroves. Susilo *et al.*, (2015) said that the greatest change of land functions is found in the tidal area of Damas River and Gilang River which covers an area of ±6.4 hectares to become a plantation area and residential area.

The changes in the area of mangrove forests affect the economic value of coastal communities which are obtained from mangrove ecosystems in the form of crabs, shells, oysters, and other economical fish so as to reduce the livelihood opportunities in the mangrove area. It requires awareness and community participation in the forest management to rejuvenate the condition of Damas Beach mangrove ecosystem through an educational approach. In addition, the government and the community need to develop a plan to manage the mangrove forest ecosystem as well as law enforcement for the perpetrators of mangrove damage. In a multidimensional manner, the sustainability status of the forest management in Damas mangrove forest ecosystem is in the less sustainable category by 46.89% so that it is necessary to pay attention to sensitive variables to improve the sustainability status.

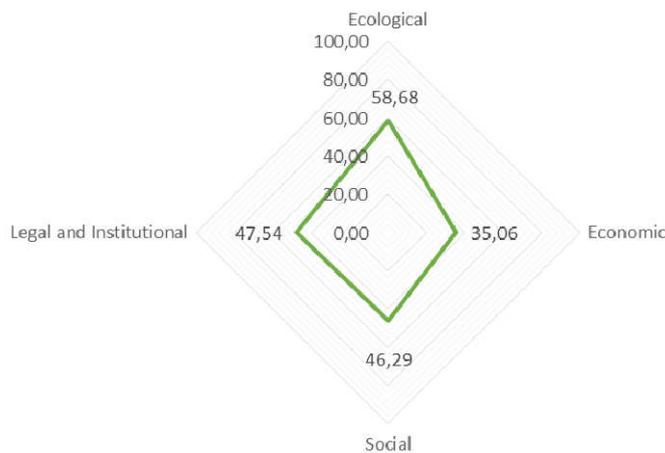


Figure 1 – Kite diagram of a multidimensional sustainability index

The difference between the low sustainability index value between the analysis results from MDS and MC proves that the effect of errors can be avoided (Wibowo *et al.*, 2015). The results of calculation of the difference between MDS and MC shows a low difference in value (Table 3) so that it indicates that MDS has a high level of confidence because of the minimum procedural errors or understanding of indicators and variations in scoring.

Table 3 – Comparison of MDS and MC Values

Dimension	Sustainability Index (%)		Difference
	MDS	MC	
Ecological	58.679113	58.67913	-0.0000153
Economic	35.057803	35.05780	-0.0000019
Social	46.288426	46.28840	0.0000306
Legal and Institutional	47.536096	47.53609	0.0000105

Leverage analysis is used to determine which variables that sensitively affect the level of sustainability of mangrove forest management (Karlina *et al.*, 2016). The results of the leverage calculation indicate that there are four variables that are sensitive to the sustainability index of ecological dimension, namely: the capacity of mangroves, pollution, habitat alteration, and conservation zones. Damas coastal region experiences abrasion and river erosion due to the damage to mangrove forest ecosystems caused by the conversion of functions. The village government with Forest-Village Community Institution (*Lembaga Masyarakat Desa Hutan* or LMDH) have already sought to overcome the problems of abrasion and erosion by dredging the river whereas this problem still repeatedly occurred. Therefore, the effort made to overcome these problems is the conservation of mangrove ecosystems.

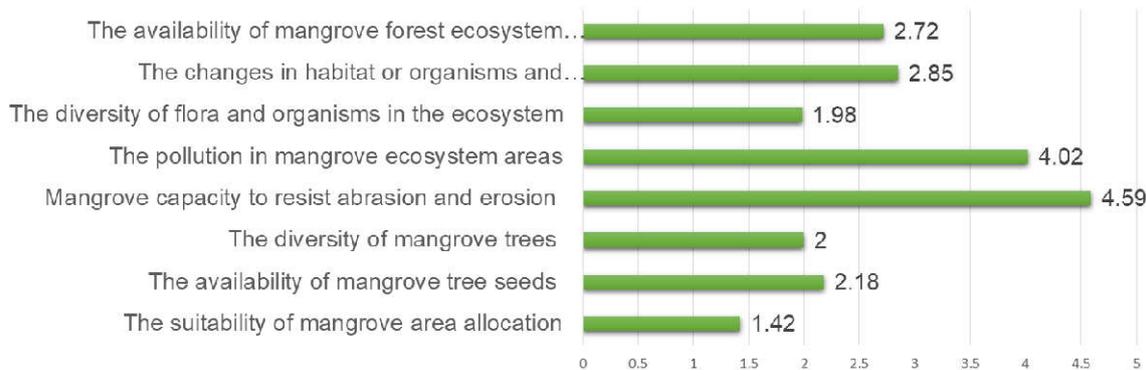


Figure 2 – Leverage Value of Ecological Dimension

The economic dimension that produces variables that are sensitive to changes in sustainability is job opportunities, inventory, utilization zones, and training. A good mangrove forest ecosystem will influence the job opportunities in the surrounding community. Zen *et al.*, (2015) believes that the livelihoods in the Wonorejo Village related directly to the existence of mangrove ecosystem are mangrove-based food processors and fishermen in the surrounding area. According to Muhsimin *et al.* (2018), the cause of coastal communities to perform a destruction is the lack of alternative employment, the increasing number of people and necessities, as well as the condition of the people who do not have land outside the village area to develop agricultural business. Due to that matter, they do not have other options and will keep exploiting the mangroves.

An inventory of products produced from Damas coastal ecosystem is needed to measure economic value, product development, and as a basis for managing the conservation and utilization zones. Theresia *et al.* (2015) suggested that a counseling, education, and training on mangrove ecosystems is needed to be done to improve the sustainability status because human resources are the assets in the management of mangrove ecosystems. Mangrove fruit-based food processing training conducted by Purwanti *et al.*, (2015) through the IbM Program caused the community to understand the function of mangrove plants as an alternative food material. In addition, IbM in 2017 understood that there is a link between mangrove forest ecosystems and coral reef ecosystems.



Figure 3 – Leverage Value of Economic Dimension

From the social dimension, the values that are sensitive to sustainability are public awareness, knowledge and perceptions, mechanisms for handling conflicts, and utilization conflicts. The management of mangrove forest ecosystems requires awareness from the coastal communities so as to increase the participation in the development. As explained by Muhsimin et al. (2018), direct community participation in every development activity is a form of social interaction that is very important in determining a success in such development. Purwanti *et al.*, (2015) conducted a reforestation by 500 trunks of mangroves implemented by Pokmaswas Kejung Samudra based on the initiative of the Faculty of Fisheries and Marine Sciences team. This activity is part of the community service program that is within the effort to increase the knowledge of mangrove functions in a sustainable manner. This has had a positive impact on the awareness of the Karanggandu Village Government in 2016 which resulted in 200 mangroves planting. In addition, the role of the government (Trenggalek Regency) is needed to manage and to solve the conflicts over the use of mangrove forest ecosystems.

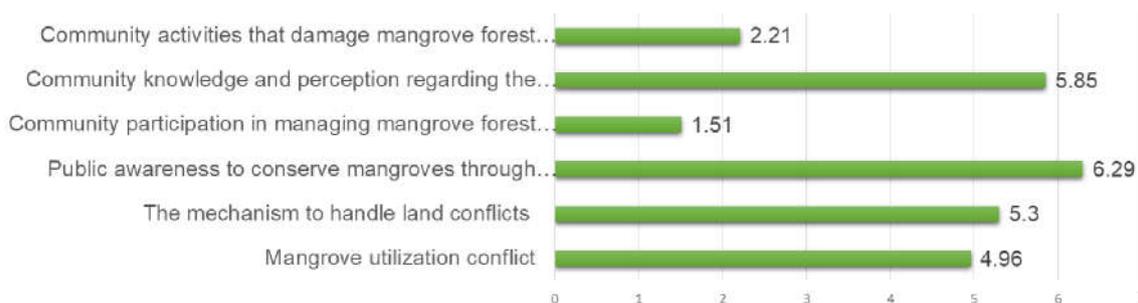


Figure 4 – Leverage Value of Social Dimension

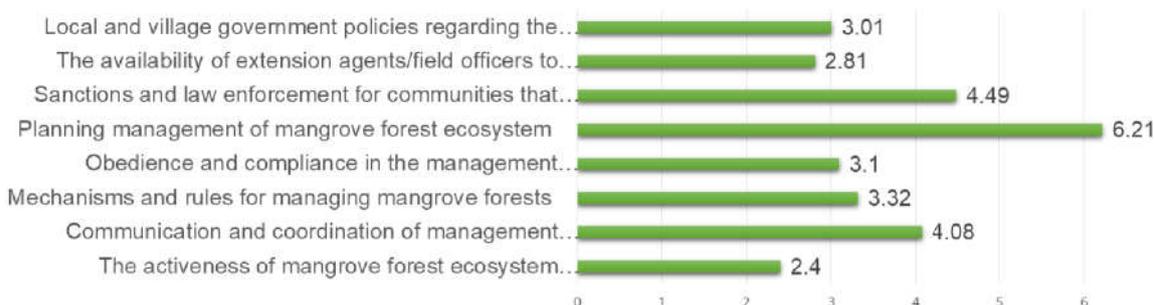


Figure 5 – Leverage Value of Legal and Institutional Dimension

The sensitivity of sustainability from the legal and institutional dimension is management planning, sanctions and law enforcement, communication and coordination of institutions, as well as mechanisms in management. The efforts needed to support success in managing mangrove forest ecosystems at Damas Beach are management plans that are made with the community. The law enforcement on Damas Beach for people who damage mangrove forest ecosystems is uncertain. This can be seen from the conversion of mangrove forests to plantations that are still developing.

The communication and coordination system in managing the mangrove forest ecosystem is not established systematically. The lack of mechanisms and regulations in managing the coastal mangrove forest ecosystems make the people of Damas exploit and harm the ecosystem. In addition, local wisdom is needed in mangrove forest management because according to Muhsimin *et al.* (2018), if a local wisdom is practiced correctly and sincerely, the benefits can lead people to be more caring and responsible towards the environment.

### CONCLUSION AND SUGGESTIONS

In summary, it can be said that the sustainability status of Damas Beach mangrove forest ecosystem is unsustainable in a multidimensional manner because the sustainability index of the ecological dimension shows a fairly sustainable category. On the other hand, in terms of economic, social, as well as legal and institutional dimension, the sustainability index is in the less sustainable category. This is due to the conversion of mangrove forests to coconut plantation. The variables that are most sensitive to ecosystem sustainability in each dimension include: abrasion and erosion, the development of alternative jobs, community awareness, and management plans.

From here, it is suggested that the government along with the community should conducted a mangrove rehabilitation, mangrove-based management and processing capacity improvement, deeper awareness building in concern to the functions and benefits of mangroves, as well as mangrove forest ecosystem management plans preparation.

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## **FOREST COMMUNITY EMPOWERMENT THROUGH THE INCREASING ROLE OF PRODUCTIVE CROP-BASED SMIS AROUND FORESTS: A STUDY ON PORANG PLANTS IN EAST JAVA, INDONESIA**

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### **ABSTRACT**

Various empirical cases prove that forestry development policies have not been able to improve the welfare of forest community. In fact, the forest has a very large potential including the availability of productive plants which have high market potential. Many researchers propose the importance of increasing the role of forest resource-based SMIs or Small and Medium Industries (in Indonesian terms: *Industri Kecil Menengah* or *IKM*) as a way to increase the income of forest community. However, much of the SMIs formation in forest community often fails due to the inappropriate identification of problems and design policies. Based on that issue, this study has two objectives, namely: (i) identifying the driving and inhibiting factors of the development of SMIs managed by forest community; and (ii) arranging the design of forest community empowerment by increasing the role of SMIs. Implemented with case study method, this study found that the challenge of forming SMIs in the forest community to produce productive crops in the form of Porang (*Amorphophallus Oncophyllus*) is caused by the conservative character of the community characterized by a low entrepreneurial spirit due to the cultivation of unproductive values. However, the forest community is basically the typical open society who highly upholds the conservation of forest resources and has strong social capital. Therefore, they need an intervention in changing their mindset of life orientation and mediation from external parties (e.g the government) that is related to capital, marketing, and knowledge about cultivation. The presence of external parties is very necessary considering that the increasing role of SMIs requires a variety of variables that cannot be provided by forest community such as innovation, creativity, as well as mature, opportunistic, and ambitious business calculations. It can be said that the effort to increase the role of SMIs in forest community is very relevant and requires external parties as well as collective institutional governance. This finding can be a proliferation in constructing the stages of empowering forest community through the increasing role of SMIs.

### **KEY WORDS**

Forest community, conservative, Porang, SMIs role.

To date, it is estimated that more than three-quarters of Indonesia's population depend on forest products where more than 50 million of them live in forest areas (Walhi, 2016). Hafizianor et al. (2013) revealed that the human resources of the forest community still very low in addition to the minimum empowerment efforts. This means that there are approximately 50 million Indonesian people who have non-optimal human resources because they live in a forest area. According to Hani, Mustapit & Hotimah (2014), the poor welfare of forest community is caused by many forestry development policies which are considered not able to improve the economy and welfare of the communities around the forest area. Many of the cases are caused by the distrust between the government and the community regarding the management of forest areas. There is still an assumption that the forest community destroys the forest. Such conditions make the efforts to empower forest community have not been able to alienate the lack of economic, social, and individual cultural abilities.

The lack of forest community empowerment has caused two problems. *First*, forest community still cannot afford to exploit the potential of the forest in a sustainable manner so that it impacts on poverty. The results of the CIFOR study (2015) found that of the total

population of forest community in Indonesia, around 11 million of them are classified as poor. Based on that number, around 6 million people have direct livelihoods from the forest and around 5 million works in the private forestry sector. *Secondly*, it is suspected that the forest community is not the recipient of forest cultivation (products) that the process is assumed to be exploitative. The findings from Constantino et al. (2012), Soepijanto et al. (2013), and Wiratno (2014) concluded that the high exploitation of external groups on forest product commodities is not enjoyed by forest community. This high exploitation has an impact on forest destruction while at the same time making forest community remains to be poor. These two problems have reduced the two functions of the forest area which are: (i) to provide benefits to improve the welfare of the community, especially the forest community; and (ii) an area of environmental preservation for sustainable development resources.

East Java is a province with a vast forest area. The area of East Java's forest area is the largest in Java Island reaching 1,35 million hectares. This area is far wider than West Java which only covers 816 thousand hectares or Central Java which has an area of 647 thousand hectares (BPS, 2018). Moreover, East Java has a wider forest area than Lampung (1,04 Million Ha) which incidentally is one of the Provinces in Sumatra Island that have abundant forest resources. Even so, the destruction of forests in East Java is also very high reaching 608 thousand hectares to deforestation each year to reach 3,3 thousand ha (Walhi, 2016). As a result, the rehabilitation of forest area that must be done reaches 49%. Forest destruction in East Java coincides with a relatively high level of poverty in several central areas of the forest community. The problem lies in their inability to optimize the potential of forest products. This statement is strengthened by the findings of Abdurrahim (2013) and the World Agroforestry Annual Report (2016) that the majority of forests potential in East Java is processed out of the forest area. In this matter, forest community only has the role of farmers with very low incomes. Nitiwijaya & Andrianantenaina (2016) explained that the lack of power of the forest community is caused by limited knowledge, level of education, accessibility, low entrepreneurial spirit, and a conservative mindset.

Some researchers (Hafizianor et al., 2013; Soepijanto et al., 2013; and Abdurrahim, 2013) proposed the importance of diagnosing the opportunities and challenges in the development of SMLs that is managed by forest community where the processed commodities must be based on the productive plants around the forest. This diagnosis is very important to be done to create a model of forest community empowerment by increasing the role of local commodity-based SMLs. The importance of SMLs in forest community is reinforced by the findings from the International Institute for Environment and Development (2014) and Tint et al. (2014) that the development of SMLs has a significant role in improving the welfare (income) of forest community and forest sustainability. An empowerment through the role of SMLs is absolutely necessary due to the continued expansion of forest degradation, a decline of crops productivity in the surrounding forest area, high levels of poverty in the community, as well as various exploitation conflicts. If it continues to happen, this variety of issue will strengthen the failure of the policy model in achieving the goals of sustainable forestry development.

Referring to the issues above, this research is intended to implement the proposal of the importance of SMLs development managed by the forest community that is based on productive plants in the forest. To realize this proposal, this study has two objectives, namely: (i) identifying the driving and inhibiting factors of the development of SMLs managed by forest community; and (ii) arranging the design of forest community empowerment through the development of productive plant-based SMLs. This study focuses on four central forest areas in East Java (Madiun, Bojonegoro, Nganjuk, and Ngawi) which have productive plants in the form of Porang or *Amorphophallus Oncophyllus*. The researchers chose the four regions based on the results of Santoso's research (2015) saying that the four regions have large Porang plant potential. Nevertheless, the poverty level of the forest community (Porang producers) in there is still very high even though Porang have high potential as technology-intensive industrial raw materials which usually used in the food and beverage industry, chemical industry, and pharmaceutical industry.

Porang is a plant that produces tubers and can be utilized especially for the interests of high-tech industries (Faridah, 2012). These tubers contain many beneficial compounds, one of which is Glucomannan that is a *hydrocolloid polysaccharide* consisting of *D-glucose* and *D-mannose* residues. Hidayat & Kelvin (2013) mentioned that Glucomannan is a substance of gelling agents which have high soluble fiber content, low calories, and typical hydrocolloid. This indicates that Porang with its Glucomannan content has a very high usability. The value of Porang plants in a processed form is higher than the value in the raw form. By that, SMIs is needed to form a chain of economic activities for Porang processing in the forest community. Based on this explanation, this research is essential to be done.

## CONCEPTUAL FRAMEWORK

This research is intended to develop the design of the forest community empowerment through the increased productive plant-based SMIs. The design carried out was based on the identification of the driving and inhibiting factors of SMIs development managed by forest community. Theoretically, the synergy between the development of SMIs and forest conservation efforts is a strategic step to improve the welfare of the forest community. This is done by utilizing productive plants which in this case is Porang (*Amorphophallus Oncophyllus*) as a superior commodity with high economic value.

Figure 01 illustrates the framework of the forest community empowerment by identifying the driving and inhibiting factors of SMIs development. To perform this effort, an identification of forest community interests is needed to develop SMIs for Porang. This interest is divided into two things, namely the market potential of Porang and the difficulty level of business management. Both of those things and the respective components will be analyzed in this research so that the framework for empowering the Porang-producing forest community is expected to accelerate the development of this community. At least, this effort is expected to be able to meet several requirements, including (i) integrated SMIs activities from upstream to downstream; (ii) active participation from the local community; (iii) intensive labor; (iv) abundant raw materials; and (v) mastering the SMIs-scale cultivation technology.

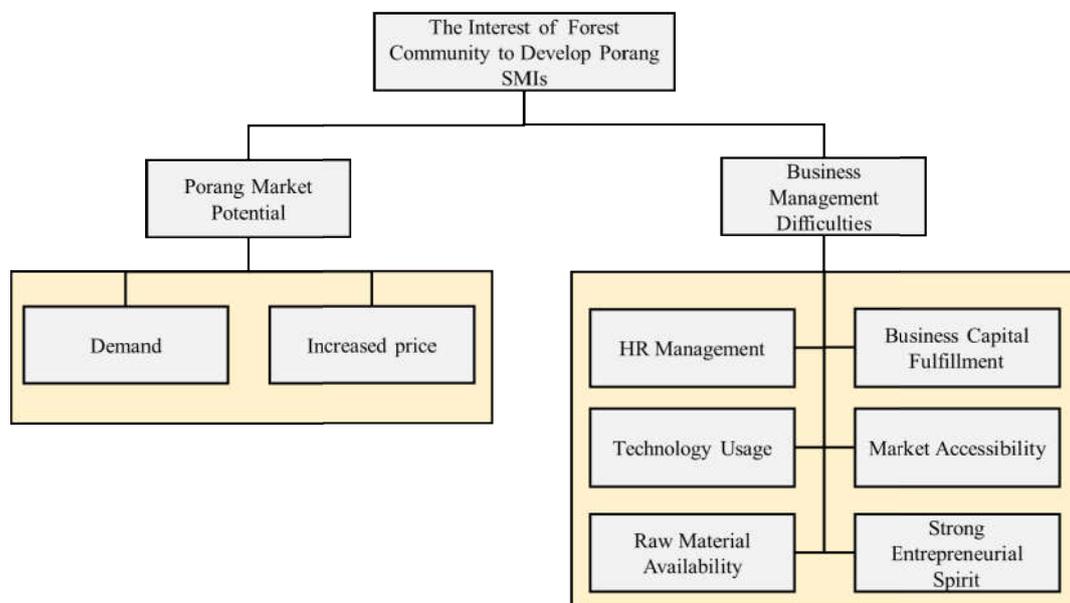


Figure 1 – Conceptual Framework

## METHODS OF RESEARCH

*Methodological Approach.* To find out how the design of forest community empowerment through the development of productive plant-based (Porang) SMIs, this study uses a qualitative descriptive method. The method was chosen because it is very relevant to

the research objectives and conceptual framework which really needs field research to find and explore the design of forest community empowerment through the increasing role of SMIs. The qualitative approach used in this study is adopted from Starman (2013) where qualitative research is indispensable if the research concerned requires depth to find, describe, and explore research cases to look at the implementation model of a case. For these two reasons, the qualitative descriptive method in this study was carried out through the construction of empirical investigations (field research) with a case study approach. The case study approach is considered suitable for this study because the aim is to explore the objects that are going to be learned which in this study are (i) identifying the driving and inhibiting factors of SMIs development managed by forest community; and (ii) arranging the design of forest community empowerment through the development of productive plant-based SMIs. An analysis of interactions or perspective of human behavior is needed for the two things above by which it could involve one or two individuals, one group, one community, or one activity. According to Hsieh & Shannon (2005), the qualitative approach applied from the perspective of human behavior must be done through interview and observation.

*Research Sites and Data Collection.* This research is focused on the area of forest community in East Java that has a high potential for Porang cultivation. There are four selected regencies, namely: (i) Madiun; (ii) Bojonegoro; (iii) Nganjuk; and (iv) Ngawi. Although it is the highest producer of Porang in East Java, the four regions still have a high level of poverty (except Madiun), especially in the surrounding forest area. To explore the case studies in the four regions, the data collection techniques are divided into four stages, namely:

- Observation. This is the process of observing and recording objects of research carefully, thoroughly, and systematically (Hadari, 2005). In this study, direct observations were made on the object of research to obtain information that was relevant to the formulation of the problems. The expected results of this method are: (i) the identification of local values for the empowerment of SMIs used by the local community; (ii) mapping the opportunities and challenges of developing SMIs; and (iii) obtaining the key components to encourage forest community empowerment.
- Secondly, the in-depth interview that is to explore information in detail and in a systematic manner in accordance with the objectives of the study. In conducting in-depth interviews, informants were determined *purposively* on groups that were the object of the research. In the sampling, *snowball sampling* was used as the basis to determine the flow of interviews from one informant to another informant. The grouping of informants is based on their understanding and competence to answer the research objectives.
- Number three is documentation that is a secondary data collection from various verified publications of research institutions and universities. The information generated from documentation studies is in the form of text, journals, memos, invoices, and program reports. The results of this documentation are expected to ease in the primary data analysis.
- Last but not least, Focus Group Discussion (FGD). This is one of the techniques of data collection that is performed through discussion with several groups related to the research objectives. The parties are directly involved in the discussion which in this case were Porang farmers, entrepreneurs or SMIs actors, government officials, academics, and observers of forest community empowerment.

*Data Analysis.* The purpose of data analysis is to obtain accurate and valid information from the data obtained. In analyzing qualitative data, this study adopts the techniques proposed by Miles & Huberman (2014) as follows:

- Data Reduction. This is the selection process which focuses on simplifying and transforming "raw" data from written records in the field. The reduction technique is intended to process crude data into information that is in accordance with the theme of the research.

- Data Presentation. This means that the results of data reduction are displayed in the form of diagrams to be easily understood. In this study, researchers used two forms of data presentation, such as:

Fish Bone Diagram (Figure 2), that is the presentation of data to find the main components that can be mapped as the driving and inhibiting factors of SMIs empowerment in the research location. Fish Bone is intended to answer the first research objective. Therefore, there are two important aspects that are carried out, namely: (i) identifying and formulating the problems of SMIs development; and (ii) arranging the relationship between the problems faced by SMIs actors along with the responses given.

Tree diagram. This form is intended to illustrate the trade chain path with the benefits that will be obtained by Porang farmers and SMIs actors. A tree diagram can provide choices for farmers and businessmen to determine which path is more profitable.

- Drawing Conclusions. In this stage, the relationship patterns are organized into information that is logical and easily understood by the reader. The results obtained from data reduction and data presentation are continuously analyzed to obtain accurate understanding as a sum up.

After the three techniques above are done, the next thing to do is pouring them in a series of writings. To strengthen the validity of data from the qualitative (primary) research, the analysis in each paragraph will include several sources of informants such as Farmers, Traders, and Village Stakeholders. The identity of the informants is indicated by the symbol: Informant #1, Informant #2, Informant #3, and so on. This is intended to maintain the identity of the informant that on the one hand, still shows strong data validity.

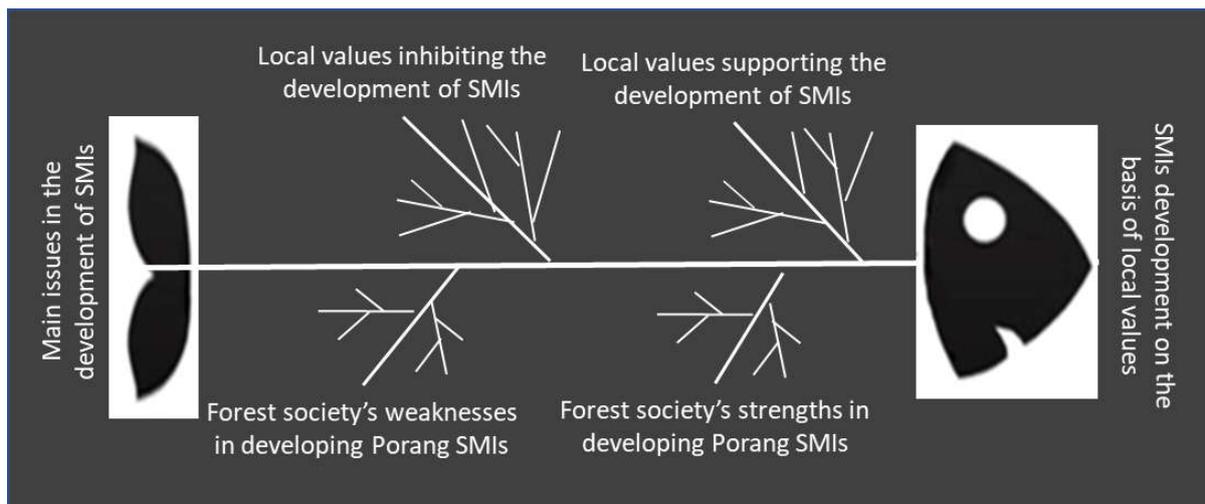


Figure 2 – Fish Bone Diagram (Source: Researchers' Illustration, 2018)

## RESULTS OF STUDY

This study refers to the Fish Bone Diagram (Figure 2) to identify the driving and inhibiting factors of SMIs development managed by Porang-producing forest community. The exploration presented in the Fish Bone Diagram aims to diagnose both driving and inhibiting factors which will later be used as input in developing forest community empowerment designs through the development of productive plant-based (Porang) SMIs. The empowerment design refers to the conceptual framework (Figure 01) and the Fish Bone Diagram (Figure 02) as a constructive footing in analyzing the driving and inhibiting factors. Based on this explanation, the field findings related to the identification of the driving and inhibiting factors of SMIs development is the initial analysis that is used before analyzing the appropriate empowerment design.

*Driving Factors of Porang SMIs Development.* The driving factors identification of the development of strategic commodity-based SMIs refers to two approaches which are (i)

demand approach and (ii) supply approach. These two approaches are in accordance with the explanation of Chin et al. (2012) that the exploration of business drivers, especially for SMIs, is based on the potential demand and supply.

The demand approach emphasizes two aspects as follows: (i) the development of Porang demand; and (ii) the tendency to increase the prices. If the increase in demand is not matched by the demand for production, the prices will tend to increase. This condition indicates that the market is experiencing a scarcity of production or on the other hand, creating a greater business opportunity.

Supply approach consists of three aspects, such as (i) the tendency of increasing production; (ii) increasing investment, and (iii) increasing sales. If farmers feel an increase in sales, then farmers will increase the production and investment. It can be said that this affects the size of market opportunities for farmers.

From the demand approach, the first aspect seen was the development of Porang demand. Field results show that the development of Porang demand is increased in every year. This is supported by one of the informants (Farmer #4) that during 2007-2017, there were three large-scale export-oriented industries as Porang's main consumers which are: (i) PT. Ambico from Sidoarjo; (ii) PT. Algalindo from Surabaya; and (iii) PT. Giat from Surabaya. Most informants (Merchant #1, Merchant #3, Merchant #4) said that Porang supply in the production center (especially in Madiun and Nganjuk) is not sufficient to fulfill the demand from those companies.

The high demand for Porang is inseparable from its important function in high-tech industries. Industries that require Porang raw materials are divided into three groups including (i) food and beverage industry; (ii) pharmaceutical industry; and (iii) chemical industry. Of those three industries, the industries who have a high demand for Porang are the food and pharmaceutical industries (including cosmetics). In the food industry, the Glucomannan market is very open, where Porang international flour prices (in 2013) with Glucomannan levels above 80% reached US\$ 2,650,00 (26,5 million/kg). The market potential for Glucomannan is the United States, Latin America, Europe, Asia Pacific, and Russia.

Because the demand tends to increase, more farmers try to become traders. According to the informants (Farmer #2, Farmer #3, and Farmer #6), in 1984, there was only one trader in Klangon Village, Saradan Subdistrict, Madiun Regency whereas now, there are 5-7 traders. This phenomenon points out the high prospect of Porang demand. This finding reinforces the results of a study by Pasaribu et.al (2015) that the market demand for Porang plants every year is increasingly high due to its many uses, especially for high-tech industries.

From this trend, the field results found that the price will always increase. Madiun and Nganjuk are the two regions that are always consistent and significant in terms of price escalation. The data compilation from the field found that the increase in Porang prices in the two districts reached an average of 11% to 38% annually. Whereas, one-third of the informants stated that the price averagely rises in the range of 0% - 10%. The calculation based on the notebooks of three Porang collectors in Nganjuk indicates that in 2015, Porang harvest price was still IDR 500/Kg and then in 2016, it changed to IDR 2,000/Kg and IDR 3,500/Kg in 2017. Based on the results of observations and in-depth interviews, Porang's potential is still very profitable when viewed from the development of prices and production values. The informants (Merchant #2 and Trader #3) believed that Porang prices in the coming years will continue to increase considering that the demand also continues to rise.

From the supply approach, the first aspect to be seen is the tendency to increase the production. The field results show that Porang production in four research areas continues to increase as seen from the area of the land and the value of production. It can be seen in Madiun where the total area of Porang cultivation is annually increasing. In 2013 and 2014, the area of Porang plantation was 1,400 ha and then in 2015, it increased to 1,471 ha. Respectively, it was continued to expand by 1,512 ha in 2016 and 1,536 ha in 2017. The increase in land area is in line with the amount of production wherein 2013 and 2014, it amounted to 8,100 Kg, 8,344 Kg in 2015, 8,538 Kg in 2016, and 9,100 Kg in 2017. Based on

the results of observations and in-depth interviews, Porang's potential is still very high when viewed from the trend of product development. This result can also be an important finding that the availability of raw materials, technology, and human resources is basically not an obstacle for the forest community to become business actors. This strengthens the research from Maryudi & Krott (2012) that, basically, the forest community is good enough in the cultivation aspect but not quite in the processing aspect.

Besides that, the results from the field also found that there is always an increase in investment. This can be seen from the frequency of the company to visit and offer the farmers a partnership with a capital investment loan system. Some of the informants (Farmer #1, Farmer #2, and Farmer #3) revealed that the industry had provided incentives to farmers either in the form of advance payments or loans to increase the production. This condition reflects that the offering of Porang's business investment in the four research areas is very large. Based on the results of observations and in-depth interviews, the potential of Porang is still very high when viewed from the trend of investment development (capital). With the increasing size of industrial loans to farmers, it is proven that industry players desperately need Porang raw materials.

Seen from the increase in sales, it is found that the sales are always improving. The field data compilation shows that the increase of Porang sales in the four research areas averagely reaches 56 percent annually. Most of the cases can be found in Madiun where many of the forest community seek to obtain a license to use the forest land for Porang cultivation. As expressed by Farmer #2 and Farmer #5, the submission of some licenses is very sought by the farmers to increase the area of their cultivation. Most Porang farmers experienced an increase in market share of around 10.93% to 37.92%. Only 8% of the farmers claimed to have high sales increase that is by 55.56%. These types of farmers usually become traders. In contrast, all Porang traders in East Java also work as farmers. Therefore, it is a common thing that the profits of Porang farmers are higher than the regular farmers.

*Inhibiting Factors of Porang SMIs Development.* The frequency of the most common problems in the field of forest community is the reluctance to sell Porang in the processed form. They used to sell Porang in raw form that was just taken at the time of harvest in the field. Consciously, they already learned that the processed Porang in the form of dried chips slices has a much higher profit rate. It is different from farmers who want to process Porang in the form of sliced chips (rarely found) where they have the efforts to work on the equipment needed.

Table 1 – Profit Level Simulation for Raw and Processed Porang Sales

Farmers who sell Porang in wet (raw) form to collectors	Farmers who sell Porang in chips (processed) form to collectors
Turnover: IDR 5,250,000	Turnover: IDR 25,200,000
Cost: IDR 850,000	Cost: IDR 10,500,000
Profit: IDR 4,400,000	Profit: IDR 14,700,000

Source: Results from Field Observation, 2018.

Based on the results of field observations, there are significant differences between farmers who want to process Porang and those who only sell Porang in a wet or raw form as follows:

- In the in-depth observations and interviews, it is found that farmers who want to process Porang in the form of chips are those who: (i) have relatively higher levels of production; (ii) extensive knowledge, especially from the aspects of cultivation, processing, and marketing; and (iii) extensive marketing network. *First*, the scale of production is large because these typical farmers usually have a vast area of land and the ability to lease the land is also very large. They have this advantage because it is supported by strong capital. *Secondly*, their extensive knowledge is obtained from higher levels of education or networks that enable these farmers to have the potential to develop their knowledge. *Number three*, extensive marketing networks which are

caused by many factors. One of which is a network of friends among farmers or traders. All of those three factors enable the farmers to have better access to the markets, knowledge about the processing stage, high entrepreneurial power, and knowledge about the intricacies of the market.

- All farmers who sell Porang in the raw or wet form are small-scale farmers who have limited market information and low competitive capacity. Based on field findings, these farmers typically have narrow land, few networks, limited knowledge due to low education level and friendship in which they also struggle with their lives in the forest area. They admit that they do not want to be bothered and are very conservative because processing Porang into chips requires equipment that might burden the expenses as well as energy. These farmers feel that buying from collectors makes their work easier because there is no need to bring yields (Farmer #3, Farmer #4, Farmer #5, Trader #2). This fact raises an important finding that conservative Porang farmers are basically very sensitive to additional post-harvest costs where these costs are an absolute requirement if they have to process Porang. They thought that post-harvest additional costs are activities that are carried out in the post-harvest stage in fields such as loading or storing. For farmers, porang processing is a process that requires extra costs not only in terms of loading thus making the farmers do not want to take risks or get out of their comfort zones.

The highlight of the two characters of the farmers above is proof that there are differences in fighting power besides capital and knowledge. The observation shows that the majority of Porang farmers in the four research areas still do not have an active role in farmer groups. Whereas, the existence of farmer groups is expected to be able to mediate the yields by processing Porang. For farmers, farmer groups (Porang and Non-Porang) are institutions that are only considered as a group<sup>1</sup>, who provides agricultural equipment and as an institution to channel government aid. Farmers still do not realize that farmer groups can be used as mediators to increase communal knowledge. The majority of farmer groups in four research areas also still cannot realize the optimal institutional governance including in mediating the interests of farmers, especially in terms of Porang trade chain and processing. Such conditions make these farmers remain conservative that is low in creativity and innovation. This statement supports the findings of Soepijanto et al. (2013) that the typical farming communities (including forest community) still have communal-structuralist characteristics; mindsets that are largely determined by the environment and communal characters who are usually less able to adopt productive values.

## DISCUSSION OF RESULTS

*Why Do Forest Community Attach to Conservative Characters?* According to Bohene, Sheridan & Kotey (2008), strong entrepreneurial characteristics cover four aspects, namely: (i) creative and innovative; (ii) business calculations, used as the basis of decision making; (iii) opportunistic; and (iv) ambitious. Unfortunately, the findings in the four study areas show that the average forest community does not have those four criteria. The criteria of strong and mature entrepreneurial calculations are only found in farmers who want to process Porang even though very few in number. As mentioned earlier, the characteristics of the Porang producing forest community are communal-structuralists that the local culture is very much determined by the environment and the surrounding community which tends to be structuralist. Structuralism is a hereditary character based on a hierarchy of values. Unfortunately, the communal characteristics of the forest community make them difficult to adopt productive values. This can be seen from the facts on the field showing that the average Porang farmers do not have a target in farming in which they also have a weak willpower to engage in post-harvest activities.

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<sup>1</sup> In Javanese language, farmer group is a place for gathering, meeting, hang out, and etc so that it is only a media for typical rural social interaction and not as an organization that can help farmers to sell the crops and process Porang.

The findings above support the research of Manyamsari & Mujiburrahmad (2014) that the competency of farmers in farming is a manifestation of behavior to plan a series of activities to achieve the target. According to Margarian (2009), the weakness of the farmers (especially the ones who live remote areas) is found in the mentality or mindset that is less influenced by exogenous knowledge thus making it less outward looking. On the other hand, Cullen et al. (2017) argued that the lack of innovation power from the farmers is due to the absence of a household economic growth mindset which is more due to the avoidance of risks caused by transaction costs. In the case of Porang farmers, risk aversion can be seen from their unwillingness to incur additional post-harvest costs. Even though in entrepreneurship, additional costs in the early stages are capital to process the products that can bring a better level of profit. This finding is reinforced by Burton (2014) that the fundamental weakness of farmers lies in the lack of effort to process the value-added crops making them a difficult group to develop due to the lack of entrepreneurial spirit.

Based on observations and in-depth interviews, the communal-structuralist characteristics in Porang farmers are caused by spatial location, level of knowledge, and mindset. Burton (2014) said that the demographic characteristics attached to rural communities greatly affect their behavior in managing the environment including the way to cultivate the land and to handle the post-harvest. In spatial terms, the location that is very far from urban centers and government make the forest community excluded from information and knowledge. Various empirical studies as explained by Southiseng (2012) have proven that limited access to infrastructure and space have made the transfer of knowledge and innovation very exclusive. Even though historically saying, rural communities including forest community have a better level of openness. The observations on Porang farmers prove that they are very open to the flow of information related to farming, processing, and marketing. However, the transfer of knowledge from outside (exogenous) is very rare to date so that this problem is more likely due to the lack of empowerment carried out by external parties. If it only relies on the indigenous empowerment from the forest community, it will be difficult to do. According to Arifudin, Nasrul & Maswadi (2013), forest community is lack of pioneers or role models, not supported by adequate human resources, and have fewer production values that are difficult to eliminate.

Less productive local values are increasingly rooted in the forest community considering that their family sense is basically very strong. This finding may tend to be paradoxical, but a strong sense of family (social capital) can basically be an economic trap. Social capital can be very beneficial if it delivers the value of productive and upholds the value of progress. Choupkova, Haase & Svendsen (2003) wrote that the value of productive social capital will spread rapidly and become social cohesion so as to stimulate the members to contribute their resources to new things and generate new values. A similar statement was expressed by Sabatini, Modena & Tortia (2011) that optimal economic activity is not separated from the goals in the relationship of social capital-based interactions as basic social strength. However, social capital can also be a trap if the social cohesion that occurs is based on the infiltration of conservative values. As previously mentioned, this value is embedded on the forest community so that they do not have a strong entrepreneurial spirit including (i) low creativity and innovation; (ii) no business calculations; (iii) less opportunistic; and (iv) less ambitious.

*Can SMIs Empowerment be carried out in Forest Community?* Previously, it has been explained that Porang farmers have a communal-structuralist style with values conflicting the entrepreneurial spirit. Porang farmers also have a strong spirit of togetherness (social capital) that has not been managed properly. Poor social capital is evidenced by the application of conservative values (inherently) so that the social capital created is not positive for the economic performance of Porang farmer households. However, Porang farmers also have good local values which are very concerned about the sustainability of environmental resources. Publications from the International Institute for Environment and Development (2014) found that forest community are basically not the destroyer of forest resources but are the guardians of forest ecosystem sustainability. That is, they have positive local values and can still be relied upon for economic improvement. A research from Carr, Tenywa, &

Balasubramanian (2017) revealed that the strength of forest community lies in the effort in protecting forest resources and in preserving the conservation biodiversity even though there is a commercial interest in the products that come from forests. Some researchers have proven that forest community has no intention to exploit forests excessively given that the forest is their source of income. This is in line with the facts in the field that Porang farmers are very concerned about the cultivation patterns that are synergized with the sustainability of the forest. Therefore, although it is conservative, the forest community also has a good orientation in maintaining the sustainability of economic resources.

On the other hand, Porang farmers also have a fairly permissive nature of openness. They basically want to receive information or knowledge that is positive only that it has not been delivered to them. The empowerment of the government is still minimum because the forest community already has a negative label with all its limitations. Soepijanto et al. (2013) believed that besides the factor of internal capacity, the limitation of forest community is dominated by the lack of empowerment efforts carried out by external parties. Forest community have not had the capacity to erode their weaknesses so that it will be impossible if they want to initiate empowerment efforts for themselves. This is supported by Maryudi & Krott (2012) that forest community needs skills and competencies that must be intervened by external parties such as knowledge upgrading, group discussion involvement, direct them for independent ideas, as well as self-confidence improvement. Besides that, Maryudi & Krott (2012) who examined poor farmers in Uganda (Africa) showed that the lack of power of the farmers can be reduced through the intensity of informal learning promoted by agricultural extension systems where the knowledge is transferred through horizontal channels (between farmers and communities) and vertical channels (between experts and farmers). From this learning, the nature of openness of Porang farmers is basically a door to empower the interventions so that they can leave their conservative nature.

Increasing the role of SMIs is very much needed by Porang farmers so that the added value can be better and the income levels can be increased (Table 01). There are several characteristics of local values that benefit Porang farmers such as paying attention to the sustainability of resources and the openness to external knowledge. Allegedly, the conservative nature of Porang farmers is due to the lack of empowerment and development efforts initiated by external parties. Porang farmers' social capital is already strong but the intervention of production values is needed. Some of these explanations can become a base to construct social simulation, especially for the intervention of SMIs introduction and development. Jiang (2009) in his research proved that social capital is able to provide accessibility to the integration of various resources ranging from inputs, processes, outputs, and impacts to innovative environments. If the role of the SMIs is increased, social capital will greatly help the efficiency of production and exchange costs that can stimulate more productive changes in the environment. A productive institutional environment can stimulate ideas, beliefs, and actions used by the organization (Hafizianor; et.al, 2013). Therefore, in this case, the thing that is needed to increase the role of SMIs is the importance of creating appropriate institutions so that they can serve as economic incentives for Porang farmers.

*The Design of Forest Community Empowerment through the Development of Porang SMIs.* This research found that the market potential of Porang is very high but not followed with the character of the people who tend to be conservative. However, there are other values from the farmers such as governance, natural resources conservation, openness, and social capital. This case is similar to the findings of Kozak (2007) that the problem was resolved through the importance of fully handing over the commercial rights of managing the forest to forest community in addition to continuing the intensity of empowerment. This effort is operationalized through the SMIs-based empowerment. This is the principle of empowerment in the agricultural sector which is based on independence, participatory, collaborative, and self-help where SMIs has a role as a media development. According to Suryahadi, Suryadarma & Sumarto (2011), the empowerment model based on the independence of forest community has an impact on rural agricultural growth and poverty reduction. Trommlerova, Klasen & Lemann (2015) also added that there is a strong relationship between entrepreneurship development and poverty reduction in rural areas.

This is supported by Haggblade (2011) who observed the poverty of farmers in Sub-Saharan Africa in which he found that the agro-industry has a significant impact on poverty reduction. Market mediation and various facilitation (including training) combined with the orientation of community independence are considered the most appropriate empowerment collaborations, especially in the agricultural sector.

Some of the patterns above are references that are assumed to be the most suitable model to be applied to the forest community. In this case, such patterns can be done by empowering the concept of facilitation, mediation, and intervention on production values while keeping the management on forest community. The main capital to build an institution for these Porang farmers is the strength of social capital that the values within just need to be revised and developed. This concept adopts the research from Tin et al. (2014) that building individual self-confidence and social capital from non-indigenous people is a crucial aspect in the concept of communal empowerment in the long term. The facilitation and mediation to increase the role of SMIs for Porang farmers are based on a number of needs that they have not been able to fulfill independently. Based on the identification of SMIs development inhibitors, several things which are needed for the development are capital, marketing, and knowledge about entrepreneurship. For some of these needs, the design of empowering Porang farmers through the increasing role of SMIs can be seen as follows:

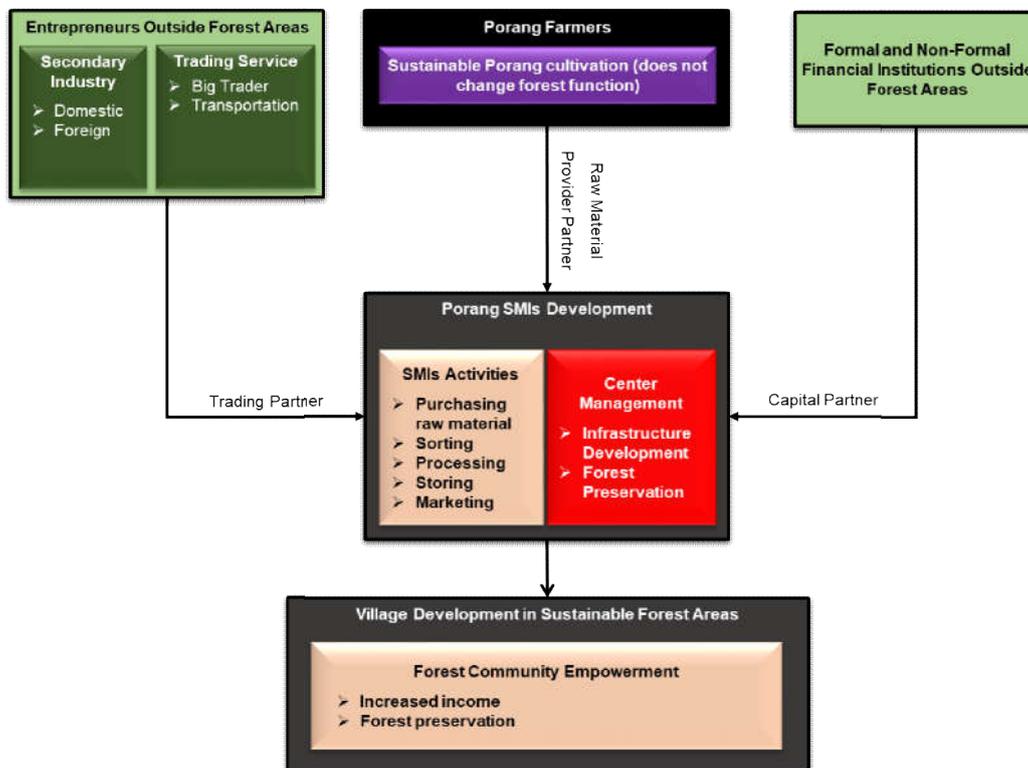


Figure 3 – The Design of Porang Farmers Empowerment through the Increasing Role of SMIs (Source: Analysis Result, 2018)

There are three aspects that must be done in this matter. *First*, increasing the role of SMIs must pay attention to Porang raw material supplies without damaging the function of the forest. The sustainability of raw materials is already owned by Porang farmers in which they apply the principles of sustainable resources and forest functions. The findings from the field have proven that the availability of raw materials, technology, and human resources is not an obstacle for Porang farmers to become entrepreneurs (SMIs). *Secondly*, the facilitation in the form of capital partners is needed to answer the capital needs of the farmers which have been the main problem for them. External trade partners are needed, both in the form of formal and non-formal financial institutions. *Last but not least*, trade partners are

needed in ensuring market certainty after Porang is processed. For this reason, businesses actors outside the region are needed, both in the form of secondary industry or trade services. These three aspects will certainly affect the operation of the SMIs Porang in the activities of purchasing raw materials, sorting, processing, storing, and marketing. The development of SMIs also requires several government policies such as infrastructure development and forest conservation. The series of this design is expected to be able to build a sustainable forest community which is characterized by (i) increased income; and (ii) good forest preservation.

The design above works not as a basis for SMIs development individually but communally. This happens because Porang farmers have strong social capital which can be used as an important input for the empowerment. According to Lang & Roessi (2012), social capital in rural businesses is a distinguishing factor for one particular SMIs with other SMIs. Social capital in the agricultural sector has a strong variable of trust and norms. The strength of the social capital in rural communities able to expand the ability of the groups to participate in negotiation, control, work, and learning process in which they can be independent to act collectively (Minani, Rurema & Lebailly, 2017). This concept is almost similar to a cooperative where social capital becomes a force that needs to be developed. Institutional cooperatives are in line with the empowerment that uses the concept of independence where the institutional arrangements are handed over to the community. Therefore, it is proposed in this study that SMIs should work with the concept of cooperatives. The concept of cooperatives in the management of SMIs in the agricultural sector is believed to be able to develop the organizations, human resources, products, supply chain management, and competition levels so as to have a significant effect on the strength of business competitiveness (Munasib & Jordan, 2011). This idea is more oriented to the ability to adapt as quickly as possible with changes in the business climate to survive in the market and to maintain long-term sustainability.

## **CONCLUSION**

Porang (*Amorphophallus Oncophyllus*) is a type of productive tubers which have high market demand and can be found around forests area. The prices of Porang are known to always increase annually where the demand comes from the high-tech industry that is mostly used for export needs. This type of industry has a tendency to be able to maintain the price trends at several levels of trade chain. However, the high demand for Porang is still not able to lift the forest community standard of living. The majority of forest community sell Porang in wet or raw form even though the prices will be much higher if it is sold in processed form (slices or chips). There are obstacles in the form of a conservative mindset so that they are difficult to be more advanced and productive. This problem is a challenge when the empowerment design requires an increase in the role of SMIs as the main way to increase the income of forest community through the processing of Porang.

The conservative character of forest community is influenced by local values that tend to be communal-structuralists. This means that their mindset is largely determined by the environment and communal characters who usually cannot adopt productive values. A strong spirit of togetherness (social capital) further accelerates the dissemination of these characters to become a value that is inherently applied by the generations in there. However, the forest community is basically a typical open society who has strong social capital that is not managed appropriately. Therefore, the intervention of SMIs is still very relevant considering that local values already existed. So far, they have been managed the values counter-productively. Increasing the role of SMIs is focused on the needs of the forest community especially in terms of knowledge, entrepreneurial spirit, processing, and marketing. The design made in this study refers to an intermediation which at least includes three things, namely: (i) partners to provide raw materials; (ii) partners for trading affairs; and (iii) partners for capital. The collaboration of those three things is mediated by external empowerment actors which then the governance of SMIs will be fully handed over to the

forest community. Institutional arrangements are designed to capture the potential of social capital that is the communal-oriented governance (cooperatives).

This research is very important to answer the debate about the best interventions for the development of forest community. The forest community faced skepticism from the outside community that they are considered as a forest destroyer and unable to develop due to isolation. Theoretically, the concept of empowerment is difficult to be implemented considering that the forest community has a spatial pattern that is lack of infrastructure and networks in which they also hold conservative values that are difficult to change. This research also has an important contribution to the doubts of many parties whether it is possible to increase the role of SMIs in the forest community. Theoretically saying, increasing the role of SMIs requires a variety of variables that cannot be provided by forest community such as innovation, creativity, as well as mature, opportunistic, and ambitious business calculations. However, this research proposes a proposition that increasing the role of SMIs in forest community is very feasible and requires external parties as well as collective (cooperative) institutional management. If it is drawn to the context of a cooperative economy, the increased role of SMIs is significant as a cornerstone in realizing empowerment to reduce poverty.

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DOI <https://doi.org/10.18551/rjoas.2018-12.34>

## **ANALYSIS OF AGRIBUSINESS FACTORS OF DAIRY CATTLE IN RELATION TO THE IMPROVEMENT OF MILK PRODUCTION IN SEMARANG REGENCY OF INDONESIA**

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### **ABSTRACT**

This study aims to analyze the reinforcement factors of dairy cattle business in an effort to increase milk productivity in Semarang regency, Central Java. The research was conducted by survey and observation. The research site was determined by method of purposive sampling, based on Semarang Regency's potency as an area of development of dairy cattle in Central Java. In the study, there were two selected districts, and from each district, three groups of dairy cows were taken. Farmers as respondents were chosen by simple random sampling, with as many as ten respondents from each farmer group, making the overall respondents for these research 30 farmers from every sub-district. The primary data collection was done by interviewing dairy farmers with prepared questionnaires, while the secondary data were taken from offices and other agencies related to the research problems. Data analysis was done descriptively and statistically. Analysis of reinforcement factor was done by multiple linear regression analysis. The dependent factor (Y) is milk production and independent factors consist of dairy cattle ownership (x1), number of household members (x2), business experience (x3), milk price (x4), capital (x5), business motivation (x6), forage feeding (x7) and concentrate feeding (x8). The results showed that the reinforcement factor of dairy cattle business is significant ( $P < 0.01$ ) in affecting milk production. The cattle business needs to be strengthened through comprehensive efforts, taking into account the efficient aspects of ownership, capital support, and other business factors, so that farmers can have sustainable business.

### **KEY WORDS**

Reinforcement factor, dairy cattle, business, increasing milk production.

Dairy cattle business is one of the most valuable animal husbandry business, since dairy products are necessary for sustenance and nutrition. The existence of dairy cattle business is vital in any society, especially in terms of family economic resource, employment, reducing rural poverty, suppliers of industrial raw materials, providers of high-quality sources of animal food, and helping to maintain environmental sustainability by utilizing organic fertilizer produced by animals.

Dairy farming cattle business is still mostly run by farmers who are small-holders, whose production capacity and business productivity are low. The average milk dairy production rate is currently recorded only at 7-10 liters / day. Nowadays dairy farm business needs improvements which lead to productive, efficient, sustainable and profitable business. Several factors which cause low production according to Boediyana (2009) are: 1) Inefficiency due to small scale of ownership, generally taken as a sideline business; 2) unsustainable production cost to milk price ratio at the farmer level; 3) low awareness the importance of sanitation in handling milk among farmers, and 4) limited access to business load, particularly those with low interest rates.

The dairy cattle business is dominated by small scale with cattle ownership of less than 4 animals (80.0%), of 4 – 7 animals (17.0%) and of more than 7 animals (3.0%). This condition indicates that approximately 68% of national milk production is contributed by small animal husbandry businesses, while the rest is 28% medium businesses and 8% big

corporations (Pradana, 2010). This condition can inhibit the production rate and ultimately affect the income level of small farmers (Pieniadz et al., 2009 and Pradana, 2010).

Nowadays, the milk intake of Milk Processing Industry (MPI) which is served by domestic production only reaches 25-30%. The remaining 70% is provided by imports (Yulianto, 2011). Supply shortages are coped by means of importing, i.e. from Australia and New Zealand, in the form of raw materials of milk or as processed products ("finished product"). The value of milk imports in 2007 reached 7.9 trillion rupiahs, placed at second after poultry products, or 34.8% of the total import of animal husbandry products.

The problems in dairy cattle business are limited business capital, relatively small scale of cattle ownership, and animal feeding is still limited in quality and quantity. The management of dairy cow is still pays little attention to technical aspects of the good business practices, so the milk production level and the quality is still low. This results in minimal productivity and business efficiency. Such situation causes counterproductivity, inefficiency, low income and low business competitiveness.

Nowadays, the government has conducted a dairy revitalization program with the aim of increasing the production, and productivity of dairy cattle. Another program related to dairy development is the Presidential Regulation no. 28 in 2008 on National Industrial Policy which, among others, emphasizes the enhancement of livestock productivity, population and livestock ownership, milk quality, animal-feed improvement, human resources, partnership and cooperation with MPI, capital and increasing milk consumption. But there are still many obstacles toward business productivity, so there is a need for a strategic effort to increase the productivity of dairy cattle. This study aims to examine the factors that influence the supports of dairy cattle business in Semarang regency, Central Java.

## METHODS OF RESEARCH

Milk demand continues to grow over time due to various factors, such as population growth, economic growth and awareness of the importance of nutritious food. Increased milk demand is expected to incline toward 4 - 5% per year on average. Based on the level of production, domestic milk has stagnated for the last 10 years, resulting in an increase in milk import rate. This condition can cause an increase in foreign exchange to meet the needs of imported milk.

Dairy cattle business is still mostly run by small-holder farmers, so the business is less attentive toward aspects of agribusiness sub-system, such as aspects of production facilities, cultivation aspects, marketing and processing aspects of the results. In addition, the scale of livestock ownership is still low, the business model is still simple in regards to animal-feed, animal-shedding, reproduction and post-harvest management (marketing). The performance of this business requires directional handling, by encouraging and strengthening all existing potentials, such as natural resources, people, technology and institutions.

Research on the reinforcement model of dairy cattle business was conducted in support of increasing milk productivity and farmer income. The research was conducted in Semarang regency, Central Java. The location of study was determined by "purposive sampling" method. Two districts of dairy cows were taken; in each sub-district, 3 farmer groups were sampled purposively, taking into account the milk production and group activities. The research was conducted by survey and observation (Singarimbun and Effendi, 1998). Determination of sample of breeder is done by simple random sampling, with 10 breeders selected from each group, so that there were 30 dairy farmers in every sub district or as a whole there were 60 samples dairy cow breeders. Primary data was taken by interview based on prepared questionnaire, identity of respondents, human resources (HR), and business management technology. The reinforcement factors of the dairy cattle business were analyzed by social conditions, economic conditions, technical expertise, etc. Variable measurements were performed using ordinal and ratio scales. The ordinal scale employed *Likert* scale, with five points (scores) (Indriana and Supomo, 2002), i.e. very favorable (5), favorable (4), moderate (3), unfavorable (2) and very unfavorable (1).

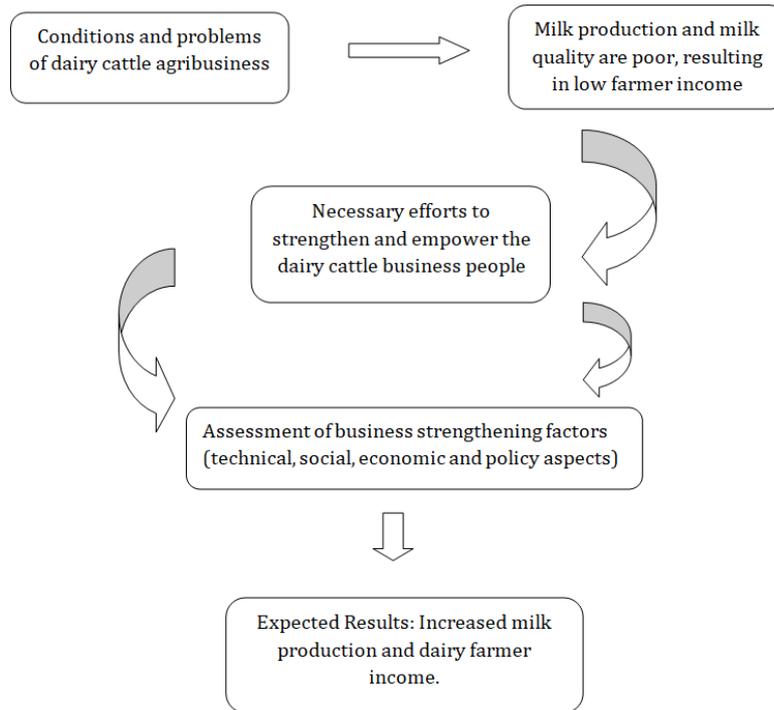


Figure 1 – Analytic Framework for Reinforcement Dairy Cattle Business

The determinants of dairy cattle business reinforcements were analyzed by multiple linear regression model (Ghozali, 2005). The dependent variable (Y) is milk productivity of breeder, while independent variables consist of business reinforcement variables including: social conditions, economic conditions, technical expertise, institutional support, and existing infrastructure. The utilized model is mathematically defined as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_nx_n + e$$

Where: Y = milk productivity; a = alpha constant; b<sub>1</sub>, b<sub>2</sub>, b<sub>3</sub> = regression coefficients; x<sub>1</sub>, x<sub>2</sub>, x<sub>3</sub> and x<sub>n</sub> = business system variables, institutions, business systems, social, economic, technical, and policy aspect.

F and t tests were applied to analyze the significance of the model with 1% and 10% confidence level.

## RESULTS AND DISCUSSION

**General Description of Research Site.** Semarang Regency is a region in Central Java that is very potential for the development of dairy cows. Based on 2013 agricultural statistics census in Semarang Regency, there were 22,408 dairy animals. Geographically, Semarang regency is bordered by Semarang City in the north, Regency of Grobogan and Demak in the east, Regency of Temanggung in the south, and Regency of Kendal in the west.

The area of Semarang Regency is 95,021 Ha. The largest land utilization is for non-rice field use, such as yard, building, moor, garden, plantation, state-forest, road, rivers, etc., which averages 75.66% and the rest are 24, 34% is used for rice fields. Wetland and non-rice field (moor) areas are potential areas for the provision of livestock feeds, such as agricultural waste (straw), legume, field grass, superior grass, and other agricultural waste.

The regional temperature (28.3 °C on average) is still relatively appropriate for the development of dairy cattle business, in keeping with the opinion of Sudono *et al.* (2003) and Toharmat (2010) which states that the air and environment are very influential on the production and productivity of dairy cattle.

Milk production is the main goal in dairy cattle agribusiness activities. Based on milk production report, in 2013 Semarang regency produces 27,530,077 liters of milk. During 5 years (2009-2013), milk production in Semarang Regency decreased by 1.35%.

*Business Potential of the Development of Dairy Cattle.* The development of dairy cattle population and productivity in the research site for 5 years showed that the cattle population decreased by 5.03% and milk production decreased by 6.73%. The decline also occurred in Central Java level to the population of 0.46% and milk production decreased by 2.07%.

Potency of dairy cow business development using LQ analysis to population parameter of dairy cow, feed availability and labor absorption, indicated that LQ value for dairy cow in Semarang Regency is 4.46 (base). Average availability of feed in Semarang Regency is 1.26 (base), labor absorption in Semarang Regency 4.28 (base). The three parameters used have LQ > 1 values, indicating that Semarang is a base sector and it has potential for dairy cattle development. An area is said to have a potential economic resource base if the relative proportion of a particular region's economic commodity (sector) is more specialized than the larger region (Hendarto 2002, Amalia, 2007). Production of milk is about 8.50 liters / head / day, which is still below the target of dairy revitalization. Dairy reinforcement expects milk to be produced about 15 liters per head every day.

*General Overview of Respondent's Identity of Dairy Farmers.* The description of respondent households of dairy cattle farmers in the study sites is categorized by age, education, main occupation and experience.

Table 1 – Dairy Cow Population Development and Milk Production in Semarang and Central Java from 2009-2013

No.	Year	Dairy Cattle Population in Semarang Regency (head)	Milk Production in Semarang Regency (liter)	Dairy Cow Population of Central Java (head)	Milk Production of Central Java (liter)
1.	2011	36.962	34.761.635	149.931	104.141.255
2.	2012	39.017	34.386.871	154.398	105.516.134
3.	2013	22.408	27.530.077	103.794	97.578.637
4.	2014	27.609	26.129.199	122.566	98.493787
5.	2015	25.789	25.920.458	134.670	95.512.925
	r (%)	(5,03)	(6,73)	(0,46)	(2,07)

Source: Department of Animal Husbandry and Animal Health of Central Java (2016)

\*) Results of agricultural census ST 2013

The data showed that most dairy farmers were in the productive age category, that is from age 31 - 55 years old (73.3%), while the remaining farmers were at the age 20-30 years (5.0%) and above 55 years (21.7%). The productive age farmers were expected to develop the business optimally. Breeders in the productive age category were expected to have better skills to develop dairy cattle agribusiness. Based on their education levels, farmers' education levels were still relatively low. Most of the farmers (51.7%) had elementary education, middle school education (25.0%), senior high school degree (16.7%) and diploma / college degree (6.7%). The main occupations of the respondents were mostly as farmers (40.0%), as breeders (50.0%), the rest were traders and others by 10%. Livestock and agricultural activities were closely related to rural life. This was reflected by the majority of respondents' work in the agricultural / livestock sector as the main income source of the family. The average livestock ownership was still relatively small; ownership of 1-2 animals (80.0%), as many as 3-4 animals (16.67%) and > 4 animals (3.3%). This low livestock ownership may result in low milk production and low business efficiency. The average milk productivity level had a range of 5 - 8 liters / cow / day (38.3%), as much as 9-12 liters (31.7%) and > 12 liters (30.0%). Most respondents had long experience of being farmers, between 11-20 years (36.7%), over 20 years (36.7%), and 1-10 years (26.6%). Dairy agribusiness activities require good management in order to increase milk production and quality, so in the long term it can be followed by improved management in terms of feeding, seeding, business management and environmental hygiene. The identity characteristics of dairy farmers can be seen in Table 2.

Table 2 – Respondent Characteristics of Dairy Farmers in Regency Semarang

No.	Description	Amount (n=60)	Percentage
	Age:		
1.	• 20-30	3	5,0%
	• 31-55	44	73,3%
	• > 55	13	21,7%
	Education Degree:		
2.	• Elementary	31	51,7%
	• Junior High	15	25,0%
	• Senior High	10	16,7%
	• College	4	6,7%
	Main Occupation:		
3.	• Farmer	24	40,0%
	• Breeder	30	50,0%
	• Trader	2	3,3%
	• Others	4	6,7%
	Average of Cattle Ownership Lactation:		
4.	• 1-2	48	80,0%
	• 3-4	10	16,7%
	• >4	2	3,3%
	Milk Production (ltr/head/day)		
5.	• 5 - 8	23	38,3%
	• 9 - 12	19	31,7%
	• >12	18	30,0%
	Business Experience (years)		
6.	• 10	16	26,6%
	• 11– 20	22	36,7%
	• >20	22	36,7%

*Reinforcement Factors of Dairy Cattle Business in Research Sites.* Analysis of the factors which influence reinforcement of dairy cattle business toward milk productivity was analyzed by applying multiple linear regression model, with dependent variable (Y = milk production) and independent variable consisting of ownership of dairy cattle (x1), number of household members (x2), years of business experience (x3), milk price (x4), capital (x5), business motivation (x6), forage consumption (x7) and consumption of concentrate (x8).

Table 3 – Reinforcement Factors of Dairy Cow Business in Semarang Regency

No.	Reinforcement Factors	Regression Coefficient	Sign.
1.	Constants	39,352	
2.	Dairy cow ownership (x1)	2,67	0,000**)
3.	Number of household member (x2)	-0,780	0,435
4.	Years of business experience (x3)	-0,169	0,287
5.	Milk Price (x4)	-0,009	0,586
6.	Capital (x5)	4,915	0,070*)
7.	Business motivation (x6)	-2,768	0,316
8.	Forage consumption (x7)	2,231	0,378
9.	Consumption of concentrate (x8)	-1,170	0,564
	Fhit	3,385	0,00**)
	R <sup>2</sup>	0,40	

Note: \*\*) very significant (1%), \*) significant (10%)

The result showed that the independent variables significantly ( $P < 0.01$ ) affected milk production of dairy cattle. The results showed that the reinforcement of the dairy cattle business needs to pay attention to technical, economic and social aspects. According to Indraningsih and Noekman in Hutapea and Bamualim (2004), that farm household income has functional relationship with business scale and management model of various productive

assets, such as agricultural land, capital and labor. In addition, the skill of farmers in utilizing technology will also differentiate ability to earn income.

The analysis of factors which influence reinforcement of dairy cattle business is presented in Table 2. While based on Table 3, it was observed that the factors x1 up to x8 together had a very significant effect on dairy cow milk production, whereas the partial variable of the number of livestock and capital has a positive and tangible influence on milk production. Capital owned by farmers was very limited, livestock ownership was limited and access to capital was constrained. These results are in line with the research of Nuraeni and Purwanto (2006) which stated that the potential of resources and income analysis of dairy cattle business in Sinjai Regency had a significant influence. The study stated that the potential of natural resources, human resources and supporting facilities affects the development of dairy cattle business. Increased capital in terms of the number of livestock ownership, operational costs and procurement of production means is expected to strengthen the current condition of dairy cattle business. The result of statistical analysis, partially for livestock ownership factor, showed that the increase of one livestock unit would increase the production of 2,666 unit liters of milk. Furthermore, capital factor analysis shows that a capital increase of 1 unit would increase milk productivity by 4,9151 units. Other independent factors (number of household members, business experience, milk price, business motivation, forage consumption and concentrate) partially had no significant effect on productivity. This condition is likely due to dairy cattle business was still managed on a sideline basis and the businesses were not geared towards commercial business. This condition is characterized by a small scale of livestock ownership and limited capital for operational support. The value of determiner coefficient (R<sup>2</sup>) of 0.4 showed that the factor which increase dairy cattle productivity was simultaneously influenced by factor x1 up to x8, which is equal to 40,0%. The rest is equal was 60,0% and was influenced by factors outside the model.

## **CONCLUSION AND RECOMMENDATIONS**

Based on the findings, it can be concluded that dairy cattle business in Semarang Regency has the potential for further development by taking into account the reinforcement factor of the business. The reinforcement factor of the business in increasing milk production is the increase of cattle livestock ownership and the increase of capital. Another important suggestion is increasing the ownership of dairy cattle followed by adequate capital. Some related aspects must be considered, such as technical, social, economic and policies aspect, so that the dairy cattle business can continue its growth.

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DOI <https://doi.org/10.18551/rjoas.2018-12.35>

**ANTIBACTERIAL POTENTIAL OF BROWN ALGAE (*SARGASSUM POLYCYSTUM*)  
BACTERIAL SYMBIONT FROM COASTAL AREA IN BANTEN BAY, SERANG  
MUNICIPALITY, BANTEN OF INDONESIA**

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**ABSTRACT**

Brown algae are less popular and very few people pay attention to the plant; the algae are scattered on coastal areas and people treat them like garbage. Brown alga has as many nutrient contents and benefits as other types of algae. Objective of this research is to describe antibacterial potential of brown algae (*Sargassum polycystum*) bacterial symbiotic by isolating the brown algae bacterial symbiont with bioassay method and conducting the challenge test using *S.aureus* and *E.coli* bacteria. The findings showed that brown algae (*Sargassum polycystum*) have potential for antibacterial by isolating a total of isolate 24 antibacterial compound-producing isolates, namely 7 isolates from surface of the algae and 17 isolates from inside of the algae. Qualitative challenge test found that 1 isolate (sa B1L) from the surface of the algae and 4 isolates (Sa B2D, sa B3D, sa B4D, sa B5D) from inside the algae can inhibit growth of *E.coli* and *S.aureus*.

**KEY WORDS**

*Sargassum polycystum*, bacterial symbiont, antibacterial potential.

We are blessed with various types of marine organism because 70% of the world is covered by sea. A type of marine organism that human being can use is macro algae or commonly known as seaweed (Ritonga, et.al, 2014). Seaweed is categorized into 3 classes, namely *Chlorophyta* (green seaweed), *Phaeophyta* (brown seaweed) and *Rhodophyta* (red seaweed). Each class contains certain pigment. Seaweed has primary and secondary metabolites. Primary metabolites consist of vitamin, mineral, fiber, alginate, carrageenan and agar. Besides the primary metabolite that has economic value, seaweed secondary metabolites such as tannins, phenol, saponins, alkaloids, flavonoids, and steroid produce various bioactive metabolite, which has several activities, namely as antibacterial, antiviral, antifungal and cytotoxic (Zainuddin and Malina, 2009).

Marine algae try to develop a self-defense mechanism to fight pathogenic organisms in the sea. One general mechanism is to produce chemical compounds that are toxic to predators, including antibacterial active compounds. It is very likely that host organism, symbiont which is symbiotic with the host or both the host and the symbiont is responsible for producing the active compound (Nendissa, M, 2012).

A lot of research investigating benefits of seaweed based on microbiological perspective investigated microorganisms that are symbiotic with seaweed and can produce certain metabolites such as antimicrobials (Jafriati, 2014). Several recent studies have shown that seaweed micro-symbiont can be one of the sources of bioactive compounds, but seaweed cells themselves can also produce these metabolites (Jafriati, 2014). Previous research on brown algae (*Sargassum* sp) reported that brown algae has antimicrobial potential in the form of bioactive protein from bacteria that are symbiotic with the algae (Sartika, et.al, 2014). Based on Pigment Test analyzing total carotenoid pigment extract and echinenone-type pigment of brown algae (*Sargassum polycystum*), 4 out of 15 bacteria tested showed antibacterial activity (Paransa, et.al, 2014). *Sargassum polycystum* extract from ethyl acetate solvent has the best antibacterial activity against *Vibrio harveyi* and *micrococcus luteus* bacteria (Riyanto, et.al, 2013).

Objective of this study is to describe antibacterial potential of brown algae (*Sargassum polycystum*) bacterial symbiont by isolating and selecting which brown algae (*Sargassum polycystum*) bacterial symbiont that produces antibacterial compounds and to describe characteristics of the bacterial symbiont obtained.

## MATERIALS AND METHODS OF RESEARCH

Equipments used in this study were autoclave (*Ikemoto scientific* 10-908 KT 30 L), hot plate (*Thermo scientific*), digital scale (*Vibra*), refrigerator (*Selecta*), Oven (*Memmert*), incubator (*Memmert*), Microscope (*Olympus Cx 21-FX1*), shaker (*Thermo scientific*), Laminary flow (*Teistar AV-100*), centrifugation (*Eppendorf*), vortex mixer (*Heidolph*), pipette (*Pyrex*), erlenmeyer (*Pyrex*), measuring cup (*Hokkai*), petri dish (*Anormax*), pipette pump (*Bel-Art*), 10-100  $\mu$ l micropipette (*Omnipette*), 50  $\mu$ l micropipette (*Finnipette*), and reaction tube (*Baibel*). Furthermore, materials used in the study are *Sargassum polycystum* from Pulau Lima waters, *Escherichia coli* and *Staphylococcus aureus* pure culture from Biological Laboratory of Bandung Institute of Technology, sterilized sea water, 13 gr/L of *Nutrien broth* (Oxoid), 17.5 gr/L of Plate Count Agar (Oxoid), 38 gr/L of Muller Hinton Agar (Oxoid), urea broth (Merck), mannitol (Difco), coser citrate (Difco), arabinose (Merck), gelatin (Merck), glucose (Merck), safranin (Merck), crystal violet (Merck), malachit green (Merck), phenol red broth base (Merck), fuchsin (Merck), alcohol (Brataco chemica), H<sub>2</sub>O<sub>2</sub> (from Chemical Laboratory of Nasional Jakarta University), HDPE plastic (Bell), cotton (Sari bunga), rubber (*Rubber band*), and immersion oil (*Olympus corporation*).

The study was conducted between February 6 and May 6, 2017 in Microbiology Laboratory of Higher Institute of Fisheries of Jakarta. *Sargassum polycystum* samples were taken from coastal are of Banten Bay, Serang Municipality, Banten. Seaweed identification was conducted in Center of Oceanographic Research – Indonesian Institute of Science, DKI Jakarta.

*Sargassum polycystum* was obtained from coastal area of Banten Bay located in Pulau Lima, Serang Municipality. The samples were stored in clean containers filled with salt water from *Sargassum polycystum* habitat. The samples were then taken to the Microbiology Laboratory of Higher Institute of Fisheries of Jakarta.

Surface of algae: 15 grams of the samples were rinsed with 30 ml of sterilized salt water. The water was poured into 30 ml of Nutrien Broth and shaken using a shaker at 140 rpm at room temperature for 24 hours.

Inside of Algae: 15 grams of the samples were rinsed with 30 ml of sterilized salt water, ground using a mortar and pestle and sterilized salt water was poured into the pestle. Suspension was poured into 30 ml of NB and shaken using a shaker at 140 rpm at room temperature for 24 hours.

Having refreshed in NB, the samples were diluted gradually between 10<sup>-1</sup> and 10<sup>-5</sup>. Each dilution was grown in PCA with temperature of 37° C for 2x24 hours. Bacteria with stable transparent zone were harvested and scratched with the quadrant method to obtain a single colony.

Took  $\pm$  1 ose of *E.coli* and *S.aureus* pure culture and inoculated the culture on 10 ml of Nutrient Broth (NB). Incubated the culture at 37°C for 24 hours.

Took  $\pm$  1 ose of bacterial symbiont pure culture from each code, and inoculated the culture on tilted Plate Count Agar (PCA). Incubated the culture at 37°C for 24 hours.

The following step was to conduct qualitative direct challenge test by scratching and spraying isolate onto Muller Hinton Agar (MHA) surface. 10  $\mu$ l bacteria required 10 ml of liquid muller hinton agar (MHA). Bacteria-filled agar was vortexed or homogenized, poured into sterilized petri dish immediately and shaken to form number eight in order that the bacteria spread evenly. The media is sat to harden. The next step is conducting challenge test by scratching and spraying isolate on surface of media in which testing bacteria (*E.coli* and *S.aureus*) had been spread previously. The media were incubated for 2x24 hours under temperature of 37°C.

Macroscopic observation helped the researchers identifying color (shape, edge, elevation and color) of bacterial colony.

Gram staining provides better results when researchers use fresh cultures (24 to 48-hour culture). Gram staining was conducted by making prepare, fixing it on fire, pouring crystal violet solution and resting it for 1 minute, washing it with running water, pouring lugol solution and resting it for 1 minute, pouring bleach solution for 10-20 seconds, washing it with water, pouring Safranin solution and resting the solution 15 seconds, washing it with water, drying and observing it under a 100x microscope.

## RESULTS AND DISCUSSION

*Brown Algae (Sargassum polycystum) Bacterial Symbiont Isolation.* The results findings showed that brown algae (*Sargassum polycystum*) brown algae can isolate 24 antibacterial compound-producing isolates, namely 7 isolates from surface of the algae and 17 isolates from inside of the algae; each is obtained from  $10^{-4}$  dilution. From surface of the samples, the researchers identified 7 isolates and they were inoculated into 2 isolates that had the largest transparent zone on the surface of the algae (sa B1L, sa B2L). From the inner side of the samples, the researchers identified 17 isolates and they were inoculated into 5 isolates with the largest transparent zone on the inside of the algae (sa B1D, sa B2D, sa B3D, sa B4D, sa B5D). Objective of inoculation is to grow, rejuvenate microbes and obtain pure microbes. Pastra, et.al (2012) stated that bacterial isolate purification aims to separate bacterial isolation result that consists of different types of bacterial colonies and obtain pure bacterial colony from each bacterial culture. Dominant colonies are those being harvested and purified. Scratching was method for purification. Figure 1 showed result of isolation.

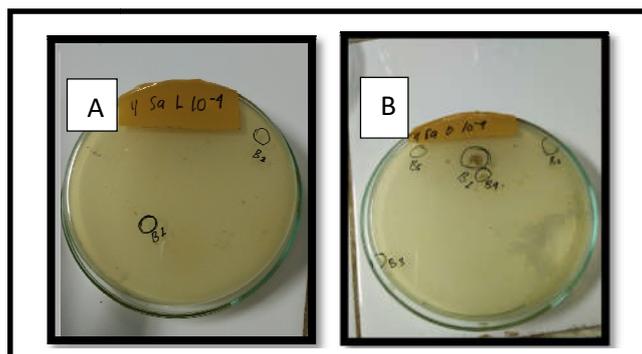


Figure 1 – *Sargassum polycystum* Bacterial Symbiont Isolation (A. Purified Surface Isolate; B. Purified Inner Isolate)

*Antibacterial Compound-Producing Isolate Selection (Challenge Test).* Based on the challenge test, 5 bacteria developed zones to inhibit *E.coli* and *S.aureus* from spreading further. 1 bacterial isolate from the surface of the samples (B1L sa code) and 4 bacterial isolates from the inside of the samples (sa B2D, sa B3D, sa B4D and sa B5D) showed antibacterial activity against pathogenic bacteria. It was characterized by a clear zone in the isolate. Bacterial isolates on the surface are ones associated to seaweed. Bacteria from the surface of the population are fewer in number due to availability of nutrients and they require higher defense power to overcome competitors, predators or others. On the other hand, bacteria from the inside of the seaweed have higher population because the inside part of the algae has a lot more and various nutrients available.

Bacterial isolate obtained from the inside of the sample has better inhibitory zone rather than that obtained from the surface of the sample. Abubakar, et.al (2011) stated that bacterial symbiont obtained from the inside of algae is generally higher in number and is a specific microbe because it has direct interaction with bioactive compound the algae produce. At the opposite, bacterial symbiont obtained from the surface of algae is fewer in

number because it requires higher immunity to overcome pathogen and predator around the algae.

Cappucino and Sherman (1986) as cited in Rizka (2008) are used to observe morphological colony of the bacteria with each code, either from the surface or inside part of the algae.

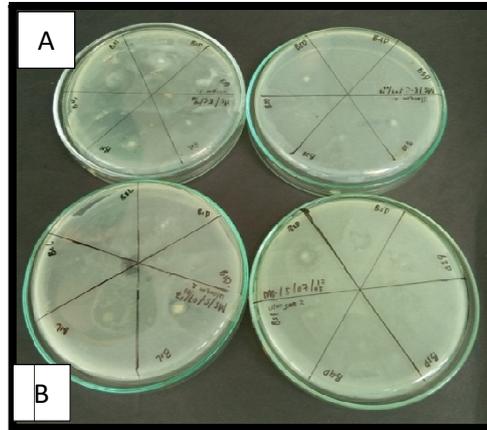


Figure 2 – Challenge Test (Code A: Challenge Test on the *E.coli*; Code B: Challenge Test on the *S.aureus*)

Table 1 – Result on Bacterial Symbiont Colony Morphological Observation

Isolate Code	Morphological Characteristics of Colony			
	Shape	Edge	Elevation	Color
Sa B1L	Round	Intact	Convex	Yellow
Sa B2D	Round	Intact	Convex	Milky white
Sa B3D	Round	Intact	Convex	Milky white
Sa B4D	Round	Intact	Convex	Milky white
Sa B5D	Irregular shape	Surging	Flat	Milky white

The table above showed that majority of the bacterial colonies (sa B2D, sa B3D, sa B4D, sa B5D) were round and milky white. 1 isolate colony had a different color, namely isolate colony of which code was sa B1L (yellow). The isolates were obtained from the surface of the algae. In other words, color is influenced by part of the algae from which the colony is obtained. According to Ramadhan (2012), differences in color of bacterial colonies occur due to differences in intracellular pigments produced by the bacteria.

Table 2 – Result of Challenge Test to Obtain Selected Bacteria

Isolate Code	Challenge Test (24 hours)	
	<i>E.coli</i> (mm)	<i>S.aureus</i> (mm)
Sa B1L	2.03	1.3
Sa B2D	2.69	4.52
Sa B3D	2.95	5.55
Sa B4D	1.98	4.61
Sa B5D	1.72	3.76

Based on the largest inhibition zone formed against *E.coli* and *S.aureus* (Table 2), each bacterial symbiont isolate had a varying degree of inhibition. Table 2 also showed that bacterial isolates with sa B3D code had the highest inhibitory effect on *E.coli* (2.95 mm) and *S.aureus* (5.55 mm) compared to the other isolates. According to Sutia (2011), higher diameter of inhibitory zone indicated higher resistance towards certain bacterial isolates. Furthermore, the sa B3D code isolate obtained from the inside of the *Sargassum polycystum* algae were used as selected isolate that identified isolates of bacterial symbiont of algae. According to Rizka (2008), an antagonistic test was used to evaluate ability of symbionous

bacterial isolates to kill pathogenic bacteria. Ability to kill pathogenic bacteria can be characterized by clear zones formed around bacterial scratches; it proved that a tested pathogenic bacterium cannot grow anymore.

Macroscopic observation helps identifying shape, edge, elevation and color of bacterial colony. The researchers used this method to identify morphological characteristics of *Sargassum polycystum* bacterial symbiont isolates including its color. Table 1 showed result of the observation.

Gram staining is used to identify clear zones developed on the isolate. Table 3 showed result of the Gram staining.

Table 3 – Morphological Observation using Microscope

Bacterial Isolate Code	Shape	Category (after Gram staining)
Sa B1L	Rod-shaped	Gram Positive
Sa B2D	Rod-shaped	Gram Positive
Sa B3D	Rod-shaped	Gram Positive
Sa B4D	Rod-shaped	Gram Positive
Sa B5D	Rod-shaped	Gram Positive

## CONCLUSION

Bacterial symbiont isolate from *Sargassum polycystum* (brown algae) from the water in Banten Bay consists of 24 isolates, 7 isolates from the surface of the algae and 17 isolates from the inside of the algae.

Based on challenge test, there are 5 isolates that can inhibit growth of *S.aureus* and *E.coli*, 1 isolate from the surface of the algae and 4 isolates from the inside of the algae.

Isolate obtained from *Sargassum polycystum* (brown algae) is categorized as gram positive bacteria.

Further researchers should identify phenotypes, genotypes and characteristics of secondary metabolites produced by *Sargassum polycystum* (brown algae) bacterial symbiont.

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DOI <https://doi.org/10.18551/rjoas.2018-12.36>

## **ANALYSIS ON TRAMMEL NET AND PA MONOFILAMENT SHRIMP NET TOWARDS SHRIMP FISHING IN KAIMANA BAY, INDONESIA**

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### **ABSTRACT**

Kaimana waters is an area in West Papua, Indonesia potential for shrimp fishing; the fishermen use trammel net and PA monofilament shrimp nets. The data analysis consisted of analyses towards effectiveness, efficiency and low impact measurement of the catch. The findings showed that trammel nets were more effective and efficient in shrimp fishing than PA Monofilament shrimp nets; however, based on the by-catch both equipment caught equal number of shrimps.

### **KEY WORDS**

Effectiveness, efficiency, low impact, shrimp fishing, Kaimana Bay.

Shrimp trawlers in the Arafura Sea have been developed since 1969. Shrimp trawling areas include Sele Strait, Bintuni Bay, Fak Fak, Kaimana, Dolak and Aru Island of which coordinates are 130<sup>0</sup> East Longitude except the coastal waters of each of the islands limited by a 10 meter isobaths (Article 1). The permission for shrimp trawling in Arafura Sea which began in 1982 has resulted in an increase in exploitation of natural resources. Suman and Satria (2014); Purwanto & Nugroho (2010) stated that shrimp fishing or trawling in Arafura Sea can now be categorized as over-exploitation. It happened because fishermen used shrimp trawl as their fishing equipment and consequently, the amount of by-catch is pretty high and the environment is damaged ((Thomas, Sreedevi and Kurup, 2006; Brennan *et al.*, 2016; Thomas *et al.*, 2017). Current potential of shrimps is 49,500 tons/year with total allowable catch of around 39,600 tons/year. Due to the overexploitation, the number of shrimp trawlers has to be reduced to 225 units. Otherwise, environmental sustainability can be severely damaged and the number of shrimps will decline sharply.

The government has issued several regulations in order to maintain shrimp fishing in Arafura Sea, for example: Presidential Decree No. 39/1980; Ministry of Agriculture Decree No. 930/Kpts/Um/12/1982; Directorate General of Fisheries Decree No. IK.010/S3.8075/82K; Directorate General of Fisheries Decree No. IK.010/S3.8063/82K; 1982 Presidential Decree number 85; Ministry of Agriculture Decree No. 816/Kpts/lk.120/11/90; the 2004 Decree number 3 and 13; Ministry of Fisheries and Marine Affairs Decree No. PER.05/MEN/2008 Article 74; Directorate General of Capture Fisheries Decree No. 08/DJ-PT/2010 revised into Directorate General of Capture Fisheries Decree No. 38/DJPT-2010. These nine regulations were unable to maintain or supervise shrimp fishing in the area and consequently have failed to overcome shrimp fishing crisis. In addition, the government has issued the Ministry of Fisheries and Marine Science regulation number 2/ Permen- KP/ 2015 that prohibited Trawl and Seine Nets as fishing equipment. *Pukat Hela* and *Pukat Tarik*, two types of trawl has declined number of fish quite sharply and damaged marine ecosystem including fish. Therefore, the fishing equipments are prohibited in Indonesia including Arafura Sea. Kurniawan et.al (2017) explained that banning *pukat hela* for shrimp fishing will increase number of unused resources and lead to scarcity of shrimp catches.

Kaimana water is a suitable area for shrimp fishing in West Papua. This area is famous for penaeid shrimp fishing in which shrimp fishing is conducted between 5 and 35 meter deep. The watershed consists of sandy mud and color of the waters is close to gray. Mangrove forest and both small and large estuary can be found along the coast (Astuti, 2005). Both traditional fishermen and shrimp industry carry out their operation in this water. The traditional fishermen use trammel net, PA monofilament shrimp nets and other fishing equipment. Due to the Ministry of Fisheries and Marine Affairs, which prohibits certain fishing equipment that may damage the environment, fishermen should find low impact and efficient fishing equipment. Objective of this study is to analyze effectiveness, efficiency and low impact of trammel net and PA Monofilament shrimp nets towards the traditional fishermen's shrimp fishing in Kaimana water.

**MATERIALS AND METHODS OF RESEARCH**

The study used survey technique. The setting is Kaimana Bay and Arguni Bay, located in Kaimana Municipality, West Papua (See Figure 1 for the location). The population was 47 fishermen who used trammel net and 73 fishermen who used PA monofilament shrimp nets. The sampling technique was stratified random sampling.

The equipment and materials used were trammel net, monofilament shrimp fishing nets, digital camera, measuring board, GPS, digital scale, water quality measuring unit (Digital Aquared), stationery and questionnaires.

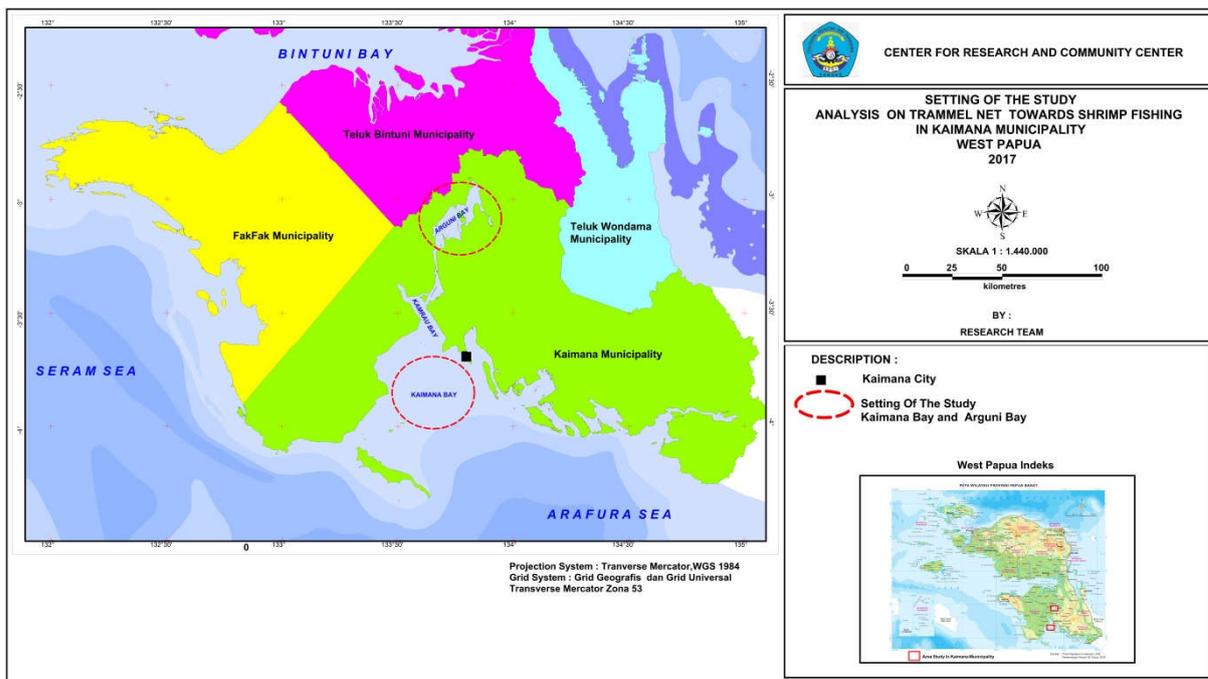


Figure 1 – Setting of the Study

The study was divided into two stages, primary data collection and secondary data collection. Primary data collection was conducted between September and November 2017, in Kaimana Bay and Arguni Bay, Kaimana Municipality, West Papua, while secondary data collection was conducted between July and November, 2017 in Kaimana Municipality, West Papua. Primary and secondary were obtained using observation, interviews and questionnaires. The primary data, obtained in the area where trammel net and monofilament shrimp fishing net were used, consisted of: characteristics of shrimp fishing unit operated, aquatic environment, main catch and by-catch and operating costs, while the secondary data were taken from certain documents available at the relevant agencies.

Effectiveness was analyzed with the following formula:

$$Effectiveness = \frac{Actual\ Output}{Targeted\ Output}$$

Criteria:  $E \geq 1$  means effective and  $E < 1$  means not effective.

Impact of Fishing Equipments, represented by by-catch, was estimated using the following formula:

$$By - Catch\ Percentage = \frac{By\ catch}{Main\ Catch} \times 100\ %$$

Criteria:  $Pbc < 20\ %$ , *low impact*;  $20\ % < Pbc < 50\ %$ , *middle impact*;  $Pbc > 50\ %$ , *high impact*.

Efficiency was measured with the following formula:

$$Efficiency = \frac{Output}{input} \times 100\%$$

Where: Output = Total catch x sales price; Input = Total operating cost.

Criteria:  $< 100\ %$  = not efficient;  $101,1\ % - 150\ %$  = fair;  $> 151\ %$  = efficient.

To find out which fishing equipment has the best performance, the researchers conducted normality test is followed by t-test and f-test with confidence interval of 95% using Minitab software.

## RESULTS AND DISCUSSION

*Effectiveness of Trammel Net and PA Monofilament Shrimp Nets.* Hidayat (1986) stated that effectiveness refers to how far target (quantity, quality and time) has been achieved and Jhon (1986) postulated that effectiveness is achieving target output by comparing estimated output and real output. When  $OA > OS$ , it is categorized as effective.

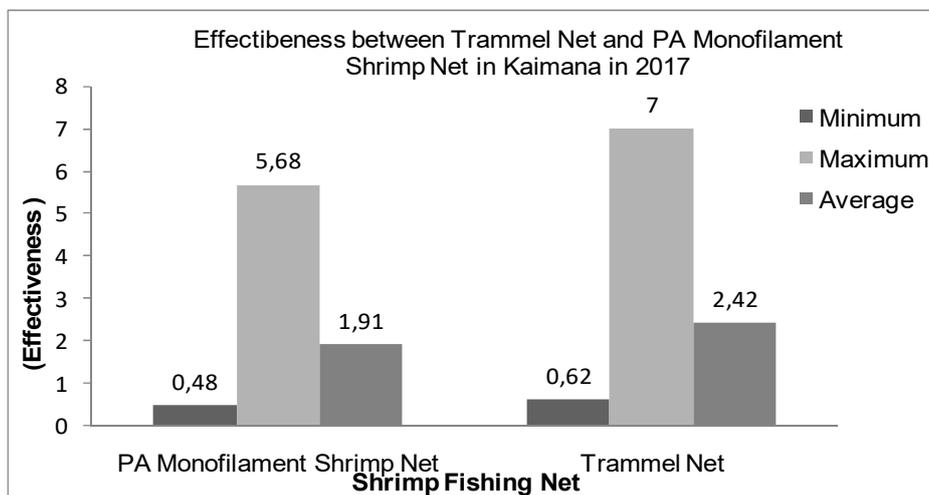


Figure 2 – Effectiveness between shrimp fishing with trammel net and shrimp fishing with monofilament fish net

Effectiveness of shrimp fishing using trammel net and PA monofilament shrimp net was measured by comparing between actual catch for each fishing equipment and a minimum estimated catch (target). This target should be in accordance to production cost and minimum estimated profit. Based on the interview, estimated catch in one shrimp fishing trip was 8 kgs. Figure 2 showed effectiveness of shrimp fishing using the PA monofilament fishing net and trammel net where there were 47 samples of fishing trips using the PA monofilament fishing net and 62 samples of fishing trip using trammel net.

Figure 2 showed that both fishing equipments had different contribution towards shrimp fishing (catch). Both equipment is effective for shrimp fishing because their scores are higher than 1. Trammel net had higher effectiveness with the highest score of 7 and average score of 2.42, compared to the monofilament shrimp nets of which highest score was 5.68 and average score was 1.91. However, there were several non-effective samples (0.48 in the monofilament shrimp net and 0.62 in the trammel net) or 12 samples (26%) for the monofilament shrimp net and 8 (13%) for the trammel net. These 20 samples were non-effective because they were not able to meet the targeted catch. It was difficult to foresee what would take place in every shrimp fishing trip and therefore, fishermen were unable to guarantee that they would meet targeted amount of catch in every trip. Nevertheless, using the 20 samples, fishermen were able to cover their operating cost and as the result, kept using the fishing equipments while hoping to catch more shrimps.

The Kolmogorov Smirnov test that measured effectiveness of both fishing equipment showed that the data were distributed normally and therefore, the researchers proceeded to conducting F-test or t-test.

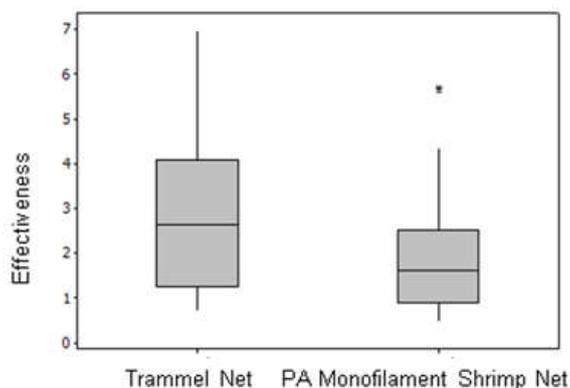


Figure 3 – Effectiveness of Both Fishing Equipments

Based on F-test,  $F_{value} (F = 2.12) > F_{tab} (F_{(0.05;64;64)} = 1.63)$  and thus, it can be concluded that both fishing equipment had quite a significant difference in terms of effectiveness. In general, trammel net was more effective than monofilament shrimp nets. Furthermore, t-test showed that  $t_{value} (t_{value} = 3.1) > t_{tab} (t_{(0.05;64)} = 1.99)$  which means that both fishing equipment had quite a significant difference in terms of effectiveness; in general, trammel net was more effective than monofilament shrimp nets.

Effectiveness scores will change in accordance to shrimp fishing season. It will change based on how many shrimps fishermen caught (catch). Figure 4 described effectiveness of the fishing equipment during east monsoon and west monsoon.

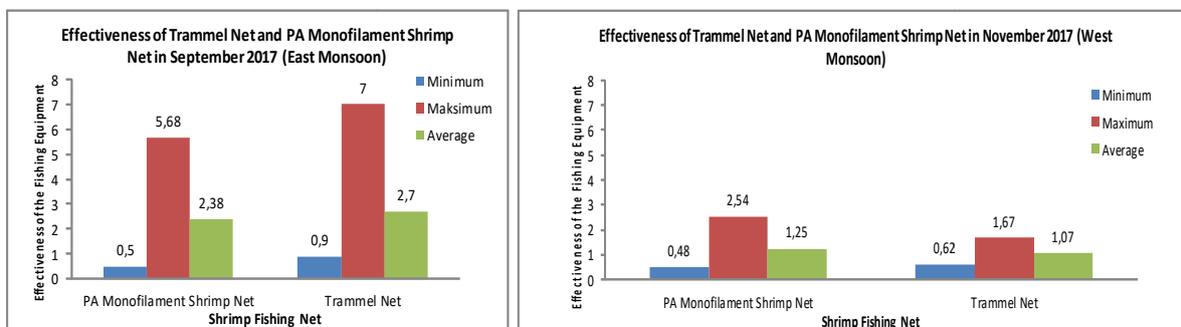


Figure 4 – Effectiveness Score in East Monsoon and West Monsoon

Figure 4 showed that the trammel net was more effective during East Monsoon (higher maximum score and average score). At the opposite, the monofilament shrimp nets were

more effectiveness than the trammel net during West Monsoon. During West Monsoon, Kaimana Bay is pretty calm and as the consequence, it is easier to catch shrimps with the monofilament shrimp nets located in the coastal area and estuary compared to doing so with the trammel net. Besides that, shrimp migration and shrimp fishing season in Arguni Bay and nearby water take place during the West Monsoon.

*Efficiency of Trammel Net and PA Monofilament Shrimp Nets.* Besides the trammel net and the monofilament shrimp nets, the fishermen in Kaimana used long boat for fishing. Their activity is categorized as small-scale fishing as they are using limited fishing equipment and fishing in the coastal area only. As the result, in this context, efficiency refers to comparison between sales price and total operating cost. Figure 5 showed efficiency score of both fishing equipment.

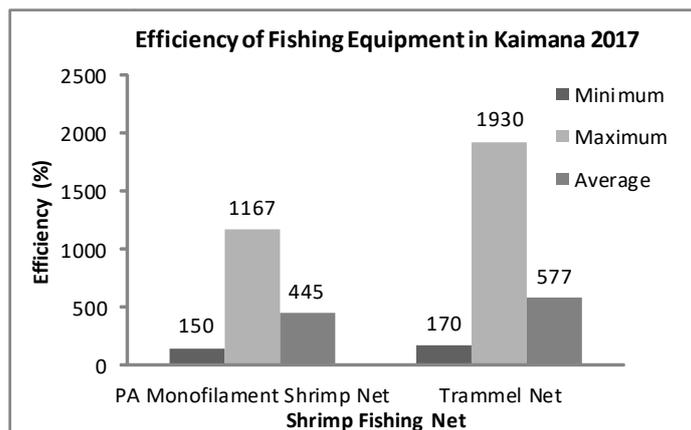


Figure 5 – Efficiency of Monofilament Shrimp Nets and Trammel Net

Based on Figure 5, average efficiency of trammel net was 577% and that of monofilament shrimp nets was 445%. In general, the trammel net had higher efficiency compared to the monofilament nets. It happened because 1) sales price of the shrimps caught using trammel net was higher than that caught using the monofilament shrimp nets (50,000 rupiahs/kg for trammel net and 45,000 rupiahs/kg for the monofilament net), and 2) the monofilament nets resulted in higher operating cost than the trammel net. The Kolmogorov Smirnov test that measured effectiveness of both fishing equipment showed that the data had normal distribution and therefore, the researchers proceeded to conducting parametric test (F-test or t-test).

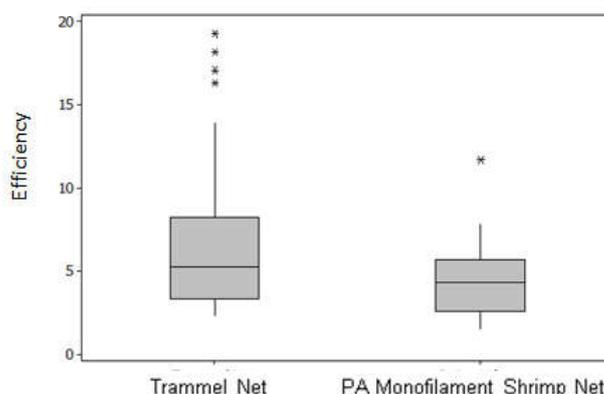


Figure 6 – Efficiency Scores between Trammel Net and Monofilament Shrimp Nets

Based on the analysis,  $F_{value} (F_{value} = 4.36) > F_{tab} (F_{(0.05;64;64)} = 1.63)$  and  $t_{value} (t_{value} = 2.98) > t_{tab} (t_{(0.05;64)} = 1.99)$ . Therefore, both fishing equipment had quite a significant difference in terms of efficiency and trammel net was more efficient compared to the

monofilament nets. PA monofilament shrimp nets required higher operating cost. Furthermore, the shrimps were sold in Kaimana (city) and thus, the fishermen who used the monofilament net had to transport their catch from Arguni to Kaimana. These fishermen rented a public transportation from Tanggaromi to Kaimana for 300,000 rupiahs. 3-5 fishermen rented one means of public transportation. Besides selling their catch, the Arguni fishermen went to Kaimana (city) to shop for grocery and ice blocks for their following fishing trip.

Efficiency also depends upon fishing season. East monsoon is the most suitable season for shrimp fishing using trammel net in Kaimana, and at the opposite, West monsoon is the most suitable one for shrimp fishing using monofilament shrimp nets for Arguni fishermen. As the result, efficiency score for each fishing season changed. Figure 5 described efficiency of both fishing equipment during east monsoon and west monsoon.

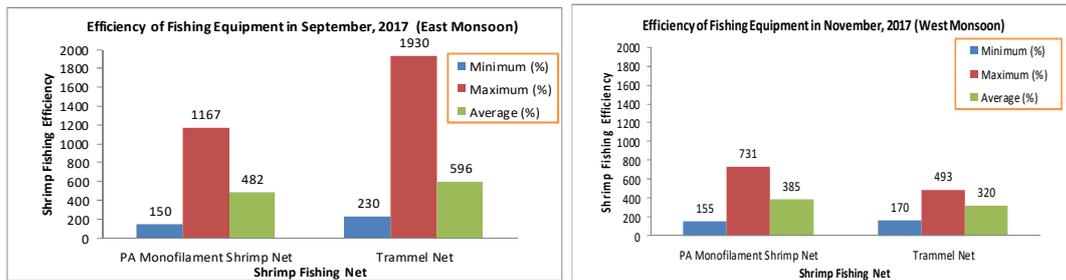


Figure 7 – Efficiency Score between Monofilament Nets and Trammel Nets in East and West Monsoon

Figure 7 showed that the trammel net was more efficient during East Monsoon than the monofilament shrimp nets. At the opposite, the monofilament shrimp nets were more efficient than the trammel net during West Monsoon. During West Monsoon, Arguni fishermen, who went shrimp fishing using monofilament nets, caught more shrimps than Kaimana fishermen who used the trammel net and therefore, their output or sales price is higher while the operating cost remained stable.

*Low Impact by-Catch of Trammel Net and PA Monofilament Shrimp Nets.* By-catch refers to another fish or marine biota getting caught besides a targeted catch (Mardjudo, 2011). By-catch of the trammel net and the monofilament shrimp nets refers to all marine biota getting caught besides shrimps. Most of the by-catch is fish and crabs. Even though the fishermen can sell or consume the by-catch, they found it disturbing because releasing the fish and crabs back to the sea was time consuming and by-catch can damage the nets. Figure 8 showed by-catch analysis in the shrimp fishing.

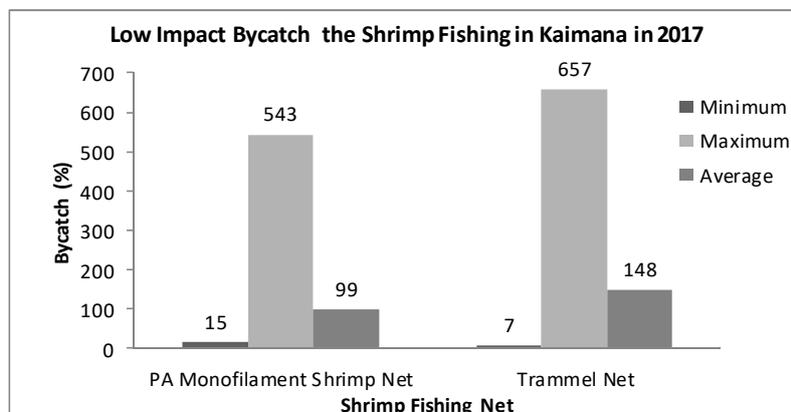


Figure 8 – By-catch in Shrimp Fishing using Monofilament Shrimp Nets and Trammel Net

In general, both fishing equipment had high percentage of by-catch (> 50%) and thus, was categorized as high impact. Trammel net had higher percentage of by-catch than

monofilament shrimp nets. It happened because trammel net consisted of three layers and fish got stuck more easily. Based on the interview, by-catch percentage depends heavily upon fishing season. During shrimp fish season, when number of shrimps is abundant, by-catch percentage is decreasing and at the opposite, when shrimps are scarce, by-catch percentage is increasing.

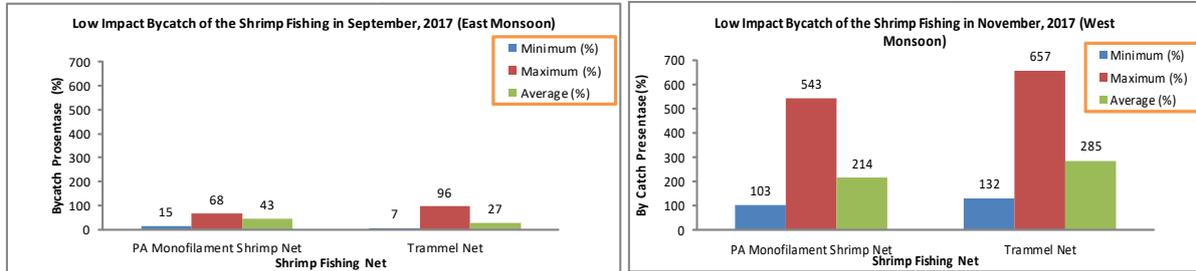


Figure 9 – By-catch Comparison between East Monsoon and West Monsoon

Figure 9 explained that in East Monsoon (shrimp fishing season), by-catch percentage was declining (middle impact) but in West Monsoon, by-catch percentage was increasing very sharply. It was predicted that shrimp density, more particularly adult shrimp, disturbed some fish. Shrimp head and tail are sharp and as the result, fish swims to other places to avoid the shrimp. The Kolmogorov Smirnov test that measured by-impact percentage of both fishing equipment showed that the data had normal distribution and therefore, the researchers proceeded to conducting parametric test (F-test or t-test).

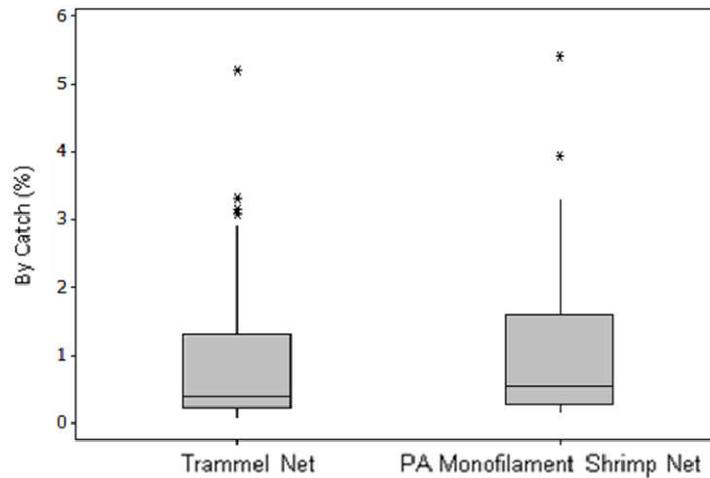


Figure 10 – By-catch between Trammel Net and Monofilament Shrimp Nets

$F_{test}$  showed that  $F_{value}$  ( $F_{value} = 1.02$ ) <  $F_{tab}$  ( $F_{(0.05;64;64)} = 1.63$ ) and  $t_{value}$  ( $t_{value} = -0.57$ ) <  $t_{tab}$  ( $t_{(0.05;64)} = 1.99$ ). In conclusion, the percentage of by-catch between those fishing equipment difference was the same (no significant difference). Trammel net caught as many bycatch as monofilament net. Negative (-)  $t_{value}$  showed that by-catch percentage of the trammel net was slightly lower than that of the monofilament shrimp nets.

### CONCLUSION

The findings showed that trammel net has higher effectiveness and efficiency score compared to PA monofilament shrimp nets. However, by-catch percentage of both equipments is quite similar. Therefore, even though trammel net is a better alternative for shrimp fishing, further analysis to re-design the trammel net is required in order to decrease by-cath percentage.

## ACKNOWLEDGMENTS

The authors would like to thank all fishermen participating in this study. The authors would also like to send their gratitude to the staffs of the Department of Fisheries and Marine Affairs of Kaimana and fishing instructors in Kaimana.

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DOI <https://doi.org/10.18551/rjoas.2018-12.37>

## THE CRUDE PROTEIN AND FIBER IN TARO LEAF FLOUR FERMENTED BY *TRICHODERMA VIRIDE* AS CATFISH FOOD

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### ABSTRACT

Taro leaves contain a high level of protein compared to the roots. However, taro leaves have been treated as the wastes of taro roots processing. In this research, the taro leaves are fermented using *Trichoderma viride* under the treatment durations of 0, 5, 7, and 9 days. Among all the durations, the best result is generated from the fermentation duration of 7 days, with the crude protein of 22.07 and crude fiber of 14.01. Therefore, based on the findings of this research, it is hoped that taro leaves fermented by *Trichoderma viride* can be used as an alternative food for catfish.

### KEY WORDS

Taro leaves, fermentation, *Trichoderma viride*, formulation of catfish food.

According to Arini *et al.*, (2013), catfish are one of the freshwater fish. Its easiness to be nurtured, fast growth, resistance against diseases, and economic characteristics are an advantage. Therefore, there are a lot of farmers interested in catfish farming.

In catfish farming, many farmers use fish flour in food formulation. Due to the fact that it is expensive, a more affordable and accessible alternative food substance is considered necessary. The substance could be acquired in vegetables, including taro leaves.

Sudomo and Aditya (2014) state that the taro plant is one of the nutritious plants due to its bioactive substances. Yet, so far the utilization of taro plant has been limited only on its roots while the leaves are left behind as a waste. Therefore, the researchers use taro leaves as a food substance for fish to replace the expensive fish flour.

The taro leaves are processed into flour which contains 16.48% crude protein, 17.33% crude fiber, and 4.30% fat (Aliyani, 2002). With such a high level of crude fiber, fermentation is required to lower it in accordance with the standard of fish food. Therefore, the taro leaf flour is fermented using *Trichoderma viride* in order to lower its crude fiber and enable it to be applied to the catfish food.

### METHODS OF RESEARCH

This research is conducted at Faculty of Fisheries and Marine Sciences, Universitas Brawijaya, Indonesia, and on April – June 2018. The material used in this research is taro leaves, collected from Turen, Malang, Indonesia. It is initially washed and dried so that the leaves could become flour. This taro leaf flour is the main material of this research:

- *Trichoderma viride* mold. The *Trichoderma viride* mold is obtained from the Center of Biological Research, Lembaga Ilmu Pengetahuan Indonesia (LIPI).
- Fermentation of Taro Leaf Flour. The taro leaf flour is weighed respectively 100 gr, followed by an addition of *Trichoderma viride* spore solution as much as 3% and fermented throughout the course of 5, 7, and 9 days. The taro leaf flour fermentation result, then, went into the proximate and crude fiber analysis.

### RESULTS AND DISCUSSION

According to the statistical analysis, the dose of *Trichoderma viride* mold in the fermentation taro leaf flour process in three different durations of 5, 7, and 9 days shows a real difference toward the nutrition of protein and crude fiber contained in the dry material.

Table 1 – The Crude Protein contained in the Dry Taro Leaves fermented by *Trichoderma viride*

Treatment	Amount of Protein
0 days	19.88 ± 0.15 <sup>a</sup>
5 days	20.60 ± 0.15 <sup>b</sup>
7 days	22.07 ± 0.09 <sup>c</sup>
9 days	20.97 ± 0.11 <sup>d</sup>

Based on the research findings, the highest amount of crude protein is generated in the treatment duration of 7 days with the protein contained as much as 22.07 ± 0,09<sup>c</sup>. The treatment duration is significantly different with the duration of 0, 5, and 9 days. According to Gunam *et al.*, (2011), the *Trichoderma viride*'s optimal growth is in the seventh day, which increases the protein. The higher the amount of protein, the higher the cellular activities are. The longer the fermentation duration with the higher concentration of substances, then the higher the amount of protein generated.

The increase of protein is influenced by the protease enzyme. The enzyme can alter protein into a polypeptide and altered further into an amino acid. The amino acid is needed by the microbes to multiply themselves during the fermentation process. Therefore, the increase in the number of microbes can increase the crude protein of a material due to the fact that these microbes are the single cell protein source (Agustono *et al.*, 2011). The single cell protein is a term used by a pure crude protein generated by the single or multi-celled microorganisms which are simple, for instance, mold.

Table 2 – The Crude Fiber contained in the Dry Taro Leaves fermented by *Trichoderma viride*

Treatment	Amount of Crude Fiber
0 days	19,06 ± 0,12 <sup>a</sup>
5 days	16,98 ± 0,20 <sup>ab</sup>
7 days	14,01 ± 0,14 <sup>b</sup>
9 days	15,17 ± 0,07 <sup>c</sup>

Based on the research finding, it can be seen that the lowest crude fiber generated in the treatment duration of 7 days with the crude fiber of 14,01 ± 0,14<sup>b</sup>. This result is significantly different from the treatment duration of 0 and 9 days yet is not really different with the treatment duration of 5 days fermentation. The additions of *Trichoderma viride* in the fermentation process can generate cellulase enzyme that degrades the cellulose and synthesize cellulose related to hydrogen bond thus lower the crude fiber.

According to Putri (2012), *Trichoderma sp* are cellulolytic microbes which generate cellulase enzyme that degrades cellulose. In the degradation process, the cellulase enzyme consisted of endocellulase (enzyme that break down cellulose randomly into cellulooligosaccharide / cellulodecrim) and exocellulase (enzyme that break down cellulooligosaccharide into cellulose which would be broken further into glucose).

## CONCLUSION

The taro leaves which have been treated as wastes of taro roots processing can also be used as an alternative food for catfish. The taro leaves which are fermented using *Trichoderma viride* with treatment durations of 0, 5, 7, and 9 days can increase the amount of crude protein and lower the crude fiber. The findings are acknowledged in the treatment duration of 7 days with the crude protein of 22,07 ± 0,09<sup>c</sup> and crude fiber of 14,01 ± 0,14<sup>b</sup>. Therefore, through the research findings, it is hoped that the taro leaves fermented by *Trichoderma viride* can be used as an alternative food for catfish.

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DOI <https://doi.org/10.18551/rjoas.2018-12.38>

## **INSTITUTION'S BUSINESS ROLE TO IMPROVE SMALLSCALE FISHERMAN'S HOUSEHOLD INCOME**

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### **ABSTRACT**

Fish resources on the sea, which are accessible and classified as common property, cause competitive rivalry among fishermen. It mainly affects 87.5% of small-scale fishermen's in Indonesia that are identified in poverty. The encountered problems are that marketing and production of the institution are not optimal and the fishermen's mindset is still subsistence. One of solutions to increase small-scale fishermen's revenue is by processing the fish catches in a traditionally smoked fish method. In addition, to strengthen the institution of local economy, government implements a PNPM program by establishing a business institution called as KUB / Poklashar. The sampling method was a purposive sampling. Data analysis used chi square test to analyze the relationship between business institution with household incomes and the saving amounts of fishermen. From the results, it yielded positive impacts among the members of business institution, particularly in the household income and the saving amounts of fishermen.

### **KEY WORDS**

Business, institutions, income, smoked fish, business.

Fish resources are common goods that attract many parties to exploit their potentials, enacting intensely competitive and open competition among fishermen.

At present, the number of small-scale fishermen of catches in Indonesia is 87.5% of the total (KKP, 2014). Thus, economic activity is still dominated by small scale fishermen who have low productivity due to traditional-based capacity of equipments and identified with poverty.

Poverty in the fishermen households consists of structural poverty that occurs because the social structures of fishermen tend to benefit large fishermen (capital owners); meanwhile, cultural poverty happens when cultural factors do not support natural progress and poverty is caused by natural conditions. One of some dominant factors causing structural poverty among fisherman households is institutional factor, e.g., marketing institution and production institute (Tain, 2011).

Institutional sourced from the fulfillment of basic needs that form the rules and norms in society will be the basis of the establishment of an institution and become the essence of the culture that is within it (Ratmoko, 2011).

With the conditions experienced by small-scale fishermen, their efforts to increase the income is to process the catch simply by using smoked fish method. Strengthening economic institutions built from local fishing communities is also indispensable and acts a solution to existing structural poverty.

One of the Government programs related to strengthening local economic institutions through the PNPM Mandiri or Self-Empowerment National Community Development Program in the form of Rural Business Development (PUMP) provides a number of productive economic funds to the group of fishermen / cultivators (KUB) and processors and marketers (Poklashar) as early establishment of fishery cooperatives (CTF, 2015).

There are four function of institutional are 1) creating a fair market, 2) preventing market failure by improving economies of scale and minimizing transaction costs, 3) maintaining macroeconomic stability (market stabilizing) and 4 ) provides market security (market legitimizing). (Arsyad, 2010).

From the introduction, the objectives of the research are to analyze the role and relationship of business institutions in an effort of increasing the income of small-scale fishermen.

## METHODS OF RESEARCH

The method used in this research is a case study research. According to Nazir (2003), case studies are investigating the status of research subjects with respect to the specific phases of the whole personality. The subject of the research can be individuals, groups, institutions and communities. The purpose of the case study is to provide a detailed overview of the background, traits and characteristic of the case or status of the individual for generalization.

Sampling method uses multi stage clusters method because the sampling frame is not available or too large so that it takes a long time and big cost in the preparation of study. The clusters method classifies the unit of analysis in the population into clusters, which are units from which the sample will be taken. The number of groups taken as the sample must be randomly selected. Sampling is performed through certain stages. Thus a population can be divided into first-level clusters, then from first-level cluster, the groups are then divided into second-order cluster and so on (Singarimbun, 1987).

In the first stage, districts that have a lot of small fishing fleet motor with engine power with at least 6 PK are selected. One of them is Trenggalek Regency, Indonesia, because the number of fishing fleet is quite large, amounting of 9656 people. The second stage is choosing the district with the condition of diversity among fishermen at the district level. In this case, Watulimo District is selected, with the largest number of fishermen of 6,897 people with 12 villages. The third stage is a selection of area that has the highest number of neighborhoods and the result goes down to Tasikmadu Village with 43 households. Furthermore, selected households meet the conditions of availability of necessary instruments e.g., outboard motor with 12 PK powered engine and fishing line).

From the survey, there are 8 respondents using fishing lines and producing smoked fish, meanwhile the fishing households with fishing rods that do not cultivate also sought 8 respondents. Thus, the total samples are 16 respondents. Data analysis method uses qualitative and quantitative approach. The qualitative approach is used to analyze the relationship between fisherman's association with the owners of capital (pengamba / middleman) and the daily business (borrowing in stalls, bank user and others) and identify the role of KUB / Poklashar in the increase of in small fisherman households' income. The quantitative approach is used to analyze those relationships by using chi square test. Chi-Square test is used to test the hypothesis about the comparison between the observed or actual frequency with the expected frequency. Chi-Square test is one of the non parametric statistical test and useful to test the relationship or influence of two nominal variables and measure the strength of the relationship between one variable with other nominal variables (C = Coefficient of contingency). Chi Square formula is:

$$X^2 = \frac{\sum(f_o - f_e)^2}{f_e} \quad (1)$$

Where:  $X^2$  = Chi – square value;  $f_o$  = Frequency data amount;  $f_e$  = Frequency that expected.

Hypothesis as follows:

- $H_0$  means no relationship between variables;
- $H_1$  means there is relationship between variables.

There are two ways to make a decision:

Comparing Chi-Square result with Chi-Square table:

- If Chi-Square calculates < Chi-Square table, then  $H_0$  is accepted;
- If Chi-Square calculates > Chi-Square table, then  $H_0$  is rejected.

Based on the probability:

- If the probability is  $\geq 0.05$ , then  $H_0$  is accepted;
  - If the probability is  $<0.05$ , then  $H_1$  is accepted.
- SPSS 16 is used to analyze statistical data with chi square.

## RESULTS AND DISCUSSION

Related to the financial resources, the fishermen commonly rely on personal fund, pengamba, KUB and cooperative institution. In the village of Tasikmadu, all fishermen have cooperation with pengamba / middlemen in the fishing operations business which is known as patron-client system. It is a partnership between two parties. In this study, the patron is pengamba / middleman while the client is a fishing pole. This system occurs because pengamba / middlemen control the marketing of fish in the research area so that fishermen do not know the actual selling price of fish other than that pengamba / middlemen also provide a capital loan because the fish catch is not erratic. The bigger the loan given by the pengamba / middlemen, the lower the "bargain" position of the fisherman. The simplest attachment is pengamba / middlemen that provides the cool box and ice blocks so that the fisherman sells the catch to the pengamba / middlemen while the stronger attachment is pengamba / middlemen also lends money, machine or ship to fishermen with reciprocity is the fishermen get the price of the catch is lower in accordance with the amount of loans provided. The following types of capital owners who give loans to respondents can be seen in Table 1 below.

Table 1 – Kind of Capital Owner that give Loan to Respondent

No	Kind of Capital Owner	Amount (person)	%
1	No loan	6	37,5
2	Pengamba'	2	12,5
3	KUB/Cooperation/Bank	4	25,0
4	Pengamba and Cooperation/KUB	4	25,0
	Jumlah	16	100,0

It can be seen in Table 1 that pengamba / middlemen 'is a non-formal capital institution that lends a big amount of fishing loans to fishermen using patron-client system but fishermen begin to reduce the attachment by borrowing to KUB, cooperatives or using their own capital collected from the proceeds save. This happens because the patron-client system is perceived as unfavorable to fishermen if they are too dependent on pengamba / middlemen.

The Government's efforts through the National Community Empowerment Program (PNPM) Mandiri since 2009 have succeeded in establishing the group of Fishermen (Kelompok Usaha Bersama - KUB) as well as the growing Group of Processors and Marketers (Poklashar). At the location, it grows to 56 KUB with 11 KUB small fishermen and 1 Fisheries Cooperative unit while the number of Poklashar as many as 10 Poklashar with 3 Poklashar for fogging business. Based on the result of chi square test, it can be seen that there is a significant correlation between business group (KUB / Poklashar) with household income of small fisherman and the amount of saving that can be seen in Tables 2-3.

Table 2 – Chi Square test of Respondance Household Income with Business Institution's

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.349 <sup>a</sup>	1	.012		
Continuity Correction <sup>b</sup>	4.063	1	.044		
Likelihood Ratio	6.904	1	.009		
Fisher's Exact Test				.041	.020
Linear-by-Linear Association	5.952	1	.015		
N of Valid Cases <sup>b</sup>	16				

a. 4 cells (100,0%) have expected count less than 5. The minimum expected count is 3,50.

b. Computed only for a 2x2 table

Based on the result of chi square test analysis in Table 2, the value of pearson chi-square is greater than chi square table ( $6,349 > 3,811$ ) with P value less than 5 percent ( $0,012 < 0,005$ ) so it can be concluded that  $H_0$  is rejected and  $H_1$  accepted which means there is a positive relationship between the participation of fisherman households into members of the business enterprise with the income of small fishermen households.

If the small fishermen join the business entity, the income will increase. Otherwise, if small fishermen do not participate in business entity, the income will be low. It occurs because one of the business entity's role in fishing business is to provide capital loans to the members so that the attachment of fishermen with pengamba ' / middlemen 'is reduced which resulted in the purchase price of fish from pengamba ' / middlemen higher while in the business of curing capital loans and location marketing in the tourism area increases the selling price of smoked fish.

Table 3 – Chi Square Test of Respondent Household Saving with Business Institution's

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.874 <sup>a</sup>	1	.048		
Continuity Correction <sup>b</sup>	2.133	1	.144		
Likelihood Ratio	4.020	1	.045		
Fisher's Exact Test				.126	.072
Linear-by-Linear Association	3.632	1	.057		
N of Valid Cases <sup>b</sup>	16				

a. 3 cells (75,0%) have expected count less than 5. The minimum expected count is 3,06.

b. Computed only for a 2x2 table

Based on the result of chi square test analysis in Table 3, pearson chi-square value is greater than chi square table ( $3,874 > 3,811$ ) with P value less than 5 percent ( $0,048 < 0,005$ ). So it can be concluded that  $H_0$  is rejected and  $H_1$  gives meaning of a positive relationship between the participation of fishermen households into members of the business entity with the amount of savings they have. So if the small fishermen join the business institutions then the amount of their savings relatively larger, otherwise small fishermen do not participate in the business then the amount of their savings relatively smaller. This is because fishermen's households that are members of business institutions often hold meetings at least once a month and hold *gotong royong* (joint service). In the meeting, the members are required to pay monthly dues, create voluntary savings, make savings and loan and apply as members to make saving as regular thing.

## CONCLUSION

KUB / Poklashar is a business institution established by fishermen based on the result of mutual agreement supported by the Government which aims to help members to be more independent in conducting business activities so as to increase their household income. The role of the business entity is: (1) to provide economic capital for the member (economic of scope); (2) to provide training in business activities related to product quality improvement and improvement of business management; (3) facilitate access to information and technology (technology transfer), (4) improve access to marketing (networking), (5) increase productivity and business efficiency that can be seen from the economical of scale and (6) increase bargaining power. The government has gradually provided evaluation with the main certificate granting for the business institution performing well to be encouraged to form a fishery cooperative that suits the needs and self-managed by the members. From the research result, one fishery cooperative has been successfully formed by Forum KUB small fisherman in karanggongso. Based on chi square test results obtained a positive relationship between being a member of a business institution with household income and the amount of household savings.

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DOI <https://doi.org/10.18551/rjoas.2018-12.39>

## **COMMUNAL CONFLICT: ANALYSIS OF ERVING GOFFMAN'S DRAMATURGY THROUGH A CASE STUDY**

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### **ABSTRACT**

This paper discusses the incident of communal conflict between people in Balinuraga and Agom Villages, Lampung Province from Goffman's Dramaturgy point of views. A case study and qualitative research method were used and data was collected through purposive sampling technique using: in-depth interview; observation; and documentation. Data was analyzed through qualitative approach with the process of data reduction, presentation, and conclusion. The location of research studies was in Agom and Balinuraga Villages, South Lampung Regency. This paper examines that the peak incidence of communal conflict between villagers resulting from lack of constructive handling conflict management in preventing and reducing conflict. This paper revealed that the incidence of conflict or intersection occurred due to lack of comprehensive handling efforts since there is the fact that the process of cessation of conflicts and acts of violence were perpetrated by military intervention. This paper, therefore, suggests that in dealing and handling conflict, it is necessary to absorb various aspirations of conflicting society, rather than top-down approach. In addition, indigenous institutions as a counterpart of local customs and forum for cultural preservation should have more roles in resolving conflicts so that the functioning of customary institutions is expected to safeguard, enhance, and preserve the culture of each party in conflict.

### **KEY WORDS**

Communal conflict, Goffman's dramaturgy, ethnicity, culture.

Indonesian society is a pluralistic society in terms of religion, ethnicity, norms and culture. This pluralistic situation potentially leads to conflicts several mechanisms of the interactions of people in the community such as parking areas ownership and management, agricultural land disputes and miscommunication in the community due to different communication styles (Wirawan, 2010). In addition, the conflict is often triggered by the economic jealousy and by the government's policy response which is, in some extent, not in line with the aspirations of the community, the feeling of disappointment related to issues of ethnicity and religiosity (Burhanudin, 1998). According to Susan (2010), conflicts can occur horizontally among communities, as well as vertically between communities and government apparatus. As a result, new problems appear such as poverty, unemployment, social rivalry on economic resources, violence vengeance and sexual harassment (Wirawan, 2010; Sihbudi, 2001; Faturachman and Nuraeni, 2006; Umar, 2011). Social conflict in the local context of Lampung is often driven by religious differences, new administrative arrangement of village area, and youth violence. All these are categorized as horizontal conflict. A study by Wirawan (2010) stated that horizontal conflict is common in Indonesia and one of the trigger is the competition in the seizure of women. In addition, common causes such as dancing party in music venue, parking area ownership and sexual harassmen are real in the community.

Previous research, for example Umar (2011), examines social conflict in the District of Johar Baru, Central Jakarta Indonesia in relation to the existence of youth gangs and the high rate of unemployment. A study by Yara (2002) has shown a communal conflict between residents of Palmeriem region and residents of Berland Matraman area, Matraman sub-district, in East Jakarta. In addition, Fanani (2001) examines conflict mitigation efforts conducted by Matraman Police. Fanani found that conflict management was ineffective and

there is no a significant impact on the settlement of the conflict among residents of Matraman. Thus, based on previous studies on social conflicts, the causes of social conflict result from the dynamics of socio-economic change, economic competition and unemployment, violence and in-effective of institutions in dealing with conflicts.

Social conflict in the community often occurs in Indonesia, for example, in the case of Jayapura where the economic and political factors related to poverty, backwardness and alienation of life have been increasingly dominated by groups of immigrants such as Javanese and South Sulawesi. However, the case of Mataram occurred between indigenous people and Chinese descent driven by economic factors. Another case is the riots in Medan because of the tension between the followers of religion, motivated by the establishment of houses of worship, practice of religious ceremonies, and the broadcasting of religion (Burhanudin, 1999). In relation to the number of conflicts among people in the community, there were big incident of conflict in Lampung after 2008, namely: a. Conflict between villagers of Bali Agung Palas District with residents of Palas Pasemah village in December 2009; b. Conflict between Sidomakmur residents of Way Panji District with residents of Dusun Sukajaya Margocatur Village Kalianda in November 2011; c. Conflict between people of Napal Hamlet and the villagers of Kotadalam in January 2012; d. Conflicts between villagers Agom with Balinuraga villagers in South Lampung regency, in October 2012. Although those conflicts were in different locations, they are still in the same Regency. Military approach is still maintained in dealing with those conflicts, while cultural and mediation approaches as a form of communication for conflicting parties are often ignored (Hendrajaya, et al., 2010)

In dealing with conflicts in order to achieve better policy and defense strategy, there are several ways of strategy: a. maintaining peace in society; b. developing a peaceful dispute resolution system; c. tampers of potential conflict. Whereas in Law Number. 7 of 2012 on Handling of Social Conflict, in Part Four and Article 9 emphasizes, that the Central and Local Governments are obliged to reduce the potential for conflict in the community, by intensifying dialogue between groups of people. This is in line with Fisher's (2001) which states that dialogue is essential way for handling conflicts. Thus, this research was conducted through looking at some previous research gap and facts in the field of conflict resolution and ended up with finding several research gaps. They are: a) constructive conflict management is still weak in handling, preventing and reducing conflict, b) conflict incidents occurring in the area occurred due to lack of comprehensive handling efforts. Therefore, this research aims to understand: a) how to manage weak constructive conflict in handling, preventing and reducing conflict; b) what is the highest incidence of conflicts occurring in the location area due to lack of comprehensive handling efforts.

## **METHODS OF RESEARCH**

This research was conducted using qualitative approach and case study. A case study is a thorough investigation of a program, event, activity, process or group of individuals (Creswell, 2014). Data was collected through purposive sampling technique with informants who understand and get involved in conflict and/or who have information related to conflict among people in the community. They are informal leaders from two conflicting villages, youth leaders, and representatives of conflicting parties who have structural positions in the community, such as Village Heads, or Village Devices (Carik or the Chief of Hamlet and Officers). Data was obtained from: a) in-depth interview, b) observation, c) documentation study. Data was processed and analyzed through the process of reduction and interpretations. Transcription and categorization of data were conducted through reduction and interpretation in relation to the research objectives. In connection with the process of qualitative data analysis, Miles and Huberman (1994) explain that data analysis can be done by data reduction (data sorting process), display (data presentation), verify (drawing conclusion). The location of this research is in the area of conflict between villagers in Agom village and Balinuraga Village in South Lampung Regency.

## RESULTS AND DISCUSSION

According to Fisher conflict stage, the biggest or the peak of incident of the conflict is known as the crisis phase, where violent tensions arise leading to large-scale of conflicts such as wars, wounded and killed from both conflicting sides. In addition, bad communication among conflicting parties leads to a high tension of conflict. In relation to a high tension of conflict, the attitude, behavior and situation of the conflict of the Balinuraga villagers, originally were tempted by two girls of Agom Village, when they got accident from motor cycle. They were helped by a group of young people, but they were rumored to be sexually abused and the young people did not want to be responsible from their actions. The negotiation and dialogue did not work resulting the first attack and riot. The behavior of parties involved in the conflict tends to strained relationship, emphasizing the selfishness of attackers and who were attacked in the conflict. For people who were participated in the conflict, they devoted their sense of empathy, contributed to temporary emotions and they had a sense of *Sebatin* as members of the community of South Lampung. Some people they were confused where they did not understand the situation and what they did was only to protect their village.

In the beginning of the Balinuraga conflict, a teenage girl parent visited Balinuraga village to call for responsibility of young people's families. However, villagers of Balinuraga have been ready with weaponry, such as air rifles and sharpened weapons to protect and attack villagers of Agom. As a result, two people from Agom Village were injured and one motorcycle unit was burned. On Sunday evening of October 27 in 2012, the attackers were also carried out by a group of people from the village of Agom. They gathered at Pasar Patok Sidorejo and spread out to the settlements in Bali Balinuraga Village, Way Panji Subdistrict, and they destroyed and burned five houses. A stall of agricultural medicines and a grocery store were caught fire and seven houses were damaged by stones. The next day, some villagers of Agom with the help of surrounding villagers went back to Balinuraga village, where they killed 3 people using firearms and sharpened weapons and seven people were injured and were hospitalized, based on the explanation of the government officers in Kalianda. Since there was only few of a casualty, Agom people finally retreated and returned to his village. For a while, the fighting and riot were stopped with consideration of the weakness of strategy. On Sunday night, messages through mobile phone were distributed through communication networks.

The messages are:

"Best regards to our people "Buay Raden Intan and Raden Imbo". Your families in Kalianda are attacked; we have no power and there are 9 people killed, so please help us immediately. Spread these messages to others. Thanks to *Sai Bumi Ruwai Jurai*. Lampung Unite".

Further, each village spread out the messages through mosques and people prepared weapons for assault Balinuraga villagers. The night situation was very gripping; the villagers of Agom were maintaining various types of weapons for attacking Balinuraga on the next day. One of villagers from Agom Village said:

"Various kinds of weapons were prepared for use as needed to find out Balinuraga people. We were carrying short and long swords, machetes, spears, fish bombs, Molotov bombs, and bamboo spears".

Furthermore, to know the existence of magic elements occurred in conflict, people brought salt, moringa and short swords. People also brought with them young coconut leaves (*Janur*), putting on their necks to keep them safe from magic. *Janur* or coconut leaves are a sense of immunity for people if they put them on their necks. The most commonly used for their weapons were bamboo spikes. People believe that magic can be stopped if people use natural weapons such as from bamboo when they are fighting". In relation to preparation for the attack from the Agom villagers' side, there were various weapons to know weaknesses of Balinuraga Village residents, such as using salt, *Kelor* leaf and short swords (*Keris*). The tools and materials used on the weapons can only be encountered during conflict and believe in existence the power of the magic element. Similarly, using those

weapons, people from Agom Villagers can break the immaterial or supernatural of village border in the Balinuraga village which has been unknowingly installed by the leader of the tribe, so that the outsiders (Agom villagers) can pass through and enter Balinuraga Village safely, as expressed by an informant below:

"We use a variety of weapons to find out Balinuraga residents. Based on the tools used can see the element of magic that occurs during conflicts. We brought salt, *Kelor* leaves and *Keris*".

People from outside Lampung were given *Janur* on their necks for safety reason from magic attack. The use of leaf was for the sake of a meaningful safety as an antidote to the power of magic containing a sense of immunity for the wearers of *Janur*. Next as a sign / symbol indicating the user is a group of Agom villagers who must be protected during the conflict.

Conflict between Balinuraga residents involved residents from various areas inside and outside South Lampung regency. They were equipped with various weapons to fight and infiltrate Balinuraga Village. On Monday morning around 10.00 am local residents from several villages around Agom Village and even from outside South Lampung District visited Agom Village, Kalianda District, South Lampung using motor cycles and cars and they gathered in Agom Village field before attacking Balinuraga Village. Considering their strategy of previous attacks, at the peak of the attack on Monday, 29 October 2012, Agom residents about 20,000 people in total at 08.00 am gathered to attack the Balinuraga villagers. One of informant said:

"People from various elements helped the residents of Lampung Agom in conflict. The dynamics of conflict movement among people was because not only people of Lampung Agom who have unresolved problems with Balinuraga residents, but also many other citizens in this South Lampung who also had been a victim of the act of Balinuraga people. With the movement begun by the residents of Lampung Agom, many of the other residents who participated blended in their vengeful feelings. But it is unfortunate when the citizens who participated in the conflict actually had other intentions, such as loot valuable goods and also damaged existing public facilities; there were possibility of people to benefit their selves".

Violence as discussed by Englander (2009) means the hostile aggression assault and aggression of violence mobilized to injure, to torture or annihilate opponents. The tendency of hostile aggression occurs when conflicting groups have entered the phase of mutual revenge. Unlike the case of Balinuraga residents, the Agom villagers and supporters were driven by *Sebatin* as citizens of the community of South Lampung. Moreover, people from Agom village gathered in front of the Kalianda Mosque, Jati Indah at the intersection of Lubuk Village and the crossing of Agom Village on Provincial Motor Way of Sumatra were blockaded by the police using police trucks along with hundreds police personnel. However, people could enter the blockade about 20 thousands people carrying various weapons ranging from swords, *Keris*, spears, machetes, fish bombs, Molotov bombs, bamboo weapons at 10.00 pm. After arriving in the battle field and waiting for attack, thousands of people simultaneously said religious world "Allah Akbar".

"Chronologically, around 12:15 pm after praying, Agom villagers and people outside the village moved to Balinuraga Village with a distance of about 10 km. Their vehicles were parked at Patok Market of Way Panji Subdistrict, and continued walking across Sidorejo Village and Sidoreno Village, Way Panji District. They arrived at the border of Sidoreno Village with Balinuraga Village around 13.30 pm, as described by Sidoreno Village Youth Leader, that "Saturday night began an attack on Balinuraga Village, in the morning and again in the afternoon the attack was carried out. Monday afternoon there was a massive assault taking place. Conflicts between villagers of Agom and Balinuraga villages caused Sidoreno Village only as victims. Because in our village there are also Balinese people although Sidoreno Village was not involved in the problem".

Arriving at the gate of Balinuraga, they were confronted by a police blockade using a barracuda car with teargas fires. Thousands of police, Marines, and Army could not stop the massive and violent mass. Barbed wire as a barrier and car apparatus was overturned due to their ferocity. Police just stayed in the place to see the mobs already besieging the village of

Balinuraga from three different corners of the village. At around 4pm, finally the mass went back home while returning to recite Takbir “Allahu Akbar” constantly. In no less than two hours, situation at Balinuraga Village was ravaged where Balinuraga houses were burned with black smoke soaring to the sky. See table 1 for details of chronology of Balinuraga conflict from 27 to 29 October 2012.

It seems that the conflict can be described on how great their sense of empathy, a sense of togetherness and sense *Sebatin* as fellow citizens of the South Lampung community. The conflict is an outburst of angry emotion for the people of Agom village against Balinuraga villagers resulting the piling up of the resentment of South Lampung residents to the attitude and behavior of Balinuraga villagers and residents of Bali in South Lampung. Based on data, it can be described that there are of conflict clashes on the first attack, second attack, and to the crisis stage, which is similar to the symbolic theory of dramaturgy from Goffman. When heading to Balinuraga Village, it is like a front stage, where it is accompanied by a personal front with verbal language and body language from the attackers of Agom villagers and their mass supporters through reciting Islamic words “Allahu Akbar”.

Table 1 – Chronological Details of Conflict

No	Date	Time	Description
1.	Saturday, 27 October 2012	17.30 - 18.00	Two teenage girls from Agom Village returned from the Patok Village Sidoharjo Market, were tempted by Balinuraga Village youths to fall from the motorbike. Victims were helped; there was a gossip of sexual harassment. Victims were taken home by residents to their parents and at night they were brought to the hospital.
2.	Saturday, 27 October 2012	At night	A group of residents and the head of Agom village represented the victim's parents visiting KAD Balinuraga to ask for accountability for the incident. However, there was no failure in the compensation agreement in the non-communicative dialogue; then they were reported to the police and customary leaders of South Lampung.
3.	Saturday 27 October 2012	At night	People searched the abusers but they received resistance from hundreds of Balinuraga Villagers who were ready to fight with complete weapons to block and attack the villagers of Agom. As a result, two villagers of Agom were injured and a motorcycle was burned.
4.	Saturday 27 October 2012	At night (small attack)	A group of Agom villagers gathered at the Patok Sidorejo Market and attacked the Balinese settlements on the border of Balinuraga Village, and destroyed 5 houses.
5.	Saturday 27 October 2012	At 22.30	People from the Way Panji District were assisted by around 1 group of Police Officers from Sidomulyo police and South Lampung District Police tried to prevent it.
6.	28 October 2012	Sunday morning (small attack)	Other villagers from Agom Village came to Balinuraga Village so that clash broke out and resulted three residents of Agom Village being knocked down by rifle bullets.
7.	28 October 2012	Sunday afternoon at 13.00 (Second attack)	Attack on Balinuraga villagers, they were greeted with short-barreled firearms, resulting one person being shot dead on the head and two people affected by gunshot wounds in the legs.
8.	28 October 2012	Sunday night	Distribution of messages via mobile phone to send information that Balinuraga Villagers have killed Lampung Agom people.
9.	28 October 2012	Sunday night	Preparing of weapons to attack such as swords, Keris, machetes, spears (iron bars and pointed bamboo), bombs (fish/ molotov and igniter / matches), knives, salt and Moringa leaves. The most widely used weapon is pointed bamboo, which has purpose to be immune to the power of magic.
10.	Monday 29 October 2012	09.00 am	Residents of Lampung, Agom Village, who received supports with a mass power of around 20,000 people from various regions in Lampung. They gathered at the Agom Village soccer field.
11.	Monday 29 October 2012	08.00 am	At the intersection of Lubuk Village and Agom Village the Sumatra Cross Road was blocked by the police using trucks along with hundreds of police personnel.
12.	Monday 29 October 2012	14.00 - 16.30 The Peak of Conflict	Plans for an attack were carried out at 10:00 a.m., but at the consideration of the Customary Leaders of the <i>Raden Imba</i> and <i>Lima Marga</i> , South Lampung, the attack was carried out during the day when the attacker was not finished. The attacker had to leave Balinuraga Village.

In the conflict area, people constantly recited Allahu Akbar, going and back in attacking, speaking rude when meeting enemies, fierce facial expressions and emotionally and blindly attacks accompanied by attributes of everyday simple clothes, while setting personal fronts by carrying sharp weapons that have been prepared. Referring to Goffman, attackers are like a show, but the impression of perpetrators of the show may vary. They act to attack something that is shown, which is different from everyday behavior. Furthermore, using Triangle of Conflict analysis from Galtung, there are several aggressive

attitudes such as a perception about the attitude of Balinuraga villagers who seduced the girls of Agom village falling from motorcycles, be sexually rumored, and the process of dialogue was deadlock and perpetrators of sacrifices were hidden. Moreover, the situation was getting dangerous, where there was aggressive attitude through spreading news and the perception triggered by short messages (SMS), saying that Balinuraga villagers have killed the villagers of Agom. These caused massive mass movements to come from various regions inside and outside South Lampung area as a form of aggression behave (P) in attacking Balinuraga villagers.

Attitudinal behavior put forward individual selfishness in the attack, while the opponents of Balinuraga villagers behaved in order to survive in the attack. Aggressive attitude (S) and accompanied by behavior aggression (P) as the first and second attack behavior by Agom villagers who lost in strategy. The escalation of conflicts was increasing, with aggression behavior at the peak of the conflict (P) formed by perceptions of the Agom villagers and their mass supporters (participation in conflict with empathy, instant emotion and mutual ownership of fellow South Lampung community members) Balinuraga villagers are manifested into a real action. A situation of contradictions (K) the emergence of situations of conflict between Balinuraga residents involving attitude (S) and behavior (P) elements along with the elements of perception and concrete actions of each party living in the area of South Lampung Regency. Moreover, behind the stage (back stage), there was a direction or as an attack tactics or conflict tactics based on the recommendation of the Customary Characters of the White Blood Unity led by Raden Imba and Lima Marga of South Lampung, that the attack time was conducted at 23 to 4.30 pm. Here, the authors place the Dramaturgy Erving Goffman analysis centered on the attitude (S) and behavior (P) of the Triangle conflict theory of Galtung.

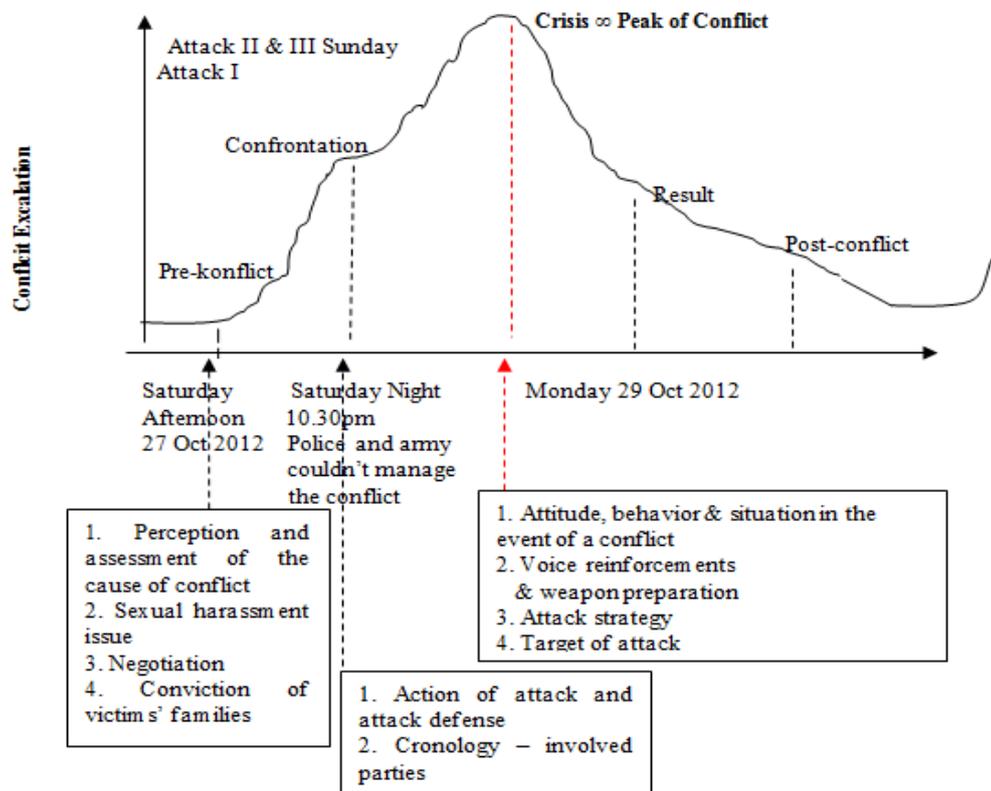


Figure 1 – Balinuraga Conflict

Apparently, what the Agom villagers did and the supporters attacked with violence, are in tune with Suseno (2000) in the introduction of the book *Against Violence without Violence*, where the culture of violence is a reality in the life of the Indonesian nation. Similarly, in this

conflict there was a mass killing or fights between the Balinuraga villagers with the villagers of Agom. The mass support in the assault is also in line with the opinion of Selo Soemardjan (1999), stating that riots refer to collective action are spontaneous, disorganized and usually accompanied by acts of violence, either to destroy, loot goods, or attacking others as opposed to them. In the Balinuraga conflict, there were also the destruction and burning of schools, pretending to be a public facility. This is in accordance with the opinion of Galtung (1969), in which conflicts are accompanied by direct violence, destructions, such as physical infrastructure, schools and the act of killing or injuring the victims.

As for emerging other motives besides burning, destroying houses, looting is the act of certain parties who are not responsible and do not understand the root of conflict which is detrimental to the people of Agom village which can be impressed unfavorably from the perspective of outsiders who did not know the problem of conflict. Balinuraga villagers did not have time to run away and have a store to hand over their valuable possessions as ransom in order not to be killed. Apparently, there were certain parties as supporters to take advantage of the incident of the conflict as a chance to plunder valuable property belonging to Balinuraga Village residents. It is recognized by a person of the Agom village that attacking the villagers Balinuraga has a lot of is not because there are other motives. His main intention was to combat the idols in Balinuraga Village. There are outside parties who were plundering out of power and control, because supporters attacked aggressively. So in fact the main intention in Balinuraga attack is just to give lessons for Balinuraga Village people, while other motives are power and capability. In the Balinuraga conflict, this paper looked at the chronology of the conflict, where inter-ethnic conflicts indicate the escalation of conflict to the height of the conflict. However, there is no explicit clarity of the time of interval or phase of the conflict from one stage to another stage to the height of the conflict. Therefore, this paper aims to clarify by describing the chronology of the Fisher conflict to analyze the incidence of conflict among villagers in rural areas of agricultural areas of South Lampung Regency described as continuing in the form of linear curves whereas in the chronology of the conflicts of Fisher described these stages, it may be repeated in the same cycle in the form of a spiral, see Figure 1.

## CONCLUSION

The peak incidence of conflict between villagers of Agom and Balinuraga of South Lampung Regency occurred due to several reasons: a) there is still weak of constructive handling management on conflict; b) there is lack of comprehensive handling efforts in the day of conflict. The fact is that the process of cessation of conflicts and acts of violence are still perpetrated by military intervention. Some suggestions for the development and study of communal conflict are as follows: 1) local governments in dealing with conflicts should be thoroughly resolved by absorbing the various aspirations of conflicting communities, rather than being top-down approach; 2) customary institutions as a counterpart of local customs and forum for cultural preservation should have more role in resolving conflicts. Functioning of customary institutions is expected to be safeguard, to enhance and preserve the culture of each party in conflict.

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DOI <https://doi.org/10.18551/rjoas.2018-12.40>

## RELIGIOSITY AND FASHION BEHAVIOR AMONG INDONESIAN MUSLIM WOMEN

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### ABSTRACT

Religiosity affects individuals in taking decisions and behaving. The decisions taken are related to purchase of Muslim fashion products. Individuals will feel convinced to purchase fashion products if they are involved in the search of fashion products. The study aimed to investigate whether religiosity and fashion involvement had effect on fashion knowledge and Muslim fashion product customer satisfaction. Data collection was done using questionnaires on 243 female customers in Indonesia. The data were analyzed using WarpLS 5.0. Religiosity and fashion involvement had effect on customer satisfaction without having to go through fashion knowledge. The implication of the study was to give guidance for Muslim fashion product stores to pay attention to elements related to religiosity and to improve the attractiveness of the products and stores to create customer satisfaction.

### KEY WORDS

Religiosity, fashion involvement, fashion knowledge, customer satisfaction, Indonesia.

Islam has become an issue in business trade because the sustainability of business without paying attention to Islam market will be threatened (Morphitou and Gibbs, 2004). The aim of Islam market is in line with sharia goals where humans are the messengers of Allah so their behaviors are controlled according to the will of Allah (Khan, 1991; Haneef, 1997; Hassan and Lewis, 2007). Therefore, according to Sandikci (2011), Muslim market segment is a potential to attract marketers in Islam marketing concept. The characteristics of Muslim customer depend on religious values and the characteristics of purchase depend on their religious belief (Alserhan, 2010). Regional marketers who try to enlarge their business to Muslim market overall are understanding about the basis of customer needs (Hanzaee and Chitsaz, 2011). One of customer needs is obeying their religion that is a part of the culture. However, religion is not like other cultural dimensions, religion tends to be stable and static (Farrag and Hassan, 2015). As marketers, guarantee that the tendency of religion to be static can be controlled (Fam et al., 2004). Muslim products have opportunities to control the tendency because they involve religion as the reference.

Religiosity is a part of religion as someone's faith to God and obeying the religion (McDaniel and Burnettm 1990, Weaver and Agle, 2002). Religiosity plays a great role in purchase approach, opinion on price, and product quality (Reitsma, Scheepers, & Grotenhuis, 2006; Yousaf & Malik, 2012; Rehman & Shabbir, 2010; Khraim, 2010). Among Muslim customers, religiosity is one of the factors affecting the attitude towards innovation (Rehman & Shabbir, 2010; Azam A. Qiang, Abdullah, & Abbas, 2011; Ansari, 2014). Religion is considered an important factor to test customer behavior (Al-Hyari, Alnsour, Al-Weshah, & Haffar, 2012; Bachleda, Hamelin, & Benachour, 2014; Essoo & Dibb, 2004; Alhaija et al., 2018), and give important guidance to understand attitude and behavior (Minton, Kahle, & Kim, 2015).

Humans highly depend on fashion, so the existence of fashion is crucial (Woodward, 2007). The needs to give respond to fashion can be seen when someone needs any fashion elements that can highlight his/her self-esteem (Ahmad, Iqbal, Jjaved, 2014). Fashion that always changes will be useful for studies on customer behavior (Eicher and Roach-Higgins, 1992). Fashion determines someone's self-esteem so manufacturers have to be creative to satisfy the needs, one of them is fashion products for Muslim women. According to Gooch (2011), fashion for Muslim women is outfit that covers from head to ankle. In meeting Islamic fashion, it is not only to cover the aurat, but also to meet the principles of closed dress.

Therefore, in taking decision of selection of Muslim fashion products, customers need to be involved more deeply in finding information of Muslim fashion products. According to Mowen and Minnor (2002), customers have different involvement in deciding purchase that depends on individual, purchase objects, time, and place of purchase. Fashion involvement is related to individual behavior related to their fashion style including knowledge, awareness, interest, and reaction on selecting their clothes (O’Cass, 2004).

High involvement will cause customer interest to keep looking for information. Products with high involvement will have great value felt by customers. Fashion knowledge is developed when customers combine separate concepts of fashion (O’Cass, 2004). Subjective knowledge level of customers about products (familiarity, experience, and skills) is affected by involvement level in clothes. Measuring product knowledge by how many customers really know the products and how many customers think or feel that they know the products.

Customer satisfaction will occur if the products purchased are in accordance with their expectation. Kotler (2003) states that the concept of customer satisfaction is abstract and the real satisfaction expression. Satisfaction levels differ depending on how customers compare products and services of the company. High or low level of religiosity will determine how low or high the level of involvement is in finding fashion products therefore customer satisfaction is made to determine whether there is satisfaction on fashion products selected based on the brands and products.

Indonesia becomes quite potential Muslim fashion market showed by the increase of export of this business. The business produces foreign currency with export value of USD 8.2 billion since July 2018 or increasing for 8.7% annually. Based on the data from Statistics Indonesia, fashion sector is one of the main contributors to Gross Domestic Products (GDP) of creative economy in 2016 for 18.01% or equal to IDR 166 trillion ([www.katadata.co.id](http://www.katadata.co.id)). The phenomenon gives positive value for Muslim fashion businessmen in Indonesia. However, the fact becomes a challenge to produce Muslim fashion that is not contradictory to Islamic rules. Female customers generally want to always look beautiful and fashionable in dress so the need can be captured by marketers. Marketers want to satisfy the need, but also take religiosity values in developing the business.

## LITERATURE REVIEW

*Fashion Behavior.* Sproles (1974) states that the phenomenon of dress behavior has become an interesting topic for social analysts, cultural historians, moral critics, businessmen, and academicians. From the perspective of academicians, King et al. (1979) argues that customers are the agent of fashion change because they monitor fashion development so that their dress style keeps up to date in accordance with fashion trend. Customer behavior on fashion has affected some aspects of fashion industry such as design, production, merchandising, and promotion, where the aspects affect retail industry. In fashion industry, the only constant thing is fashion change, it means that fashion trend always develops and never stops. It also applies to Muslim fashion that always follows the development.

*Religiosity.* Religiosity is crucial in human life. The realization of religiosity is when someone worships or performs other activities supported by supernatural force. Religion requires everyone to follow certain life style and affects their beliefs and values including dress habit. Religiosity is defined as how far someone is committed to the religion and recognizes the teachings such as attitudes and behaviors that are the reflection of the commitment (Johnson et al., 2001). The level of religiosity becomes the main determiner of attitude and behavior of Muslim customers (Souiden & Rani, 2015).

According to Maclean, Walker, and Matsuba (2004), transmission of religious values and how religion forms a part of self-identity. Tan and Vogel (2008) state that religiosity is how far someone takes beliefs, experiences, and religious rituals.

*Fashion Involvement.* Involvement has played important role in literatures about marketing. Fashion involvement affects customer emotion when shopping (Parket et al.,

2006) and positively affects impulsive purchase. Fashion involvement can increase tendency for impulsive purchase of products oriented to fashion (Han et al., 1991; Park et al., 2006).

According to Engel et al. (2005), fashion involvement is defined as “customer interest in fashion or personal relevance perceived”. Customer involvement in products depends on the capacity of the products in satisfying customer expectation and trust (Zaichkowsky, 1985). According to O’Cass (2000), the more costumers get involved in fashion, the more they get involved in purchasing fashion.

*Fashion Knowledge.* Fashion knowledge is a form of knowledge with 4 interrelated things, namely fashion on media that affects customer preference for certain style. Secondly, fashion in local community where fashion ideas spread by personal interactions related to social status. Thirdly, fashion is expressed in clothes through design quality and makes clothes have social meaning. However, the meaning delivered is not stable and can change in accordance with fashion trend. Fourthly, fashion is expressed by companies through brands.

O’Cass (2004) states that knowledge is product familiarity or prior knowledge about object or stimulus. In context of fashion, product knowledge is considered as familiarity with product class brand and product use attribute, usage frequency, and experience with fashion (Raju and Reilly, 1979; Johnson and Russo, 1984).

*Customer Satisfaction.* According to Kotler (2000), customer satisfaction level is assessed by comparing product/service perception in connection with customer expectation. Customer satisfaction is defined as overall attitude on service providers or emotional reaction on difference between what the customers expect and what they receive. Oliver (1997) defines satisfaction/dissatisfaction as “the response to customer satisfaction, to which extent the fulfillment is pleasing or not”. It involves “evaluative, affective, or emotional response”.

**METHODS OF RESEARCH**

*Research Model.* Muslim fashion retailers want to know how religiosity and fashion involvement can cause fashion knowledge and eventually results in customer satisfaction. Prior studies were done by Johana and Putit (2015), Bhaduri et al., (2016), Eid and El-Gohary (2015), Afonso (2009), Bianchi (2015), Islam (2011).

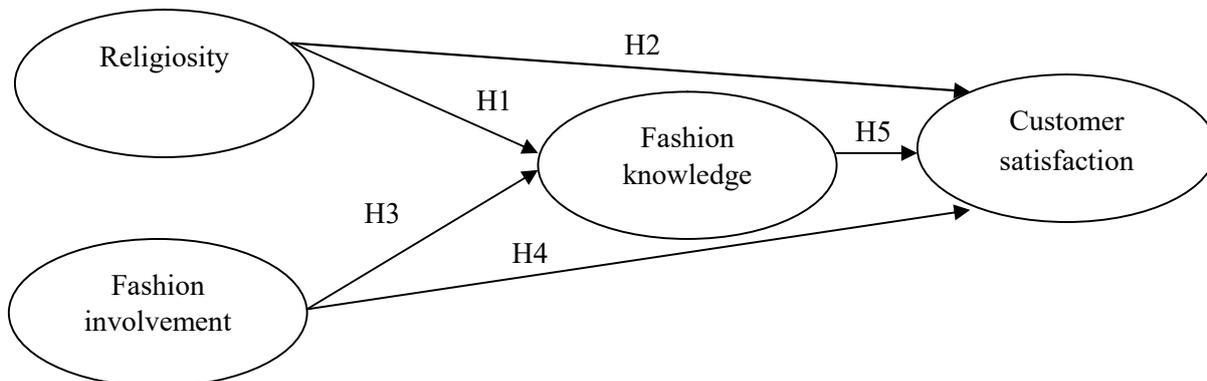


Figure 1 – Hypothesis Model

*Correlation between religiosity and fashion knowledge.* Wilson (2011), mostly the behavior of Muslim customers is a part of culture that requires marketers to understand Islam through various lenses of Muslim customers. The condition will direct to more specific customer classification to facilitate product knowledge. Empirical study regarding the correlation is shown by Johana and Putit (2015) that investigated the effect of knowledge on religiosity Islamic credit card compliance. The result shows that knowledge and religiosity had significant effect on Islamic credit card compliance. Muslims will realize prohibition from consuming a product or service when they are faced by their religious commitment, so they need to know products certainly. Based on the theory, the first hypothesis of the study was:

H1: Religiosity has effect on fashion knowledge.

*The correlation between religiosity and customer satisfaction.* Global markets attempts to understand religious principles because they are the source of decision making (Khraim, 2010; Layton et al., 2011). Different levels of religious compliance of individuals result in different behaviors in choosing at market and obligation to brands (Rindfleisch et al., 2005; Khraim, 2010). Religious people surely follow their religious principles such as worship regularity, strong commitment, and on the contrary if the principles are weak, they will behave freely (Mokhlis and Spartks, 2007). Therefore, the stronger someone holds his/her religious principles, he/she will behave in accordance with the commitment. If they behave in accordance with the commitment, it will result in individual satisfaction. Based on the theory, the first hypothesis of the study was:

H2: Religiosity has effect on customer satisfaction.

*Correlation between fashion involvement and fashion knowledge.* Those who have high experience with interest in product categories that direct to high product knowledge (O' Cass, 2004). Costumers highly involved make their time to find information because they evaluate various sources (Assael, 1998). The result of study by Bhaduri and Stanforth (2016) on American women regarding fashion involvement and fashion knowledge is that fashion involvement positively affected knowledge of fashion. Based on the theory, the first hypothesis of the study was:

H3: Fashion involvement has effect on fashion knowledge.

*Correlation between fashion involvement and customer satisfaction.* Customer involvement affects the level of customer satisfaction, it is caused by the effect of customer evaluation before using a product and after using the product (Shaffer and Sherrel, 1997). Someone with high involvement will evaluate products and have expectation to the products that aim to right purchase decision (Bolfing and Woodruff, 1988; Oliver and Bearden, 1983 in Shaffer and Sherrell, 1997). Based on the theory, the first hypothesis of the study was:

H4: Fashion involvement has effect on customer satisfaction.

*Correlation between fashion knowledge and customer satisfaction.* Kotler (2000) argues that satisfaction refers to happy or disappointed feelings of someone due to a product's performance in connection with his/her expectation. A study by Islam et al. (2011) regarding the effect of knowledge on satisfaction at mode house and brand shop has a result that knowledge has significant positive correlation with customer satisfaction. By relying on customer knowledge, customers will be satisfied by a product based on the result of his/her knowledge. Based on the theory, the first hypothesis of the study was:

H5: Fashion knowledge has effect on customer satisfaction.

## METHODS OF RESEARCH

*Survey Instrument.* The study consists of 4 variables, namely religiosity, fashion involvement, fashion knowledge, and customer satisfaction. The number of overall items to measure exogenous and endogenous variables is 25 items. Religiosity consists of 11 items, fashion involvement consists of 6 items. Fashion knowledge and customer satisfaction respectively consist of 4 items. The study used 5-point Likert scale from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Demography description of the study includes age, status, job, and spending for fashion.

*Sample.* Population of the study was female customers who had bought Muslim fashion products at Muslim fashion stores in Yogyakarta and Semarang, Indonesia. Sampling technique used purposive sampling. Sample characteristics used were (1) Muslim fashion store visitors who had bought the products twice within the last 6 months; (2) minimum age of 18 years old; (3) buyers and users of Muslim fashion products; (4) active in attending religious events or becoming a religious member.

*Data analysis.* To analyze the data of the study used WarpLS 5.0 to test the effect of religiosity and fashion involvement on fashion knowledge and customer satisfaction. According to Hair, Ringle, and Sarstedt (2011), PLS was based on prediction of endogenous latent variables. PLS offered acceptable results for measurement model. The data used in

PLS SEM did not need to meet the requirements of data normality assumption; therefore PLS-SEM gave allowance to non-normally distributed data.

## RESULTS OF STUDY

*Respondent profile.* The age of respondents in the study was mostly 21 years old (24%), the status of respondents was mostly single (48.9%), the job of respondents was mostly students (67%), the highest level of education was mostly senior high school (56.8%), the spending for fashion was mostly IDR 500,000 (18.9%).

*Construct validity, dimensionality, and reliability.* Based on the analysis, loading factor of overall indicators used to measure 4 variables (Religiosity, Fashion Involvement, Fashion Knowledge, and Customer Satisfaction)  $< 0.60$  so it could be said as reliable. According to Nunally (1996) in Imam Ghozali (2001), a list of questions can be said as reliable if they have Cronbach Alpha  $> 0.6$ .

The Cronbach Alpha value obtained from the study ranged from 0.726 to 0.911. The Cronbach Alpha value in the study used value of 0.6 with assumption that the questionnaire instrument tested was said as reliable when the Cronbach Alpha value  $\geq 0.6$  (Nunally (1996) in Imam Ghozali (2001)). In addition, the average variance extracted (AVE) from the four constructs ranged from 0.509 to 0.860, which significantly exceeded the acceptable minimum value of 0.5 (Fornell and Larcker, 1981). According to Fornell and Larcker (1981), if AVE is less than 0.5 but has composite reliability more than 0.6, it will still meet the validity requirement. The value is shown in Table 1. It can be concluded that the instrument of the study was valid and reliable.

*Model Analysis.* The first model was presented directly from religiosity on fashion knowledge, religiosity on customer satisfaction, fashion involvement on fashion knowledge, fashion involvement on customer satisfaction, fashion knowledge on customer satisfaction. The first stage was testing the model whether it was developed accordingly or not by observing the fit model. The following is the result: Average path coefficient (APC)=0.268,  $P < 0.001$ , Average R-squared (ARS)=0.367,  $P < 0.001$ , Average adjusted R-squared (AARS)=0.360,  $P < 0.001$ , Average block VIF (AVIF)=1.436, acceptable if  $\leq 5$ , ideally  $\leq 3.3$ , Average full collinearity VIF (AFVIF)=1.691, acceptable if  $\leq 5$ , ideally  $\leq 3.3$ , Tenenhaus GoF (GoF)=0.459, small  $\geq 0.1$ , medium  $\geq 0.25$ , large  $\geq 0.36$ , Sympson's paradox ratio (SPR)=1.000, acceptable if  $\geq 0.7$ , ideally = 1, R-squared contribution ratio (RSCR)=1.000, acceptable if  $\geq 0.9$ , ideally = 1, Statistical suppression ratio (SSR)=1.000, acceptable if  $\geq 0.7$ , Nonlinear bivariate causality direction ratio (NLBCDR)=1.000, acceptable if  $\geq 0.7$ . Based on the criteria mentioned, the model of the study met the requirements of fitness.

Table 1 – Cronbach Alpha's Value, CR, and AVE

Variable	$\alpha$ coefficients	CR	AVE
Religiosity	0.911	0.925	0.531
Fashion Involvement	0.862	0.898	0.598
Fashion Knowledge	0.726	0.831	0.860
Customer Satisfaction	0.782	0.860	0.561

Notes:  $\alpha$ = Cronbach Alpha's; CR= composite reliability; AVE=Average Variance Extracted.

Table 2 shows the coefficient path of each track. After data analysis was done, the result indicating whether the hypotheses were accepted or rejected was found. H1 stating that religiosity had effect on fashion knowledge was rejected ( $\alpha=0.090$ ;  $p=0.08$ ), H2 stating that religiosity had effect on customer satisfaction was accepted ( $\alpha=0.189$ ;  $p < 0.001$ ), H3 stating that fashion involvement had effect on fashion knowledge was accepted ( $\alpha=0.682$ ;  $p < 0.001$ ), H4 stating that fashion involvement had effect on customer satisfaction was accepted ( $\alpha=0.321$ ;  $p < 0.001$ ). H5 stating that fashion knowledge had effect on customer satisfaction was rejected ( $\alpha=0.057$ ;  $p < 0.19$ ).

Figure 2 presents the result of study regarding correlation between religiosity and fashion involvement on customer satisfaction through fashion knowledge. Overall variable

correlation affected  $p < 0.01$  (religiosity on customer satisfaction, fashion involvement on fashion knowledge, fashion involvement on customer satisfaction). There were two non-influential correlation, religiosity on fashion knowledge and fashion knowledge on customer satisfaction.

Table 2 – Significance Testing Results of the Structural Model Path Coefficient

Hypothesis	Path	Path coefficient	Significance Level	P-Values
H1	Religiosity → Fashion Knowledge	0.090	NS	0.08
H2	Religiosity → Customer Satisfaction	0.189	***	<0.001
H3	Fashion Involvement → Fashion Knowledge	0.682	***	<0.001
H4	Fashion Involvement → Customer Satisfaction	0.321	***	<0.001
H5	Fashion Knowledge → Customer Satisfaction	0.057	NS	0.19

\*\*\* $p < 0.01$ , NS : Not Significance.

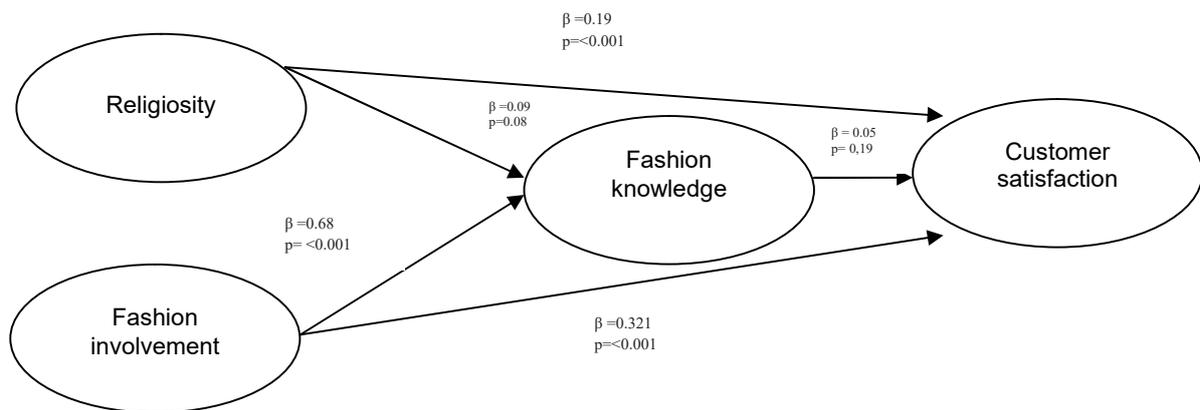


Figure – 2 Research Findings

### DISCUSSION OF RESULTS

The result of study shows that religiosity did not have any effect on fashion knowledge. The result did not support the study by Johana and Putit (2015). Wilson (2011) states that if customers are classified by their religions specifically, it will be easy to know their needs based on their religions. Therefore, customers will purchase if they have known information on the product to be purchased. The study shows that customer religiosity was high because they understood the regulations set in their religion so the knowledge of fashion is an obligation for individuals with high religiosity.

The study also found that religiosity had effect on customer satisfaction. The result supported the opinion of Rindfleisch et al., 2005; Khraim, 2010; Mokhlis and Spartks, 2007, that religious people would be committed to their religion so it will be adjusted to their behavior and decision making. The behavior compliance will result in personal satisfaction for individuals.

The research finding on influential correlation also applied to the correlation between fashion involvement on fashion knowledge that supported the study by Bhaduri and Stanforth (2016). Customers highly involved make their time to find information because they evaluate various sources (Assael, 1998).

Another finding of the study was that fashion involvement had effect on customer satisfaction. It supported the opinion of Bolfing and Woodruff, 1988; Oliver and Bearden, 1983 in Shaffer and Sherrell, 1997, where someone with high involvement will evaluate products and have expectation towards the products that direct to right and satisfying purchase decision.

Furthermore, the study found that fashion knowledge did not have any effect on customer satisfaction. The result of study did not support the study by Islam et al. (2011). By relying on customers' knowledge, customers will be satisfied by a product based on the

result of the knowledge. In the study, it was confirmed that fashion knowledge was not a factor causing customer satisfaction in purchasing Muslim fashion products. Religiosity and fashion involvement of customers could directly affect customer satisfaction. Customers consider Muslim fashion as their obligation in implementing Islamic sharia, so their knowledge as Muslim women is an obligation as individuals who hold religiosity strongly.

## CONCLUSION

The study aimed to investigate the effect of religiosity and fashion involvement on fashion knowledge and customer satisfaction in purchasing Muslim fashion products. Based on previous review, not many studied the correlation between religiosity and fashion knowledge in Muslim fashion retail sector specifically. Preliminary studies found the existence or non-existence of effect of religiosity and fashion knowledge, fashion involvement and fashion knowledge, religiosity and fashion involvement on customer satisfaction. The data analysis used WarpLS 5.0 to achieve the aims of the study.

The mediation in the study was fashion knowledge that mediates the correlation between religiosity and fashion involvement on customer satisfaction. The study suggested a model of indirect correlation of religiosity and fashion knowledge on customer satisfaction. Based on the result of testing of hypotheses, it was found that there was no effect of religiosity on fashion knowledge. The second finding, religiosity had effect on fashion knowledge. Thirdly, fashion involvement had effect on fashion knowledge. Fourthly, fashion involvement had effect on customer satisfaction. Fifthly, fashion knowledge did not have any effect on customer satisfaction. The conclusion shows that fashion knowledge was not a mediation variable between religiosity and fashion involvement on customer satisfaction. Religiosity and fashion involvement had direct effect on customer satisfaction without having to be mediated by fashion knowledge.

*Practical implication.* The practical implication of the study was to improve the quality of Muslim fashion products so as to satisfy customers on the products. The study shows that without having to go through fashion knowledge first, customers with high religiosity and high fashion involvement will be directly satisfied by Muslim fashion products. For Muslim fashion stores, in addition to improve the product quality directly related to religiosity, also need to pay attention to other attributes such as the hospitality of shopkeepers. For customers, it is important to pay attention to products and evaluate them before purchasing because the products are considered religious.

*Research limitations and directions for future research.* The research limitation is that it only included female samples in which the characteristics could have been different is it included male too. Secondly, the area was only 2 cities in Indonesia.

To improve the research contribution, it is expected that future researchers will be able to use male samples for Muslim fashion product purchase and enlarge the research area spread in Indonesia.

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DOI <https://doi.org/10.18551/rjoas.2018-12.41>

## **EARLY DETECTION TO INTERCEPT TERRORISM CIVIL LAW VIOLATION BY EX-TERRORIST PRISONERS**

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### **ABSTRACT**

There is some behaviour of the prisoners that need to be watched by officers, those are marked with the radical behaviours that still become their ideology. The behaviours may lead to trigger some anarchism event during their serve in jail. Moreover, the ability to craft boom must be specially watched as there will be many people to learn how to craft it from them. Next, the analysis on mental condition of these people stated that the suspect who are trapped in terrorism ideology, even in some cases they are willing to do suicide bombing, are not psychopath. But, it is the result of their forced ideology as they have no something to hold on previously on their life. Next conclusion is the behaviour of ex prisoners who tend to repeat the action which is marked by introvert behaviour, the continuing interaction between ex terrorist prisoners, the continuing affiliation between prisoners and radical group, low nationalism, and the inability for society to embrace the ex terrorists.

### **KEY WORDS**

Early detection, intercept terrorism, ex-terrorist prisoners.

Terrorism is one of crime that uses violation shows different character and form with another crime. According to Thomas Santoso, terrorism is not a violation act, but it is a political method that uses violation. Terrorist does not see violation as their ultimate goal, but it is a way for them to showing of power and it is effective way to show intimidation to their enemies (Thomas Santoso: 2002: 20)

From several cases, the terrorism actions in Indonesia are committed by ex terrorist prisoners. Yayat Cahdiyati, he is a terrorist in pressure cooker bomb occurred in Bandung city, he is also an ex terrorist prisoners. Other cases which are committed by ex prisoners are Molotov bombing anarchy in front of Oikumene Church 003 Neighbourhood number 32 of cipto mangun kusumo street Sengkotek Village, Loa Janan Ilir District, Samarinda, East Kalimantan. The action was committed by Juhanda on November 13 of 2016 results in child with burned injury. The police had confirmed that the Molotov bombing suspect is an ex-prisoners of Puspitok Serpong which is a member of Pepy Virdano radical. After the suspect served his time in jail, he joint JAD group which is linked to Anshori group in eastern java. The group was continuously watched by the police as it has detected to illegally import some weapons from Philippine (Tamat Suryani, 2 November 2017: 286).

### **METHODS OF RESEARCH**

The Research approach used in this study is The juridical empiric. In other word, it is sociology law study and could be determined as field observation research by examining the recent law applied to society and how it affects them (Suharsimi Arikunto, 2002: 126).

This research used the descriptive qualitative to describe the current regulation and situation. The attempt are by describing, note taking, analysing, and interpreting the current condition. In other word, the descriptive qualitative aims to collect the current information among people (Mardalis, 1999: 26).

In order to collect the data, researcher uses some sources which are: The Intelligent council Director of Regional Police of East Java, The member of Intelligent council of Regional Police of East Java, The ex-terrorist prisoner. Data Collection Technique to analyse the data used some methods, there are: (1) Observation. It is the core of all knowledge. The researcher could only work based on data, it is the fact occurred in this world which is gathered by observation. (2) Interview. It is a dialogue within special aim, the interview

process must be done between interviewer which commence questions and responded by interviewee. (3) Documentation. It is the activity to gather some documents as source of data information based on the research problem such as map, statistic, finance report, biography, citizens data, graphic, picture, mails, photo, etc. (4) It is an examination performed by researcher by collecting some books, magazine, pamphlet, leaflet, which can be used to support the study.

## DISCUSSION OF RESULTS

The implementation of early detection to intercept terrorism by ex terrorist prisoners has some method, there are:

*First*, Intelligent council Police Early Detection Method. About early detection of investigation toward identification and other source of crime especially for the crimes that possessed high threat such as terrorism, the investigation may be applied based on intelligent phase cycle, the phases are as follow: a) Preparation Phase, Forming the formula of Main Element Information, the investigation plan consist of: determine the most possible problem, assume the possibilities, determine the action method and conduct it on operational type, create main element information list, justify them and must get the answer from intelligent council, determine the answer and the most possible answer which has three minimum answers, the name must be synchronised with the council, they are (R = Regular, A = Alternative, E = Emergency), determine the time limit and gathering point.

*Second*, The Seek/Gather Process. It is an act of gathering some information based on the command of authorised leader. The collecting information technique may apply several ways both closed and opened technique. There are several techniques in collecting information which are observation, interview, interrogation, examination, description, tracking, hearing, infiltration, tapping, and trapping.

*Third*, Cultivation Phase. It is an act to produce intelligent product from the data and information that are already gathered before. The phases of cultivating process are: Note taking, it must be performed systematically and chronologically toward evidence. Thus, the information is quick to be learned. The simplified data is very efficient to be stored if it is needed in future time; Assessing, the source of information must be reliable. Thus, it needs to be measured about the loyalty of the man. By using assessment balance, the data taken from them is determined whether it is a valid data or not; Interpreting, it is determining the meaning of one evidence to another. The interpreting process uses comparison, confirmation. The new evidence is received within the previous one. Stated in article 21 of PKBIK, it states that interpreting must use defining phase (the formation of idea and concept), determination phase, and logical phase or conclusion; Displaying Phase. The intelligent product must be sent directly to the exact time and place. The displaying product phase must consider several points, there are: will the product be useful in future days ?, Is the product useful for upper, side, and bottom council? In serving the information, the model and technique are varies depend on the urgency, classified, quick, precision, and safety of the data.

There are several problems while implementing early detection program by intelligent council personnel of Surabaya Police Officer, which are mentioned below:

*First*, internal Factor among intelligent council personnel. There are several organisation internal factors that become obstacle in early detection especially in detecting the ex terrorist prisoner, they are as follow: (a) The personnel problem or human error. According to the research observation, the human resource problem is coming from the low rate of interest for people to take a part in this division. The interest to join the division is too low even among Indonesian police personnel. Because, the pride of the division is not as high as another division such as Detective Crime Federal or Traffic Division. By this situation, the formation of police at lowest level such as Sector police, the intelligent division does not have pure personnel who master in intelligent skill. in contrast, it takes very special skill to perform early detection on such extra ordinary crime such as terrorism. (b) The finance problem. In order to improve the early detection role among intelligent council division of eastern java jurisdiction, there must be more supply of the financial aid that could be self managed by DIPA. Thus, the obstacle of personnel during their duty will be minimised. For

example, in 2018, one of sector police only received 500.000 rupiahs for three months operation which is allocated for three personnel. The low aid from financial perspective may result in unclassified information, the response in collecting information become slower. (c) the lack of coordination between Intelligent council and Densus 88 intelligent. The coordination is very important between personnel from different division. The lack of coordination between them results in ineffective duty. Seen from the duty direction, those two divisions must perform horizontal coordination. This kind of coordination aims to unification and commandment which is performed between same level organisations.

*Second*, The changing attack pattern by terrorist. The lone wolf attack pattern by terrorist which is performed in different place and time, it is revealed that the suspect is the same person. The term means a support to ideology, group, but it is performed by a single person. This pattern is, generally, committed by a suspect who prefer live alone to belong in a group. They are introvert, they cannot interact emotionally with other people and avoid social interaction. The next pattern is by using women and children as their new method. The pattern is very contrast with previous method which uses young uneducated male person. Nowadays, children and women also contribute in suicidal bombing. The suicidal bombing by three family in Surabaya merge questions among society how could a wife and a mother of children willing to sacrifice his kids. If we look at the mind pattern of the women, they could be more dangerous than male terrorist, they have of what we called single-minded pattern, they ignore another important aspect in order to achieve the goals.

*Third*, There is no law that regulates the ex terrorist control. About the control over ex terrorist, according to the head of intelligent council of Surabaya jurisdiction, he stated that the new anti terrorism law must include articles that mentioned ex terrorist prisoners. Because, many terrors are being committed from recidivism. The total amount of recidivism is 10% from all prisoners that now serve in jail for long time. it is important to take a note that those terrorist who are both recidivism and prisoners are marked as heroes and has strong affection in their organization.

The characteristics of ex prisoners who has potential to repeat terrorism action. The following is the causes for these case, there are:

*First*, the behaviour characteristic of ex prisoners who already served his time in jail. The movement of Intel starts from phenomena to the reality of crime. This means, starting from the potential for disturbances (PG). Then, it is followed by a disturbance threshold (AG) until the existence of a real disturbance (GN) in the form of crime. Similar to these types of activities, namely the PG, AG and GN models, there is also an old term about the nature of threats, namely the Criminologent Correlative Factor (FKK), then what is called Police Hazard (PH), and Factual Threat (AF) . Detection in the intelligence function has four types of classification, namely first, AF; second, PH, third, the Criminogen Correlative Factor (FKK); and fourth, loss or victim, which is the result of the emergence of crime. So, these reliable statements answer the strategic role of intelligence in carrying out the main tasks of the National Police, namely from the stage of preceding, accompanying to ending an event. Regarding Potential Disorders (PG) or Correlative Factors of Criminogen (FKK) occupy the initial stage / early detection of intelligence activities which are characterized by the dynamics in the community. The existence of daily activities in the Police of Social and Culture jurisdiction, such as political campaigns, trade, and the occupation of an area by former Terrorism Prisoners with "red notice", is an activity that has the potential to give interference.

The investigation toward ex prisoners is started from report of the track record of the prisoners. The characteristics of prisoners who are labelled with red notice are those who had these behaviours: (a). They still believe in radical ideology. Radicalism could be defined as struggle to do reformation and change by using violation. According to the Indonesia Dictionary, radicalism is an understanding or flow that wants social or political change or renewal in a violent or drastic way; or extreme attitudes in political flow. (Umi Chulsum, 2006: 561). Radicalism in the name of religion is an ideology or behaviour which are spotted with some points such as intolerant, unable to accept another opinion, revolutionary that uses violation to achieve the goals. One of the indicator for the officer to give the red notice label to a prisoner, according to the interview with head of Intelligent council of Surabaya, he stated that there are three levels of the categories which are, as follow: The first level is the most anarchy radical, they are people who are refuse to join meeting with officers and refuse the

deradicalization program by government; The second level is the ex prisoner who is willing to join the meeting but refuse to follow deradicalization program; The third level is the ex prisoner who is willing to banish his old radical way but refuse to invite other friends. (b) Create riot inside Prison. There are several riots committed by terrorist prisoners which are gathered from East Java Police Department data, they are mentioned below, as follow:

- Lowokwaru prison of Malang occurred on Saturday 8 August 2015, at 10.45 WIB. The prisoners involved in this action are BS Alias BD Alias Pak Dokter, WM alias DDG, FDL alias MS;
- Madiun level I Prison on Thursday of 17 November 2015, at 20.30 WIB. The prisoners involved in this action are: WM alias DDG, AU alias DLH, AA alias HBB;
- Pamekasan level II Prison on Sunday 20 September 2015, The prisoners involved in this action is SM bin ISM;
- Kediri level II Prison on Saturday 02 February 2016, The prisoners involved in this action is DR bin AD;
- Lumajang level II Prison on Thursday 12 April 2016, The prisoners involved in this action is WGN.

The importance of controlling the terrorist is because their mindset of allowing violation to achieve the goal for those who already free from prison. By the indication, it is very fragile for them to repeat the action because of the state of their mind that has been completely corrupted. (c) The ability to craft bomb. For the prisoners who possessed ability to craft bomb get special control by officer. Because, such kind of skill is very rare and importance in their organisation, the young terrorist may look for them to learn on how to craft a bomb as it is the main weapon of terrorist to commit their crimes.

According to the study by Sarlinto Wirawan, he stated that there is a wrong assumption about the mental characteristics of terrorist. Some of experts stated that some of suicidal bombs and another terror actors are psychopath people. Unfortunately, in previous study, Sarlianto stated that there is no element of Schizophrenic, he concludes that the actors of terror is not people who suffer from psychopath but it is true that they suffer from other mental disability.

According to the interview with the head of intelligent council of Surabaya, it is very important to control these ex prisoners with man to man method in order to perform early detection, the criteria are as follow:

*First*, Severe Introvert Behaviour. The member of terrorism tends to live among people either in city or at village. But they tend to avoid social interaction and choose to remain silent in public area. The behaviour could be included to anti social behaviour which ignores the existence of other people or general society in his neighbourhood. Theoretically, such kind of behaviour will result in several points, as follow: (a) It disturbs the harmony live within society, it damages social integration between citizens, threaten public order and its safety, spread the mental fear all over society, creates a riot between communities within society, intercepts the nation to be developed. it will be quickly spread if it does not directly overcome. (b) They are not open minded as they think that their organisation is the absolute order. Such kind of anti social will tend to assume that other people is a weak race and in worse case, they think that such kind of weak race must be eliminated.

*Second*, The Intense communication between ex terrorist prisoners with another affiliation of radical or another terrorist. AW is a wanted person who commit terror in Pasuruan region in 2010. AW is a recidivism which is being controlled by officers. It is revealed that he still follow and join some radical organisation with another recidivism. In another case, it is revealed that two suicidal bombing suspect in Surabaya ever meet with one of terrorist prisoners in Tulungagung level II Prison. They are known to exchange idea while conducting the meeting, the strategy, or the next command. Thus, it must be labelled as upcoming cases if one prison meet with another and their communication is potential interference within topic of terrorism.

*Three*, The Continuing Affiliated condition between ex prisoners with radical groups. The need to control former terrorism prisoners, who are still in touch or communicating with several networks of radical organizations, including ISIS, will lead to more radical understanding in the former prisoner. Because, the environmental factors in which he

establishes a community will theoretically bring about the influence of criminal thinking that continues on criminal acts. According to Moeljanto, the influence of the environment that has surrounded a person for a certain time has an influence on his personality. The dynamic factors that work and influence each other are both inherent and environmental factors. So the good and bad of a person depends also on the environment. For ex-terrorist members, it is not easy to get the environment because of the negative labels already attached to it. Thus, they assume that the only environment or the old community that may serve opportunity and place to gather and interact in a social environment is the old community as primary base.

*Fourth.* Low Sense of Nationalism. For the follower of radicalism, there is one big way to reveal their character, it is their response to national flag. One of the members does not willing to give respect to the flag, they refused to celebrate national independence day on August 17<sup>th</sup>, they even asked their family and children to follow the doctrine.

*Fifth,* The situation where community refused to embrace the ex terrorist. According to the head Counter Terrorism Council of Indonesia, Suhardi Alius, the response of society whether to embrace this ex terrorist will determine the repetition of terrorism. He gave a example of bombing terror by Juandha, the church bomber in Samarinda. In his previous record, Juandha is just a support to terrorism, he barely not doing something big. Unfortunately, the society refused to embrace him when he is set free after serving several years in jail. His children and wife are returned to the big family. Eventually, he repeated his action. As also stated by head of Police intelligent stated that the potency of these ex terrorist to commit another terror is very big. They could not return to normal life, because the financial aid during the bombing or Radicalization process are supported by the organization, moreover, the society still unable to embrace the returned ex terrorist in the neighbourhood. The labelling theory is applied to this scenario where society has labelled the ex terrorist as bad person for like forever, these ex terrorist will return to their way to live their life.

## CONCLUSION

The early detection performed by intelligent council is started from planning, seeking, managing, and displaying the information. The obstacles during the operation come from internal and other factors. The internal factors are bad stock of human resource, minimum financial aid, and worse coordination with Densus 88 organisation. Other factors are the pattern of attack which continuously changing such as using children and women as suicidal bomb subject. The last obstacle is that there is no law that regulates the control of ex terrorist prisoner in the new anti terrorism constitution.

The dangerous characteristics behaviour by prisoners that need to be noted are the radical ideology that is not completely banished from their mind. By triggering some riots while in prison is important to be controlled. The ability to craft bomb is very dangerous as another free terrorist will look this as a chance to expand their ability. Next, the people who commit their life to do suicide bombing is concluded that they are not entirely psychopath, but it is the state of blank mind about the doctrine of radicalism. The next conclusion is the characteristic of prisoners who are potential to repeat the action is marked by introvert behaviour, they are still contacting another terrorist both free and served time in jail, they are still affiliated with some radical movements, low sense of nationalism, and the condition which society refused to embrace the returned terrorist in their neighbourhood.

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DOI <https://doi.org/10.18551/rjoas.2018-12.42>

## NUTRIENT COMPOSITION AND SECONDARY METABOLITE OF RUMPUT KEBAR (BIOPHYTUM PETERSIANUM KLOTZSCH)

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### ABSTRACT

Kebar's grass (*Biophytum petersianum Klotzsch*) is collected from Central and East Kebar region, Manokwari, West Papua, Indonesia in April 2018. The objective of this research was to determine secondary metabolite content in Kebar's grass (*B. petersianum, Klotzsch*). Kebar's grass sample was cleaned, dried, ground, and analyzed using a procedural standard to get chemical composition, vitamin C content, antioxidant activity, and anti-nutrient content. Based on the research result, the average score of proximate composition for Kebar's grass (*B. petersianum Klotzsch*) is 5.99% protein, 3.47% fat, 7.81% water, 14.25% ash, 68.47% carbohydrate, 418.20 mg/100g vitamin C, and 0.88 mg/ml antioxidant activity. Kebar's grass (*B. petersianum Klotzsch*) also contains anti-nutrient compounds/secondary metabolites; flavonoids, tannin, error tannin, phenolic, polyphenol. The test result of TLC-Spektrofotodensitometri shows that Kebar's grass (*B. petersianum Klotzsch*) contains rutin flavonoid, hyperoside, quercitrin, quercetin, and positively contains phenol and triterpenoid. This research reaches a conclusion that Kebar's grass (*B. petersianum Klotzsch*) contains essential secondary metabolite compounds for a human.

### KEY WORDS

Kebar, biophytum, proximate, antinutrient, phenol, flavonoid.

Medicinal herbs can be processed into beneficial herbal remedies to boost body endurance, disease prevention, cure of disease, health recovery and also served as uterine fertilizers (Soedibyo, 1992). Kebar's grass (*Biophytum petersianum Klotzsch*) is one of medicinal herbs types that grow wildly. Visually, the colour of Kebar's grass from Papua is light green while the one from Java is dark green but both of them have a yellow flower (Sembiring and Darwati, 2014). Kebar's grass known to have a potential for anti-bacterial, hypoglycemia, immunomodulator, chemoprotective, hypocholesterolemia, apoptosis, anti-inflammation, antitumor, and prostaglandin biosynthesis (Natarajan, Shivakumar and Srinivasan, 2010), impacts on the COX-2 expression (Guruvayoorappan and Kuttan, 2008), stimulates body immune system cells (Inngjerdingen *et al.*, 2008), and influences apoptosis cells B16F-10 and inhibits NO and cytokine production playing role in the formation of tumor (Guruvayoorappan and Kuttan, 2007).

Kebar's grass (*B. petersianum Klotzsch*), as an endemic plant, has been observed to have various benefits, among others, as anti-inflammatory, immunostimulant, and to be able to boost animal's reproduction performance (Grønhaug *et al.*, 2008). In Africa, this plant is utilized as a medicine for sting and snake bite, as well as for stomachache drug (Inngjerdingen *et al.*, 2004), (Inngjerdingen *et al.*, 2006) (Inngjerdingen *et al.*, 2008). Based on the People of Papua's experience, mainly mothers, Kebar's grass can be utilized as uterine fertilizers. Kebar's grass distribution is in Kebar Sub-district, Manokwari District, West Papua so that the people of Papua calls Papua land as a home of kebar's grass. The local name of this plant is banondiy meaning to have many children (Sembiring and Darwati, 2014).

N-hexane fraction of Kebar's grass extract contains saponin that is capable of declining cholesterol level in total blood serum in animal models of hyperlipidemia (Sambodo, Tethool and Rumetor, 2015). Water extract of Kebar's grass can constraint the development of nematode's ova (Baaka, Widayati and Novitanti, 2017). Concentrate formulation of ration consumption and ration efficiency at formula 10% and 15% of Kebar's grass show a

significant influence on the weight gain of rabbit body (Kayadoe, Faidiban and Nurhayati, 2012). Kebar's grass infuse is proven able to improve spermatogenesis' activity, but at a too high concentration, it can root the decline of spermatogenesis' activity (Lefaan, 2014). Kebar's grass has the potential to be utilized as one of the natural materials for controlling *Aspergillus flavus* and inhibiting aflatoxin production (Lisangan *et al.*, 2015). Water extract of *B.petersianum* has a potential for natural feedstuffs in manipulating rumen fermentation to increase N per unit, N is digested and decreases input of total N excretion per unit N so that it has a positive environmental impact (Santoso, Kilmaskossu and Sambodo, 2007). This research aims to determine the content of macro and micronutrient from Kebar's grass (*B. petersianum*) from Papua.

## MATERIALS AND METHODS OF RESEARCH

*Collection of sample.* Kebar's grass (*B. petersianum* Klotzsch) was collected in April 2018 in Central and East Kebar, Manokwari, West Papua, Indonesia. It was aerated for 4 days and then mashed up using an electric mill. Plant sample was filtered using a filter with mesh size 40. The refined sample was then put into a plastic bag and kept in a room temperature for further analysis. Plant sample was filtered using a filter with mesh size 40.

*The proximate, Vitamin C and Antioxidant analysis.* The proximate and vitamin C analysis were carried out in the Testing Laboratory of Food Quality and Food Safety, Brawijaya University, Indonesia. Protein, carbohydrate, fat, water, and ash content were analyzed based on the standard of AOAC (AOAC, 1999). All the test were repeated three times. Vitamin C was analyzed based on the standard of AOAC 967.21 (AOAC, 2000). Antioxidant activity test was conducted based on the method of antioxidant test (Sayuti, Putri and Yuniarta, 2016)

*The phytochemical analysis.* The respective anti-nutritive factors such as tannins, fenol, polifenol dan saponins were evaluated according to the standard chemicals procedures (Departemen Kesehatan, 1995). This analysis were carried out in the UPT. Materia Medica Batu, Kota Batu, Jawa Timur.

*Flavonoid TLC.* Two plates with a size of 10 x 10 cm were cleaned and activated. The first spot was 10 mm from the left edge and 10 mm from the under plat, bandwidth is 3 mm, and the distance among spot is 6 mm. All stain are spotted on 2 separated plates. The first plate is eluted with TE system movement phase and the second plate with a TF system movement phase. Chamber was saturated before eluted for 30 minutes. Elution was done until the development distance of 8 cm, then the plat was dried at a temperature of 60°C for 10 minutes in an oven. Dried plate was scanned by spectrophotometer TLC-Scanner 3 (Camag-Mutenz-Switzerland) at the wavelength of 210 and the spectrum of each peak is read on the range of wavelength 190- 400 nm and tested its purity of the spectrum. Rf: 0.85-0.90 (Quercetin); Rf: 0.60-0.65 (Quercitrin); Rf: 0.45-0.50 (Hiperoside); Rf: 0.25-0.30 (Rutin)

## RESULTS AND DISCUSSION

Table 1 shows that kebar's grass (*B. petersianum* Klotzsch) contains vitamin C quite high by 418.2 mg/100g, different from Sterculia leaf which one of the Papua endemic plants containing vitamin C by 81.79 mg/100g (Sayuti *et al.*, 2017). Gurame fish weight gain and feed supplementation give a good effect because of the content of vitamin C and flavonoid (Sulhi, Samsudin and Hendra, 2011). Aside from, Kebar's grass also contains very strong antioxidant activity IC<sub>50</sub> by 0.88 mg/ml, different from the methanol extract of *S. trigenantha* which one of Papua endemic plants containing antioxidant by 2.25 ppm (Sayuti *et al.*, 2018) . The smaller the value of IC<sub>50</sub>, the higher the activity of antioxidant (Molyneux, 2004).

*Phytochemical Screening Test Result of Kebar's Grass (B. petersianum Klotzsch).* The result of the phytochemical analysis showed that some antinutritive factors such as flavonoids, tannin, triterpenoid, phenolic, saponin were detected (Table 2).

Table 1 – Vitamin C of *Kebar's Grass*

Nutrients	Mean composition $\pm$ SD (%)
Protein content	5.99 $\pm$ 0.00
Fat content	3.47 $\pm$ 0.08
Water content	7.81 $\pm$ 0.02
Ash content	14.25 $\pm$ 0.30
Carbohydrate	68.47 $\pm$ 0.34
Vitamin C (mg/ 100 g)	418.20 $\pm$ 33.88
Antioxidant IC <sub>50</sub> (mg/ml)	0.88 $\pm$ 0.04

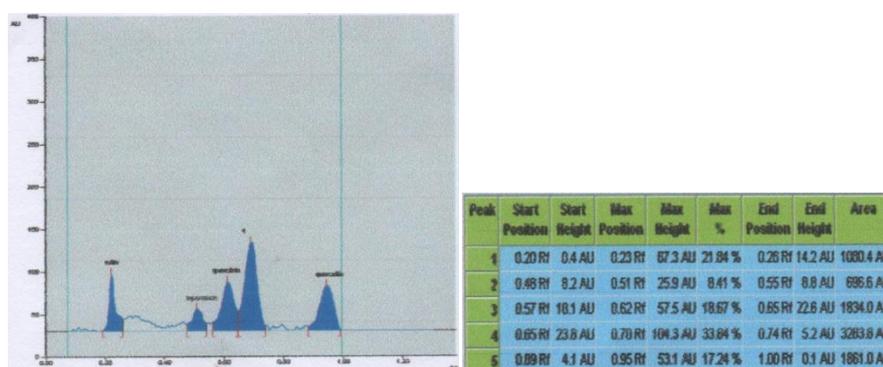
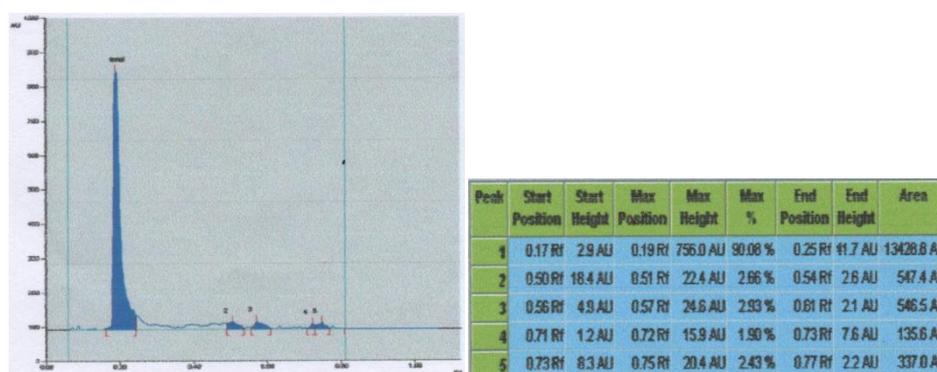
The values are mean  $\pm$  standard deviation of triplicate determination expressed in dry weight basis.

Table 2 – Phytochemical Screening Test Result of *Kebar's Grass*

No.	Compound Identification	Result	Standard
1	Flavonoid	+	A dark red/pink color is formed
2	Alkaloid:		
	Meyer Alkaloid	-	White sediment is formed
	Alkaloid dragendroff	-	Orange sediment is formed
	Alkaloid Boucharlat	-	Brown sediment is formed
3	Tannin	+	Blackish blue/blackish green colour is formed
4	Steroid	-	Bluish green colour is formed
5	Triterpenoid	+	Orange or brownish orange color is formed
6	Phenol	+	Blackish blue or blackish green colour is formed
7	Saponen	+	Permanent foam is formed

-, absent; +, present

**Flavonoid Test Result with TLC.** Flavonoid, phenol, triterpenoid test result of *Kebar's grass (B. petersianum Klotsch)* with TLC- Spektrofotodensitometri is presented in Figure 1, 2, and 3.

Figure 1 – The result of Flavonoid TLC of *B. petersianum Klotsch*Figure 2 – The Result of Fenol TLC of *B. petersianum Klotsch*

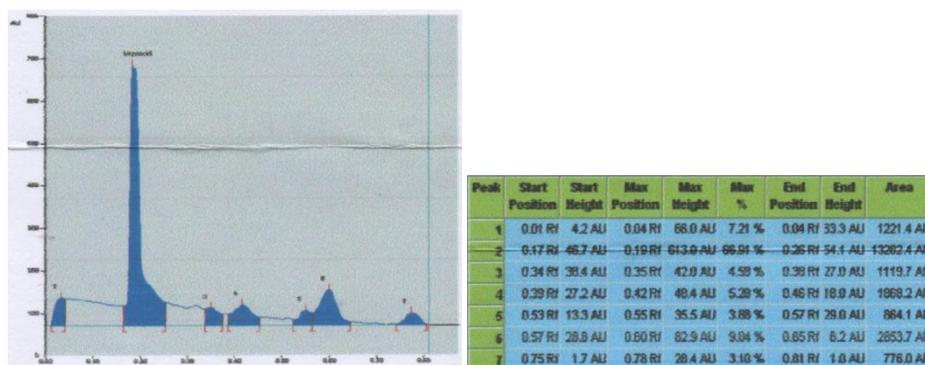


Figure 3 – The Result of Triterpenoid TLC of *B. petersianum* Klotzsch

Table 2 indicates that Kebar's grass (*B. petersianum* Klotzsch) has very potential content to be utilized as medicinal ingredients because containing flavonoid, tannin, triterpenoid, phenol, and saponin. Figure 1 indicates that Kebar's grass plant (*B. petersianum* Klotzsch) contains rutin flavonoid, hyperoside, quercitrin, whilst figure 2 and 3 indicates that Kebar's grass plant (*B. petersianum* Klotzsch) positively contains phenol and triterpenoid.

Flavonoid compound serves as antioxidant, antibacterial, immunomodulator, and anti-inflammation (Middleton, Kandaswami and Theoharides, 2000) and saponin compound plays a role as permeabilizing membrane and can influence growth and increase animal's feed respond (Das *et al.*, 2012). Flavonoid and tannin commonly contained in fruits and vegetables, as well as beverages, are able to inhibit nicotinamide adenine dinucleotide phosphate (NADPH) oxidase through ACE inhibition, eNOS-specific increase, and also change cyclooxygenase-2 (COX-2) expression (Kizhakekuttu and Widlansky, 2010); (Beg *et al.*, 2011) (Sharifi *et al.*, 2013). Flavonoid and tannin constraint ACE activity which plays an important role in blood pressure control. Phenol activity derives from total hydroxyl group on the benzene ring. Docking's research shows that phenolic acid and flavonoid inhibits ACE through an interaction with zinc and this interaction is stabilized by another interaction with amino acid at an active side (Guerrero *et al.*, 2012).

Saponin is a compound having biological activity, among others, as hypoglycemic, virucidal, antimicrobial, and impacts on cholesterol metabolism (Desai, Desai and Kaur, 2009). Saponin compound content in this plant is predicted to be a factor that determines its benefit (Santoso, Kilmaskossu and Sambodo, 2007). Various studies of saponin effect on animal reproduction have been many conducted. Saponin extract from ginseng given in vitro can boost sperm motility (Chen *et al.*, 1998). Aside from, saponin extract from *Turnera diffusa* and *Pfaffia paniculata* can boost copulation perform sexually from a mouse conditioned to be not effective in a sexual ability (Arletti *et al.*, 1999).

## CONCLUSION

Kebar grass (*B. petersianum* Klotzsch) contains protein 5.99%, fat 3.47%, water 7.81%, ash 14.25%, carbohydrate 68.47%. In addition, Kebar's grass (*B. petersianum* Klotzsch) contains vitamin C and high activity of antioxidant and antinutrient compounds; flavonoids, tannins, triterpenoids, phenols, and saponins. TLC test result shows that Kebar's grass (*B. petersianum* Klotzsch) contains rutin flavonoids, hyperoside, quercitrin, quercetin.

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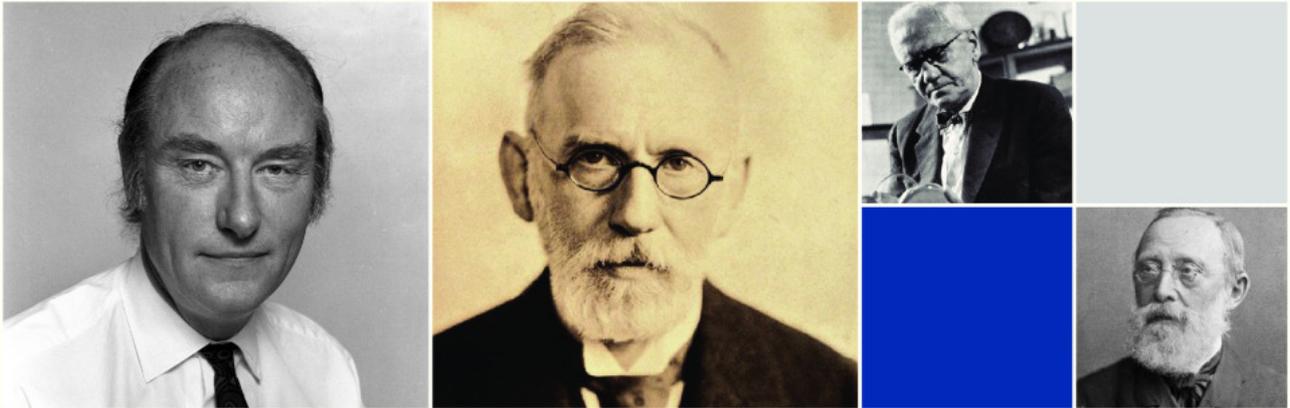
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