



**Proceeding**  
**1<sup>st</sup> ICUTK International Conference 2018 (IIC 2018)**  
**“Globalization and Current Business Trends in Industrial**  
**Revolution 4.0”**

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## Welcome Message

Dear Participants,

On behalf of Rajamangala University of Technology Krungthep, Thailand, we are warmly excited to announce that we hold the 1st ICUTK International Conference 2018 and Call for Paper (IIC 2018) with the theme “Globalization and Current Business Trends in Industrial Revolution 4.0” and we have the first publication of proceeding book for International Conference. Most countries in the world are facing the industrial revolution 4.0 and are able to move in some aspects of interest such as Economics and Development, Business Trends and Trading, Management and Globalization for growing Economics, Accounting, Marketing, Information system, and information and technology development. It will be transferred for the industrial phenomenon in the digital era 4.0.

IIC 2018 is the first international conference and proceeding organized by International College of Rajamangala University of Technology Krungthep, Thailand. International College is a part of study programs which serves the English program for curriculum. The conference is designed as stimulus for teaching and research sharing in the area of international business for globalization. It welcomes papers explore multidisciplinary research and critical review of issued on applied trending business in industrial Revolution 4.0 for area of interest in globalization business.

I would like to express my sincere thanks to the participants of International Conference of ICUTK, the keynote speakers, Dr. Carlos Moslares as Dean of IQS School of Management, Universitat Ramon Llul, Barcelona, Spain and Prof. Dr. Chira Hongladarom as secretary general, foundation for International Human Resource Development Bangkok, Thailand who deliver the important and great knowledge for development especially the issue of industrial revolution 4.0, the editorial board who standby for peer review in international publication of proceeding, the editorial team for agenda, the committee who has the main role to celebrate the International Conference happen in Rajamangala University of Technology Krungthep, Thailand. Your efforts are greatly respected and appreciated.

As the president of Rajamangala University of Technology Krungthep, Thailand which hosts the 1<sup>st</sup> ICUTK International Conference 2018 and Call for Paper (IIC 2018), I sincerely do hope that your contribution will have some impacts for the industrial revolution 4.0 in your country or globalization era. We do hope that we have some amazing feedback and great value on the shared international conference. Thank you very much for the support.

Best regards,

Dr. Sukit Nitinai

President, Rajamangala University of Technology Krungthep  
Bangkok, Thailand



# Editorial



**Dr. Prattana Srisuk**  
**Editor-in-Chief**

**IIC 2018 Conference Coordinator**

Greetings from ICUTK, Bangkok, Thailand!

On behalf of ICUTK International Conference 2018 (IIC 2018) committee, I am very pleased and grateful to all our colleagues, executive officers, professors, students from our university partners here in Thailand and abroad for their cooperation and their active participation in our “1<sup>st</sup> ICUTK International Conference 2018 and Call for Papers” with the theme: “Globalization and Current Business Trends in Revolutionary Industry 4.0” held on November 19 – 20, 2018 at International College Rajamangala University of Technology Krungthep, Bangkok, Thailand.

The main objective of this conference is to gather students, university affiliates and researchers from the different fields of businesses with diverse disciplines across the globe. Our keynote speakers and presenters are from various business backgrounds, exposures and achievements. We hope the conference provides a platform for fruitful discussions and learning experience among international participants.

This proceeding is a fruit of the successful researches and presentations made by participants during the international conference.

Again, on behalf of IIC 2018 committee, we say thank you to all who participated. Looking forward to seeing you all gain in the future conferences.

## ***Keynote Speaker***



SCHOOL OF  
MANAGEMENT



**Dr. Carlos Moslares**

### **The new economy: challenges and opportunities**

There is no doubt that the so-called fourth industrial revolution is changing our economic model and our lives. The steam engine allowed to change from a society based on agriculture (economy 1.0) to an industrial society (economy 2.0). Later the extension of education allowed to develop the social model based on the service sector (economy 3.0). Finally, the invention of computers, the internet, robotization, social networks, 3D, etc. have transformed our society into a digital society (economy 4.0).

In medicine, advances in biotechnology and biomedicine together with advances in nanotechnology allow advances in innovations that recently seemed to be science fiction. Advances in neuroscience that allow the human brain to connect to computers in such a way that they improve their capacity. For example, driving a toy car from brain orders is a reality.

In addition to technological change, another significant fact to consider is the demographic changes worldwide and the migratory flows. Forecasts suggest that in 2050 the growth of the world's population will partially stagnate. Until then, growth will be uneven across regions and these facts will undoubtedly also be decisive in future models of society. Finally, I would like to highlight a third area to consider. The growing income inequality is not so much between countries, but above all intra-countries. This new economic model (economy 4.0) that has begun to change our lives and more significant changes are expected in the coming years. It is estimated that 50% of the jobs in the industrial / manufacturing sector and in the service sector will disappear in the next 20 years.

The World Economic Forum (WEF, 2018) predicts that by 2025, 52% of productive tasks will be made by intelligent machines. The big question is whether these new technologies will allow creating enough jobs to replace those that are destroyed. It should be noted that the jobs to be created will be associated to a higher level of specialization and training, and therefore the risk of exclusion from the labor market and the stress of not being excluded will be greater in the coming years. The need for support in training, learning and retraining is anticipated on a permanent basis. Economists and universities are called to make research and to provide ideas and new proposals to face this new global environment.



**Keynote Speaker**

**Prof. Dr. Chira Hongladarom**  
**Secretary-General**  
**Foundation for International Human Resource Development**  
**President**  
**Chira Academy**

It is a great honor for me to be invited by ICUTK, Bangkok to deliver the keynote speech at “1<sup>st</sup> ICUTK International Conference 2018 and Call for Papers” with the theme: “Globalization and Current Business Trends in Revolutionary Industry 4.0”.

Thai society is under the national development trend towards 4.0 era. Several sectors of the society are aware of, interested in and speeding the development.

Thailand 4.0 era is the age of leapfrog development focusing on the development to transform economic system to be innovation-driven or Value-Based Economy based on these principles.

1. The shift from consumer products to innovative products
2. The shift from industry-driven country to technology, creativity and innovation driven country
3. The shift from manufacturing to service sector

Thai society must get through the holistic transformation in 4 major areas as follows:

1. The shift from Traditional Farming to Smart Farming in which the farmers are richer and entrepreneurs
2. The shift from Traditional SMEs to Smart Enterprises and high potential startups
3. The shift from Traditional Services to High Value Services
4. The shift from unskilled workers to skilled workers

The changes continuously emerge with uncertainty and unpredictability in several forms as follows:

1. Technology
2. Customers' demands
3. Human behaviors
4. Social behaviors
5. Lifestyle
6. Learning Approaches
7. Work Methods
8. Political policies and populist policies
9. The entry to ASEAN Community and AEC
10. Population structure problem of the society and world in the future and so on

These affect works and developments of all levels and aspects of the society.

Human Capital Development and the leadership development of all levels are keys for Thailand 4.0 era. Leaders of 4.0 Thailand era must be able to manage future change for survival and sustainable growth.

I would like to recommend that leaders of 4.0 era must focus on developing and managing people, creating trust, looking at the future, setting vision, creating brand, promoting innovation and managing change based on morality and ethics, learning society and sustainable development.

Moreover, King Philosophy is a key for development and important tool for leaders in Thailand 4.0 era. Learning King Philosophy with deep understanding can be a principle and inspiration for leadership model. It can be roadmap for sustainable development in several dimensions for organizations and societies.

I hope that Thailand case study from my work experience can be useful for other countries to develop leaders supporting business 4.0 era.

Finally, I would like to admire and congratulate UTK on the efforts to organize this international conference. I wish this conference a great success and produces fruitful results for all concerned.

Thank you very much.

# Investor Attention and Stock Return: Evidence from Sector Analysis of the S&P 500 Index

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## Abstract

*The usage of the internet is increasingly widespread. The number of stock ticker searches on the internet used as the level of attention given by investors to the stock. This study investigates the relation between investor attention and stock return through examining S&P 500 stocks in the year 2017. This study examines investor attention through the Google Search Volume Index (SVI). The study discovers the significant effects of investor attention to stock return in the Technology, Health Care, Real Estate, Energy, and Materials sectors of S&P 500 stocks. This study concludes the effects of investor attention on the stock return of each sector will be different, depends on the characteristics of each sector.*

**Keywords:** investor attention, stock return, Google search volume index, S&P 500

## Introduction

Generally, there is a tendency for buyers to maximize their satisfaction by reducing the uncertainty level and avoiding risk (Jun, Yoo, and Choi, 2018). Adequate internet facilities and the development of smartphone encourage the information search through the internet (Jun, Yoo, and Choi, 2018). The number of internet users is increasing from year to year. People will tend to search through internet to minimize their ignorance. Google is a market leader in internet search engines based on data from net market share of 2017. Google has an average net share of 74.54% throughout 2017 ahead of Yahoo, Bing, and Baidu.

Not only consumers, but also investors are actively using Google Search when they want to buy and sell stocks (Jun *et al.*, 2018). Users can get the search results of keywords that they are interested in and access various kinds of information related to those keywords (Zimmer, Henry, and Butler, 2007). Google collects the searching data of internet user, and serves it through Google

Trends which offer extensive statistics on search data. Since internet users enter certain keywords into the Google Search to obtain information related to these keywords, we can assume that Google Search can reflect their attention.

Attention is the cognitive source of the human brain that is limited in number compared to the amount of information available (Hou, Xiong and Peng, 2009). Investors face unlimited information when determining investment decision. Therefore, an investment decision is resulted from certain information and has strong influence from attention (Hou, Xiong and Peng, 2009). The attention that reflects on information seeking behavior increases the market efficiency (Drake, Roulstone and Thornock, 2012). Uninformed investor becomes informed because of the internet and this change will drive the stock price movement.

This study follows Da, Engelberg, and Gao (2011) by using the number of searches based on stock ticker. Da, Engelberg, and Gao (2011) used Google Search Volume Index (SVI) as the measurement of investor attention. Most of the previous studies used indirect proxies in measuring the investor attention, such as specific information flows of the firms (Ryan and Taffler, 2004), announcement in the Wall Street Journal (WSJ) (Peress, 2008) extreme return and abnormal trading volume (Barber and Odean, 2007), stock and market-wide sentiment through trading volume (Anusakumar, Ali, and Wooi, 2017), and performance index (Andrei, Carlin and Hasler, 2013). Recently, more researchers considered using direct proxies as the measurements for investor attention. The abnormal search volume index on Google is the most popular direct proxy to measure investor attention in several recent studies (Da, Engelberg, and Gao, 2011; Vozlyublennaiia, 2014; Ding and Hou, 2015; Cziraki, Mondria, and Wu, 2017).

There are also some studies that considered Google Trends and Google Insights in their research in different methods, such as the normalized and scaled data of Google Insights (Joseph, Wintoki, and Zhang, 2011), Google Trends Negative Sentiment index (Beer, Herve, and Zouaoui,

2012), change of searching volume index (Bank, Larch, and Peter, 2011; Takeda and Wakao,

2014), standardized Google Searching Volume (Bijl, Kringhaug, Molnár, and Sandvik, 2016). Baidu Index (Zhang *et al.*, 2013) and AOL click through series (Mondria, Wu, and Zhang, 2010) also are direct proxies that can be considered as the measurements of investor attention.

Previous studies examined the effect of investor attention to stock return by considering the effect of country differences (Anusakumar, Ali and Wooi, 2017), index differences (Yuan, 2015; Vozlyublennaiia, 2014), and specific country characteristics (Bank, Larch and Peter., 2011; Zhang *et al.*, 2013; Aouadi. Aroui and Teulon, 2013; Takeda and Wakao, 2014). However, to our

best knowledge, there are few studies that specifically discuss differences of investor attention on stock return in different sectors. In fact, forming a portfolio based on industry or sector is one of the profitable methods that can be used by the investors. It is common to compile a stock portfolio by sector.

The sector analysis gives investor an analysis by a large group of sample companies that doing business in some general economy segments. Although during the recession, all of the sectors will experience a decline and there are still different levels of influence (Meric *et al.*, 2010). This study is going to answer how the effects of investor attention to stock return in each sector of the stock market are. By using S&P 500 stocks as the sample, this study wants to find a phenomenon which occurs in the majority market.

Section 1 states the background and objectives of this study. Section 2 presents the data source and methods used in this study. The findings and discussion of this study are rendered in Section 3. Section 4 offers the conclusions of this study.

## **Data and Methodology**

### **Sample and Data Obtained**

The data used in this study comes from Datastream, Google Trends, and Yahoo Finance. The data obtained from Datastream are the stock price, dividend, stock splits, the number of shares outstanding, and market-to-book value ratio. SVI from Google Trends is served in a weekly data based on the stock ticker of each company. The value presented by Google Trends is a relative value which then normalizes that ranges from 0 to 100 for the selected period, for example, 1 year for annual analysis. This study also gets an open stock price for each company on a weekly basis from Yahoo Finance.

The S&P 500 Index is popular to represent United States stock exchange (Joseph, Wintoki and Zhang, 2011; Vozlyublennaiia, 2014; Yuan, 2015; Bijl *et al.*, 2016; Cziraki, Mondria and Wu., 2017). This study examines 369 companies listed on the S&P 500 Index for the period of January 1, 2017 to December 31, 2017 and forms 16.236 observations. All data contained in U.S. dollar currency. First, this study obtains the S&P 500 index list along with its tickers information. Second, this study excludes some “noisy” tickers in this research (Da, Engelberg and Gao, 2011). The noise tickers are tickers that their search results do not directly display their stock price or page related to the typed tickers, these tickers will be excluded from the sample (Da, Engelberg and Gao., 2011).

Table 1 shows the sample of this study, which consists of 369 firms listed in the S&P 500 index as samples from the study. This study excludes 11 firms with incomplete data of the stock price, sector, and SVI information (Joseph, Wintoki and Zhang., 2011; Bank, Larch and Peter, 2011; Aouadi, Arouri and Teulon, 2013; Takeda and Wakao, 2014). This study combines the Telecommunications Services and the Information Technology sector to form

the Technology sector (Da and Schaumburg, 2011). This combination also can reduce bias that is caused by the small sample size of the Telecommunications Services sectors.

**Table 1. Distribution of Sample**

Sectors	Number of Firms	Number of Observations
Consumer Discretionary	69	3,036
Technology	64	2,816
Financials	43	1,892
Industrials	48	2,112
Health Care	45	1,980
Consumer Staples	23	1,012
Real Estate	21	924
Energy	24	1,056
Utilities	14	616
Materials	18	792

Notes: This table presents 10 sectors and the distribution of 369 sample firms. This study uses the S&P 500 index list for 2017 from Datastream. From 505 firms that listed in the S&P 500 index, this study gets 380 firms with the appropriate tickers. This study also excludes 11 firms with incomplete data.

### **Google Searching Volume Index (SVI) as a proxy of investor attention**

Keywords selection is important because will directly affect the results of Google SVI obtained (Aouadi, Arouri and Teulon, 2013). There are 2 types of keywords frequently used by studies in determining investor attention, such as the stock ticker (Da *et al.*, 2011; Joseph *et al.*, 2011; Cziraki *et al.*, 2017) and the name of the company or product that can represent the company (Bank *et al.*, 2011; Aouadi *et al.*, 2013; Takeda and Wakao, 2014; Bijl *et al.*, 2016).

Da *et al.* (2011), Joseph *et al.* (2011), and Cziraki *et al.* (2017) used the stock ticker as their search keywords in order to be more objective and better in capturing the interest of the investor. It is a higher possibility for the investor to know the stock ticker than the ordinary consumers. Another reason is that investors may have different knowledge of the company's name and it will also reflect on the search keyword (Da *et al.*, 2011). Some of the previous studies chose to use the company's names or products as the search keyword is because their sample markets have more concern for the names and products of companies that tend to be different from the market in general (Aouadi *et al.*, 2013; Takeda and Wakao, 2014).

The ASVI is defined as:

$$ASVI_{it} = \log(SVI_{it}) - \log Med(SVI_{it}, 1, \dots, SVI_{it}, 8), (1)$$

Where the  $\log(SVI_{it})$  is the logarithm of the SVI during week  $t$  for firm  $i$ , and

the  $\log [\text{Med}(\text{SVI}_{i,t-1}, \dots, \text{SVI}_{i,t-8})]$  is the logarithm of the median value of the SVI of the previous 8 weeks for firm  $i$ .

This study uses the ASVI formula in measuring investor attention (Da *et al.*, 2011). By subtracting median of 8 weeks ASVI to current period SVI can minimize the effects of sudden attention jumps. This attention jumps may be caused by news, seasonal change, etc (Da *et al.*, 2011).

#### Market Adjusted Return

This study uses market adjusted return ( as the dependent variable, which is the result of raw weekly return minus the market weekly return on equation (2) and (3). Following Bilj *et al.* (2016) to measure the raw weekly return (, this study uses a total return adjusted to the dividend and stock split.

$$MAR_t = R_{w,t} - R_{m,w,t} \quad (2)$$

$$MAR_t = \frac{(S_t + D_t)N_t}{S_{t-1}N_{t-1}} - \frac{M_t}{M_{t-1}} \quad (3)$$

where  $S_t$  is the open stock price in week  $t$ ,  $D_t$  is the dividend paying amount in week  $t$ ,  $N_t$  is the number of shares outstanding in week  $t$ .  $M_t$  is the market return in week  $t$ . This study considers the rate of return from the S&P 500 index for each week. This study uses the open stock prices of each week that are available on every Monday to capture the first opportunity of Google SVI effects that publish on every Sunday.

### Control Variables

This study considers some control variables such as the firm size, trading volume, and market-to-book value to explain the relations between investor attention and stock return. This study defines firm size as a firm-specific log of market capitalization which is calculated by stock price multiplied by the number of shares outstanding (Takeda and Wakao, 2014). The larger size of the company, the higher its stock return will be. This study defines the trading volume as the log of trading volume (Da *et al.*, 2011). The higher the trading volume of a certain stock, the higher its stock return will be. Market-to-book ratio is defined as the comparison between a firm's market price and its book value (Takeda and Wakao, 2014; Anusakumar *et al.*, 2017). The higher the ratio of market to its book value, the higher its stock return will be.

Table 2 summarizes the information of the variables that have been used in this study.



**Table 2. Variable Definition**

Variable	Definition	Source of Data
Market Adjusted Return ( <i>MAR</i> )	Change of the opening price of stock that adjusted for dividend and stock split subtract market index return.	Yahoo Finance
Investor Attention ( <i>ASVI</i> )	Logarithm of the SVI during a week minus the logarithm of the median value of the SVI of the previous 8 weeks.	Google Trends
Firm Size ( <i>FZ</i> )	log of market capitalization.	Datastream
Trading Volume ( <i>TV</i> )	log of trading volume.	Datastream
Market-to-book Ratio ( <i>MBR</i> )	Comparison between a firm's market price and its book value.	Datastream

Notes: The stock return is the dependent variable and investor attention is the independent variable. Firm size, trading volume, and market-to-book ratio are considered as the control variables.

## Regression Model

This study modifies the previous research model of Anusakumar *et al.* (2017) which used the stock specific sentiment and market sentiment to predict the stock return in the eight Asian emerging markets. Instead of discussing the effect of different types of sentiment on stock return in the different market, this study is more interested in examining the effect of investor attention on stock return in each sector of the S&P 500 stocks which is rarely noticed by previous studies.

This study examines the correlation among the variables first before regressing them in the model. The correlation matrix result is shown in Table 3. Table 3 shows the abnormal searching volume index, firm size, and trading volume are significantly correlated. So, to solve the multicollinearity problem, this study excludes the firm size and trading volume as the control variable. The regression model of this study is:

$$MAR_{i,t} = \beta_1 ASVI_{i,t} + \beta_2 BMR_{i,t} + \epsilon_{i,t} \quad (4)$$

where  $MAR_{i,t}$  is the stock return adjusted for rate of market return index in  $t$  period for firm  $i$ .  $ASVI_{i,t}$  is abnormal searching volume index in  $t$  period for firm  $i$ .  $BMR_{i,t}$  is the market-to-book ratio in  $t$  period for firm  $i$ .  $\epsilon_{i,t}$  is the error terms.



**Table 3. Correlation Matrix**

	<i>MAR</i>	<i>ASVI</i>	<i>FZ</i>	<i>TV</i>	<i>MBR</i>
<i>MAR</i>	1.000 - 0.650 (0.000)	0.650 (0.000)	0.051 (0.000)	0.057 (0.000)	0.009 (0.257)
<i>ASVI</i>	0.650 (0.000)	1.000 - (0.000)	0.014 (0.081)	0.109 (0.000)	-0.003 (0.688)
<i>FZ</i>	0.051 (0.000)	0.014 (0.081)	1.000 - (0.000)	0.465 (0.000)	0.009 (0.259)
<i>TV</i>	0.057 (0.000)	0.109 (0.000)	0.465 (0.000)	1.000 - (0.241)	0.009 (0.241)
<i>MBR</i>	0.009 (0.257)	-0.003 (0.688)	0.009 (0.259)	0.009 (0.241)	1.000 -

Notes: This table shows the Pearson correlations for the full sample of firm-year observations. Two-tailed p-values are shown in parentheses. *MAR* = Market Adjusted Return; *MAR* = The stock return adjusted for rate of market return index in t period for firm i. *ASVI* = Abnormal Searching Volume Index; *ASVI* = Logarithm of the SVI during t weeks minus the logarithm of the median value of the SVI of the previous 8 weeks for firm i. *FZ* = Firm Size; *FZ* = log of market capitalization in t period for firm i. *TV* = trading volume; *TV* = log of trading volume in t period for firm i. *MBR* = market-to-book ratio; *MBR* = comparison between a firm's market price and its book value in t period for firm i.

## Findings and Discussions

### Descriptive Statistics

Descriptive statistics of this study are summarized in Table 4. This study has 16,280 observations that are divided into full sample analysis and sector-based analysis. This study finds that the mean of market adjusted return (*MAR*) is 1.84% in the full sample analysis. The maximum value of market adjusted return is 202.96% from the Health Care Sector firm. The minimum value of market adjusted return is loss 74.63% from the Technology sector firm. Based on the average market-adjusted return, the most profitable firm is the Real Estate firm (3.33%) and the Health Care sector firm is the least profitable firm with 1.22%.

The mean of *ASVI* is 0.3%, this figure shows us for the whole sample the change of *ASVI* is small. The highest and lowest number of *ASVI* firm both are in the Energy Sector, 169.9% and -99.06%, respectively. The industrials sector has the highest firm market value, and the Consumer Staples sector has the lowest firm market value among the sample.

**Table 4. Descriptive Statistics**

<b>Panel A :</b>	<b>Mean</b>	<b>Minimum</b>	<b>Mean</b>	<b>SD</b>	<b>Observations</b>
<b>Full Sample</b>					
MAR	0.0184	-0.7463	2.0296	0.043	16,280
ASVI	0.003	-0.9906	1.699	0.102	16,280
MBR	1.7059	<u>-1,124.22</u>	<u>491.31</u>	<u>62.3733</u>	<u>16,280</u>
<b>Panel B : By Sector</b>					
<b>Consumer Discretionary</b>					
MAR	0.0164	-0.2587	0.4018	0.0409	3,036
ASVI	0.0038	-0.5051	0.9208	0.0892	3,036
MBR	5.6541	-42.3	150.95	16.6135	3,036
<b>Technology</b>					
MAR	0.0171	-0.7463	1.0954	0.0477	2,816
ASVI	0.0102	-0.45	1.0222	0.1162	2,816
MBR	4.6577	-110.43	30.15	13.8255	2,816
<b>Financials</b>					
MAR	0.0196	-0.1754	0.4281	0.0308	1,892
ASVI	-0.0016	-0.5883	1.301	0.0999	1,892
MBR	-0.708	-106.74	61.16	19.9505	1,892
<b>Industrials</b>					
MAR	0.0152	-0.2227	0.2284	0.0318	2,112
ASVI	-0.0007	-0.5952	0.7328	0.0945	2,112
MBR	11.4407	-134.23	491.31	58.4629	2,112
<b>Health Care</b>					
MAR	0.0122	-0.3839	2.0296	0.6508	1,980
ASVI	0.0033	-0.5942	0.7169	0.1172	1,980
MBR	1.2624	-273.45	108.47	39.8035	1,980
<b>Consumer Staples</b>					
MAR	0.023	-0.2492	0.1682	0.2829	1,012
ASVI	-0.0014	-0.4698	0.585	0.0736	1,012
MBR	-37.057	-1,124.22	74.74	220.2189	1,012
<b>Real Estate</b>					
MAR	0.0333	-0.062	0.291	0.0292	924
ASVI	-0.0017	-0.6427	0.3767	0.0869	924
MBR	2.9438	-7.6	10.35	2.6848	924
<b>Energy</b>					
MAR	0.0157	-0.3175	0.3998	0.0456	1,056

<b>Panel A :</b>					
<b>Full Sample</b>	<b>Mean</b>	<b><u>Minimum</u></b>	<b><u>Mean</u></b>	<b><u>SD</u></b>	<b><u>Observations</u></b>
ASVI	0.0079	-0.9906	1.699	0.146	1,056
MBR	2.0873	0.67	5.65	1.0706	1,056
<b>Utilities</b>					
MAR	0.0324	-0.1486	0.0886	0.0224	616
ASVI	0.0012	-0.6097	0.7373	0.0892	616
MBR	2.0435	1.1	3.19	0.451	616
<b>Panel B :</b>					
<b>By Sector</b>	<b>Mean</b>	<b><u>Minimum</u></b>	<b><u>Maximum</u></b>	<b><u>SD</u></b>	<b><u>Observations</u></b>
<b>Materials</b>					
MAR	0.0207	-0.0934	1.0223	0.0464	792
ASVI	0.0001	-0.2445	0.3279	0.0532	792
<u>MBR</u>	<u>4.3514</u>	<u>0.71</u>	<u>10.5</u>	<u>2.3319</u>	<u>792</u>

Notes: This table presents the descriptive statistics data of this study. Panel A presents the descriptive statistics data of the full sample. Panel B presents the descriptive statistics data for 10 sectors. MAR = Market Adjusted Return; MAR = The stock return adjusted for rate of market return index in t period for firm i. ASVI = Abnormal Searching Volume Index; ASVI = Logarithm of the SVI during t weeks minus the logarithm of the median value of the SVI of the previous 8 weeks for firm i. MBR = market-to-book ratio; MBR = comparison between a firm's market price and its book value in t period for firm i.

## Findings

Panel A of Table 5 shows ASVI is positively and significantly related to market adjusted return. This result shows a one-standard-deviation increase in ASVI leads to a significant positive price change of 6.5% in the current week. This result is consistent with Anusakumar *et al.* (2017), Cziraki *et al.* (2017), Takeda and Wakao (2014), Zhang *et al.* (2013), Bank *et al.* (2011), and Da *et al.* (2011).

Panel B of Table 5 specifies this relation based on sectors and shows ASVI significantly positive related to stock return in the Technology, Health Care, Real Estate, and Materials sectors. Vozlyublennaiia (2014) stated that the investor attention can affect the stock performance in the short run. This positive effect could be a reflection of positive fundamental information of that firm that is reflected by ASVI, such as a dividend announcement, launching new product announcement, etc (Da *et al.*, 2011). This statement aligns with the result for the Technology, Health Care, Real Estate, and Materials sectors. Any positive

announcement and innovation in these sectors will positively influence their stock price.

Da *et al.* (2011) pointed out that the significant positive effect of ASVI on the stock return is based on the price pressure hypothesis. The higher investor attention due to the buying activity, the stock price will rise higher. Some researchers mentioned high risk, high involvement products, high price products, medicine, and the health-related product have a greater chance in using Google Trends to reflect search behavior (Beatty and Smith, 1987).

In the Technology sector, a one-standard-deviation increasing in ASVI leads to a significant positive price change of 17.2% in the current week. This sector is a determining pillar of a country's economy in the past decade (Koh and Venkatraman, 1991). The technology sector corresponded with high technology (Gaba and Meyer, 2008). They are a high-risk sector because they must always be aware of their competitors. They also need be innovative, renew their business model gradually, and adopt some new innovative venturing practices to disrupt their competitor's technology. In this sector, Google Trends can reflect the investor attention well and even shows the significant positive relation on the stock return.

In the Health Care sector, a one-standard-deviation increase in ASVI leads to a significant positive price change of 15.1% in the current week. Beech and Leather (2006) pointed out the risk of this sector that came along with many circumstances and sudden events. This sector is closely related to health so that the risk and involvement of consumers become very high. The public trust can influence the rise and fall of a company in this sector. In this sector, investor attention can be reflected in Google Trends well and even shows the significant positive relation on the stock return.

In the Real Estate sector, a one-standard-deviation increasing in ASVI leads to a significant positive price change of 9.7% in the current week. The real estate sector is illiquid and heterogeneous involving high transaction costs upon sale, and lack of transparency (Gotham, 2006). The real estate sector has various financial risks within, such as fluctuations in capital availability for financing, the local real estate market competition, protection of limited liability, and also the change of taxation laws (Gotham, 2006). The commercial and residential real-estate also involves a relatively high risk and sometimes long-term investment (Gotham, 2006). The price of the real estate product is relatively high compare to other sectors, and can even be used as a riskiest opportunity for investors to try their luck to double their investment (Koetter and Poghosyan, 2010). In this sector, Google Trends can represent investor attention well and even shows the significant positive relation on the stock return.

In the Materials sector, a one-standard-deviation increase in ASVI leads to a significant positive price change of 6.8% in the current week. The Materials

sector is a sector that is difficult to accept an innovation. In this sector, investors and management view the innovation of using new materials and new technologies in the material sector that can lead to higher production costs and risks (Russell, 1996). The longer lead times than existing conditions will be a result of applying something new. In this sector, investor attention can be represented by Google Trends well and even shows the significant positive relation on the stock return.

### Table 5. Regression Results

[illegible]

Notes: Panel A presents the result of the full sample regression. Panel B presents the sector-based analysis for this model. MAR is market adjusted return. ASVI is abnormal searching volume index. MBR is the market-to-book ratio. The significantly positive coefficient of investor attention (B1) shows a higher level of Google Search on Sunday will increase the next Monday stock price, especially for the Information Technology, Health Care, Real Estate, and Materials. High market-to-book ratio (B2) will result in a high stock return. \*, \*\*, and \*\*\* show significance at the 10%, 5%, and 1% level respectively.

ASVI has a significant negative relation to market adjusted return in the Energy sector. Panel B of Table 5 shows a one-standard-deviation increase in ASVI in Energy sector firm leads to a significant negative price change of 9.5% in the current week. This attention could be a result of the negative news in this sector. The energy sector has a close relationship with the environment and health. So, the market expectations for this sector to lowering their bad impact to the environment become high (Sagar and Van der Zwaan, 2006; Tan and Foo, 2007; Schaeffer *et al.*, 2012). But, most of the times, their bad news catch the attention from the market and affect the stock performance. After all, the Google Trends in this sector still works well and shows the significant negative effects on the stock return.

In other sectors, the relation of ASVI and market adjusted return is not significant. Market-to-book ratio has significant positive effects on market adjusted return in the Industrials, Health Care, and Real Estate sectors. For the Financials and Energy sectors, the relation between the market-to-book ratio to market adjusted return is a significant negative.

## Discussions

This study only considers a short-run effect, which shows the immediate effects of investor attention in that week on stock return in the next Monday. Attention will reflect stronger in short run rather than long run. Through this method, this study effectively captures the effects of investor attention to stock return and gives a more specific contribution to the investor in their investment decision that may include stock selection and weighing in the portfolio. There are some sectors in the stock market do not reflect the investor attention to stock return well. Through this sector breakdown also makes us know there is a significant negative effect of investor attention on the stock return in the Energy sector. This result will not be discovered without the sector based analysis. Looking at the full sample analysis only the significant positive effects of investor attention on the stock return that will be discussed. So, this study argues it is important to make a sector based analysis on investor attention.

## Conclusions and Recommendations

The market becomes efficient because of the internet development. The investors can easily find information that they want and show their attention through the internet. Previous literature shows investor attention could affect stock return.

Through this study, the relation between investor attention and stock return has been discussed further. In fact, not all stocks return rates will be influenced by investor attention. This study demonstrates that only in the Technology, Health Care, Real Estate, Energy, and Materials sectors, investor attention can significantly affect stock return.

In the Technology, Health Care, Real Estate, and Materials sectors, the effects of investor attention on the stock return are positive. In the Energy sector, the effect is negative. This result further explains the information search behavior only occur in certain products or events (Jun *et al.*, 2018). High risk, high involvement products, high price products, medicine, and the healthrelated product will have a greater chance of using Google Trends to reflect search behavior (Beatty and Smith, 1987). This study also proves that in these mentioned characteristics sectors also tend to have a significant influence on investor attention towards the stock return. This study suggests the effect of attention on stock return only applicable to the certain sector of stocks.

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# East Java Province Participation in the Dairy Industry of Indonesia: Opportunities and Challenges

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## Abstract

*This paper aims to explore the research theory and findings using participation descriptions in determining the impact of dairy industry based on the global value chain in the Industrial Revolution 4.0. The gap between demand for dairy products and their derivatives become an opportunity for an added value for domestic production that has not been able to produce fresh locally in Indonesian. Participating in the Global Value Chain (GVCs) has played an important role for the Indonesian Milk industry, especially fresh milk. Where there is large changes in GVC under the influence of the Industrial Revolution 4.0. In the future, there will be specific production changes in imported global supply chains. Analyzing the opportunities and challenges of world technology development will bring opportunities to increase production and trade capacity, especially through Foreign Direct Investment (FDI) channels. Challenges will come from gaps in production capacity and workforce skills. Therefore, to take opportunities and overcome challenges requires reforms in the production and education systems to reduce inequality and pursue world production and collaboration through quadruple helix models*

**Keywords:** GVC, East Java; rebranding process; quadruple Helix; Industrial revolution 4.0

## Introduction

Changes in the world are now entering the industrial revolution era 4.0 or the fourth world industrial revolution where information technology has become the basis for human life. We are at the beginning stage of the revolution, a whole picture of how Global Value Chain (GVC) will change the impacts of the industry revolution 4.0 (IR4.0) is unclear. While collaboration between actors quadruple helix model such as Government, Business, Academician, and Civil Society requires an active role in adaptation and collaboration. Everything becomes borderless with computing and data usage because it is influenced by the development of the internet and massive digital technology as the backbone

of human and machine movement and connectivity. This era will also disrupt various human activities, including the fields of science and technology and higher education.

Technology disruptive the fourth generation industrial revolution is characterized by the emergence of super computers, artificial intelligence or digitalization. There will be a lot of lost work replaced by robots or artificial intelligence. But, it also becomes an opportunity because many new fields of work are emerging. There are several competencies needed to prepare for the industrial era 4.0 including the ability to solve problems, adaptability, collaboration, leadership, and creativity and innovation. The speed and size of the changes that arise by the fourth industrial revolution must not be ignored. This change will bring changes in power, shifting wealth, and knowledge. Only by having this knowledge of IR4 we can make sure that changes and speed can be made sure that progress in knowledge and technology reaches all and makes use of it all (Min Xu, Jeanne M. David & Suk Hi Kim; 2018).

Importantly, however, some of the greatest impacts of the IR4 will play out not at a national scale, but at the regional scale. The nature of cross-border relations and economic interaction will be revolutionized. It will not be enough to think only about a national response. The transformative impact of IR4 will require countries to think deeply about their policies and priorities on a national scale. Many ASEAN governments are aware of this need and have launched a national response (Menon, Jayant., Et., Al, (2018). It is important that some of the biggest impacts of IR4 will be played not on a national scale, but on a regional scale. Cross-border relations and the interaction economy will be revolutionized, it will not be enough to think about national responses.

The dairy industry also faces considerable challenges, ranging from increasing inequality, rapid urbanization and the effects of climate change. One of the most important challenges that will come from the spread of the Fourth Industrial Revolution (IR4). The IR4 is a combination of cross-physical, digital and biological technologies that change the way we live. "Disruptive technologies" such as artificial intelligence, robotics, blockchain and 3D printing change social, economic and political systems, often through unexpected means. The revolutionary change is not only because of the extent of the affected sector, but also because of its speed. New technology emerges faster and demands adaptation and adoption more quickly.

Indonesia's Dairy Industry needs to scale up to meet local demand. Besides, Madani (2013) notes that almost all Indonesian milk comes from Java Island (e.g East of Java, Central Java, West of Java). Java Island is the main island of the country in terms of population and economic activity along with the increase in the amount of fresh milk production by farmers, especially those who are members of dairy cooperatives, the number of dairy cows still

not be able to meet the needs of consumers and the milk processing industry and Foreign Direct Investment (FDI) in Indonesia.

The consumption of milk and dairy products continues to increase rapidly in Indonesia, that create an attractive market for local producers and foreign exporters. While inadequate road and rail links and a lack of cold storage facilities still pose logistical challenges for overland transportation of perishable goods, the expansion of modern retail across the island nation is given consumers ever more accessible to fresh dairy products. Indonesians' growing appetite for milk and its derivatives bodes well for dairy consumption going forward. The country's large potential market and western diets in the fast-growing of Southeast Asian region could make

Dairy cooperatives have a crucial and active role in the milk value chain in encouraging the dairy industry as most of the small scale dairy farmers organized through cooperatives. Most of those cooperatives are the members of the Indonesian Union of Dairy Cooperatives (GKSI) (Morey, (2011). Value chain is coordinated value-adding activities that link producers to the end consumers. The firms add values in a coordinated way from the raw materials to the final products by adding value at each level in a profitable and sustainable ways. Exploring the research theory and findings the descriptions of participation in determining the impact of dairy industry based on the global value chain in the Industrial Revolution 4.0. should to be done.

## **Method**

### **From Value Chain to Value Network of dairy industry in Indonesia**

The concept of a value chain has assumed a dominant position in the strategic analysis of industries. However, the value chain is underpinned by a particular value creating logic and its application results in particular strategic postures. Adopting a network perspective provides an alternative perspective that is more suited to New Economy organisations, particularly for those where both the product and supply and demand chain are digitized (Peppard, & Rylander,2006). The use of information and communication technology (ITC) is a necessity for the business world. Various operators and internet providers offer various advantages and uses that are claimed as user friendly. The use of ITC is a challenge undoubtedly as well as an opportunity for strengthening the value chain in the dairy industry.

The value chain is both a concept and tool has been used for the last 30 years to understand and analyse industries (Peppard, & Rylander,2006). It has proved a very useful mechanism for portraying the chained linkage of activities that exist in the physical world within traditional industries, particular for manufacturing. Furthermore, it has also framed our thinking about value and value creation. However, products and services become dematerial and the

value chain has no longer a physical dimension and the value chain concept becomes an inappropriate device to analyse many industries today and uncover sources of value. This is particular evident in sectors such as banking, insurance, telecommunications, news, entertainment, music, advertising, and certain areas of the public sector (Peppard, & Rylander, 2006).

In addition, many industries now exhibit strong co-operative behaviour (Peppard, & Rylander, 2006) with inter-firm relationships playing a significant role in strategic performance (Peppard, & Rylander, 2006). The focal of the value chain is the end product and the chain is designed around the activities required to produce it. The logic that every company occupies a position in the chain; upstream suppliers providing inputs before passing them downstream to the next link in the chain and the customer. With the value network concept, value is co-created by a combination of players in the network.

## **The Integration Process and GVCs Participation of Indonesia**

Indonesia has been actively involved in the international integration process. The international integration helps Indonesia to connect the Global economy, improve production capacity and expand exports. So far, Indonesia is listed in the group of the largest 20 exporters in the world. The production has majorly joined some GVCs including food security, energy, apparel and footwear.

### ***Identify Various Prospects and Challenges for Dairy Industry Value Chain***

Indonesia is an attractive hub for dairy manufacturing, provided that sufficient raw materials can be sourced from local dairy farms. The widening gap between national farm output and dairy consumption reflects poor agricultural productivity, but also points to upstream business prospects. Domestic output fails to meet the needs of the processing industry in terms of both quantity and quality, the bulk of milk used by local industries is shipped in from abroad (Madani, 2013). Various kinds of common constraints and opportunities in Dairy Sector Development identify various prospects and challenges for East of Java's Dairy industry value chain and identify various opportunities for organizations to provide critical standard infrastructure that will be improve value chain supported by efficiency of dairy supply chain. Key driving forces in the Dairy Transformation includes two things: Demand drivers and Supply shifters (Daryanto, 2014).

## **Findings and Discussion**

Investment opportunities lie in scaling up production, introducing modern technology and improving farming methods. By contrast, the small scale of dairy farming, the dairy processing industry comprises major local companies

(Indomilk and Ultra Jaya) and multinational companies (Danone, Frisian Flag and Nestle).

### **Suggestion Model in East Java**

Dairy industry development includes various activities and models that have been done in Indonesia, such as: Firsty Cimory Model. Farmers organized in Dairy cooperatives, Support to improve the milk supply chain (milk collection and procurement activities). Cimory is Private business processing plant. The product are raw milk, yogurt, mayonaise and Cheese. Cimory sells these products through restaurants, networked retail stores. (source IFC 2011 in Daryanto 2014). Secondly, Nestle Model, Collaboration Nestle and Dairy cooperatives. Farmers organized in Dairy cooperatives, Nestle support to Cooperatives through either technical of financial assistance. Support to improve the milk supply chain (milk collection and procurement activities), and to strengthen farmers viability (milk quality, feed & fodder, animal health, biogas) (Source : Nestle, 2013 in Daryanto 2014). Milk Procurement & Dairy Development Department with Dual Functions. For example: Milk Procurement Section in the Short term including: Volumes, Quality control, Suppliers (Coops) operational set up, Standards, Commitments. Dairy Development Section in the long term including: Sustainable growth, Dairy farmers, Productivity improvement, Development projects, Sustainability of dairy farming, Commitments.

However, procurement section and dairy development section will gain Develop trust of Nestlé FM suppliers for a long-term sustainable business relationship. 3 major focus areas for long-term development: Technical support through a team of Field professionals with relevant operational background: animal husbandry, veterinary sciences, agronomy; Variety of improvement programs aiming at increasing long-term sustainability performance of dairy Cooperatives & dairy farmers. Thirdly ,PisAgro Model. Through Agro Business Model, 18 Cows grouped by performance into three groups basis eachcows'dairy's milk yield. Grade A: Milk yield > 15 ltr/day; grade B : Milk yield 11- 15 ltr/day; grade C : Milk yield < 10 ltr/day.the models also has integrated Dairy Farming Development, Animal population, start up new regions and rearing farm. Model Farming Technical assistance: Feeding and silage; Milk collection :set up and biogas tanks. and than Market for farmers FM. Partners. East Java Goverment Facilitation (CSR companies, Banks) , Nestle Cargill Dupon, Farmers Group (WEF, 2014 in Daryanto, 2014). Forthly, Gapoknak Sugih Mukti Mandiri Model, Subang West Java (Daryanto, 2014). Winner of 2014 Competitive Product Award in Livestock Products, Ministry of Agriculture 2014. Gapoknak is able to pay higher prices to dairy farmers as its business model is based on the production of higher value added dairy products. Products : 1. Liquid Milk (*Pasteurisasi*), 2. Yogurt & Yogurt Sticks, 3. *Kerupuk Susu*, 4. *Puding*.



Based on the empirical reality that has been implemented in East Java between dairy cooperatives and commercial farms there are various roles from the provincial government. East Java Suggestion Model, can learn from Nestle Model for example collaboration Nestle with Dairy cooperatives. (Daryanto 2014)

Investment opportunities lie in scaling up production, introducing modern technology and improving farming methods. The world technology development will bring chance to improve production and trading capacity, especially through Foreign Direct Investment (FDI) channel.

The countries of ASEAN are political, economical and social diverse. However, the IR4 will bring many common opportunities and challenges. The IR4 has significantly potential increase the wealth of ASEAN countries. Increased productivity from “disruptive technologies” could unleash an additional US\$220 billion to US\$625 billion in annual economic impact in ASEAN by 2030 (ASEAN Secretariat, 2016). The IR4 will massively expand consumer choice, lower costs and raise quality, all of which will be equally hard to value. It can also be a powerful force for economic inclusion. IR4 technologies will create new ways for citizens to connect and trade with each other, and to access services that are not currently available.

Under the IR4, citizens will gain access to new sources of information, such as high frequency news and market prices that can materially affect incomes and welfare (Jensen, 2007). It can also enable new forms of education such as online courses and virtual classrooms, new healthcare for example telemedicine powered by smartphones linked to diagnostic pills, and new financial services. The result could be 6 much more inclusive forms of economic growth. As the IR4 promotes greater automation and digitization of customs and other public administration processes and procedures, the opportunities for corruption and rent-seeking activities will be reduced. Though it cannot eliminate corruption, it can reduce the extent which has direct contact between public officials and private business operators, making rent seeking activities more difficult to pursue. Besides, the collection of government taxes and other revenues should increase. As a result, it improves public finances.

The IR4 could also empower small and medium enterprises (SMEs). SMEs are the backbone of ASEAN economies. However many SMEs are limited in their ability to grow because of the lack of access to finance, business services, information, and constrained access to markets beyond their immediate neighborhood. Technologies of the IR4 will create the opportunity for developing countries to leapfrog by passing traditional phases of industrial development. Mobile phones already reduced the expensive fixed landlines. Online and mobile banking are reducing the need to build networks of physical bank branches. Simultaneously new technologies will impact country priorities

for infrastructure investments. Localized renewable energy production, such as solar power coupled with new battery storage technology, could reduce the need for investing in expensive power distribution networks. Especially, Drones could help to deliver light-weight, high-value goods such as medical supplies to remote regions with poor transport infrastructure. Drones do offer the opportunity to design for transport infrastructure in new ways and reduce the need for “last-mile” road connectivity. It can also help with connecting the unconnected. Some ASEAN nations, like Indonesia, the Philippines and Malaysia, are archipelagic, and physical connectivity have long been a concern for economic development. The IR4 offers new possibilities for developing distributed structures for services that can overcome geographical limitations. Drone delivery also offers an opportunity to provide improved access to vital supplies. It can also be used to fight congestion on roads and reduce traffic related fatalities. “Smart” urban transport systems that combine multiple technologies and integrate them into a connected system will provide more efficient options for getting around cities, and reducing road accident, congestion and pollution. It can also be employed to improve the way we manage the environment. Recent calculations suggest that 40% of the land in six ASEAN countries is suffering from “severe or very severe” human-induced degradation (Anbumozhi and Intal, 2015). Artificial intelligence, drones and remote sensing offer opportunities to monitor fisheries and forestry activities much more effectively. Irrigation systems can be automated and blockchain and used to manage water allocations.

The IR4 also has the potential to transform agriculture. Many ASEAN countries have large agricultural sectors and the IR4 could impact farming positively. In the short term, the impact of farmers to the internet has already brought well-documented improvements to farmer productivity, profitability and sustainability. Smartphones give farmers better access to market prices, weather information, and knowledge about soil, seeds and fertiliser. Smartphones may also enable a “sharing economy” to farmers, who can’t afford to buy mechanical equipment can rent it by the hour from other farmers by accessing online sharing sites. Furthermore, the IR4 could improve the traceability of products, reduce logistics costs and overcome the constraints of agricultural finance by enabling suppliers to use new credit scoring technologies. In the longer term. New technology will enable the easier creation of elite genetic material (seeds, plants, and livestock) and the increasing usage of microbiology in farming systems for farming a primary a biological process.

Even healthcare is likely to benefit from the IR4. It will enable new business models for delivering health services (such as telemedicine), but more fundamentally, the IR4 will also enable doctors to collect and understand genetic, environmental and behavioral data on their patients. This will enable the identification of preventative actions, treatments or cures that are increasingly tailored to a specific individual or community. Sometimes referred to “precision



medicine” and this will not only improve medical treatment, but also potentially reduce the costs of providing health services by reducing money spent on inappropriate medicines.

Finally, the IR4 will facilitate upgrading of disaster preparedness. Southeast Asia is particularly vulnerable to the impact of climate change given the continued reliance on agriculture by much of the population, heavily populated coastlines, and continued incidence of poverty. However, the region has huge potential to contribute to climate change mitigation. Blockchain technologies allow for cost-effectiveness and transparent carbon emissions tracking and the establishment of carbon markets such as the one established in People’s Republic of China (PRC). Equally, IR4 technologies can provide new ways of preparing for disasters and delivering aid to the worst affected regions.

### **From Value Chain to Value Network in Dairy Industry**

Supply chain requires companies / dairy cooperatives produce raw milk that efficient and effective and met customer satisfaction. While the customer value chain responds to customer requests as the part of strategic management that achieves competitive advantage. Dairy value chain development comprises extension, input supply (feed, bull services, and veterinary services) milk production, dairy processing and milk and milk products marketing. The rapid increase in demand means Indonesia will heavily depend on milk imports in the foreseeable futures which creates an attractive market for oversea exporters. Besides, investment opportunities lie in scaling up production, introducing modern technology and improving farming methods

It is clear that IR4 will be disruptive to labor markets. Artificial intelligence and robotics are rapidly increasing the jobs that machines can perform better and faster than people. Retraining and skills development may cushion the impact of automation, but they will not prevent deep disruption. Therefore, the IR4 is likely to add to inequality between and within countries. However, this promising trend has been accompanied by growing inequality within countries. The impact of the IR4 has the potential to accelerate returns to talent and knowledge. Industrializing within many Asian countries has been based on the supply of relatively low-cost and low-skilled labor attracting foreign investment. But artificial intelligence and robotics will decrease the competitiveness of low-cost and low-skilled labour. Equally, 3D printing will transform the nature of manufacturing. Today, many goods are made at centralized locations operating at scale and producing standardized products. However, rapid movement towards knowledge based economies will be required for ASEAN to remain competitive.

There is also concern that the IR4 could lead to further concentration of market power by large global firms. While the IR4 has the potential to empower for ASEAN’s SMEs, but it may create difficulties for larger ASEAN businesses.

This is especially true for “platform businesses”, the types of company that require scale to be competitive, such as banks, and online marketplaces. Under the IR4, the spread of digital networks means that the economics of platform businesses have no longer experience diminishing returns to scale. For example, Vulnerability to cyber-attacks is likely to increase over time. As ever more devices, sensors and machines are connected to the internet, the potential for damage and disruption from cyberattacks that is rising significantly.

### **The Integration Process and GVCs Participation of Indonesia**

Regional cooperation role can play with their IR4. The benefits of regional cooperation are well understood by ASEAN nations. Deeper integration allows businesses to access larger markets and become more efficient. It lets employers source workers and skills from a larger pool. It creates opportunities for cross-fertilization of ideas, transferring of knowledge and for new forms of collaboration that connect different resources in complementary ways. It can also help manage or mitigate cross-boundary issues such as pollution and transnational crime. But under the IR4, the need for regional cooperation and the benefits that flow from deeper regional collaboration is significantly heightened. Indeed, it is well documented that the IR4 does not recognize national border.

Second, changes in technology that affect manufacturing and trade will have implications that require a regional response. Today, ships and offshore oilrigs already use 3D printers to manufacture spare parts on board.

Third, changes in technology that affect services and its delivery may also require regional standard setting. Cross-border trade is shifting in other important ways too, noticable with the rise of trade in services related to goods. Cloud services promise giant opportunities to bring much needed services to ASEAN citizens, especially in remote areas at much more affordable prices.

Fourth, the IR4 may also hasten the need for a harmonized regional business environment. To succeed in the era of the IR4, ASEAN’s platform and infrastructure businesses such as banks, payment firms, online marketplaces, logistics providers will need to operate at regional scale. Harmonizing laws and regulations between countries, and promoting open access to ASEAN businesses will be essential to addressing this. Without harmonizing business regulations, homegrown ASEAN companies have to a risk lose out to larger rivals from outside the region. These larger rivals have grown up in naturally large domestic markets such as the US or PRC and have used their home-grown scale to invest in innovation

Fifth, regional governments may have to work more closely to collect taxes on crossborder transactions. When products become virtual, and services move online and are delivered remotely, it changes the ability of government to levy and collect taxes. To the rise of cross-border commerce linked to digital

platforms, governments will need to work with each other on defining what tax rules will govern regional commercial interaction.

Sixth, they may also be a need to connect innovation and incubators across the region. Innovative SMEs and start-ups will be critical to capturing the opportunities of the IR4. Many ASEAN countries already have innovation hubs and incubators at a national level. But new businesses will need to operate at scale, and to reach scale rapidly in order to be competitive. ASEAN leaders should think about how to connect national incubators into regional networks,

Seventh, the need for regional education networks will increase with the IR4. Countering job disruption from the IR4 will require a transformation of education. The skills needed to thrive under the IR4 that will not only focus on technical capabilities, but also on creativity and innovative problem-solving. Online education will give students accessible to education opportunities beyond their borders.

Finally, the need to reduce barriers to labor mobility will become more pressing with the onset of the IR4. To grasp the opportunities presented by the IR4, countries will need to access to pools of human capital with new skills, such as data statistics, IT systems managers, and software coders. Reducing barriers to the mobility of skilled workers in the region would help to meet this demand (Batalova, Shymonyak and Sugiyarto, 2017)

All of the issues listed here will demand a regional approach to governance, policy and regulation. But underlying these challenges, it sits broader questions that ASEAN leaders must consider. These questions centre on the importance of “values”. All new technologies have human values mixed into them to some degree

## **A New approach to Regional Governance**

The proliferation of GVCs and growing trade in intermediates call for a paradigm shift in how trade policy should be considered. Like many other nations, Indonesia aspires to improve its position in GVCs by moving towards higher value-adding activities. It argues that while there is scope for policy intervention to enhance GVC participation, this needs to be done in a holistic and coherent manner. Policy formulation needs to be aware and take account of the factors affecting the governance of GVCs, as well as the ability of the value chain participants to upgrade into 4RI. The IR4 will not only affect the priorities and issues for regional integration within dairy industry in Indonesia. It will also require a new approach to how these policies are created and implemented. For example,

- Delegate key activities to affiliated functional bodies
- provides a platform for public and private partnerships (PPPs) in investments required under the dairy industry in Indonesia Connectivity

Masterplan delegated responsibility for this fund to other experts. In this case, the management and administration of the fund is carried out by the Bank on behalf of the dairy industry in Indonesia organization.

- Shift from long-term blueprints to rolling three years plans
- Ask the people: Democratize and decentralize

The IR4 is upon us and will transform our way of life. “Disruptive technologies” such as artificial intelligence, robotics, blockchain and 3D printing are transforming social, economic and political systems, often in unpredictable ways. The changes are revolutionary not only due to the breadth of the sectors impacted, but also due to the speed.

To address the challenges and seize the opportunities of the IR4, dairy industry in Indonesia will need a new way of formulating policy and regulation that is agile, rapid, iterative, inclusive and open.

Importantly, however, some of the greatest impacts of the IR4 will play out not at a national scale, but at the regional scale. The nature of cross-border relations and economic interaction will be revolutionized. It will not be enough to think only about a national response.

It considers what impact that the IR4 will have on the region and how dairy industry in Indonesia can continue to thrive.

## Conclusions

Dairy value chains work for smallholder farmers, and the way that governments can achieve this aim through public and private partnerships (PPPs). Applied to Dairy value chains, PPPs seek to catalyze new investments, upgrade supply chain, or improve the performance of poorly functioning chains through joint activities that capitalize on the complementary resources and competencies of public and private partners.

Economic improvement may not always require social improvement. When innovation fosters economic progress, but neglects the role of the community such as the triple helix paradigm and the role of civil society as a quadruple helix paradigm that is needed.

Third, the potential benefits of domestic relations created by GVC participation are all too often underestimated by value chain analysis that severely limits vertical relationships in the chain, and the narrow pursuit of improvement in terms of moving downstream.

Value chain governance influences how resources allocated and profits are distributed along the chain. This also partly determines the scope for learning and improvement for participating domestic companies.

The industrial revolution is currently entering its fourth phase. The rapid development of science and technology has a major impact on human life. The ease and innovation were gained by the support of digital technology. Services are faster and more efficient and have a wider range of connections with online systems and hope life becomes easier and cheaper.

Digitalization program also has a negative impact. The role of humans is gradually being taken over by automatic machines. As a result, the number of unemployed is increasing. Of course, this will add to the burden of local and national problems. utilization of opportunities and answering the challenges of the industrial revolution 4.0 make educated students and college alumni. have data literacy, technology and human capabilities.

Data literacy is needed to improve skills in processing and analyzing big data for the benefit of improving public and business services. Technology literacy shows the ability to utilize digital technology to process data and information. While human literacy must be mastered because it shows elements of soft skill or individual character development to be able to collaborate, adapt and become wise in the era of “flood” information.

Further researchis suggested for future experiments involving. Industry revolution 4.0 and developing a creative economy through quadruple helix models and roadblock implementation of global value chain in IR4.

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# Strategy for Developing the Local Foundation for Small Business Enterprise in Indonesia: A Review of the Industrial Revolution 4.0

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## Abstract

*The purpose of this article is to study the ideas, essence, and nature of the SMEs Program in Indonesia in welcoming the Industrial 4.0 era. The methodology used includes literature analysis methods, systematization, classification of knowledge and systemic analysis methods, structural & functional analysis. The information base of this study includes materials from legal normative documents and the official government from various agencies. We carry out a systematized conceptual approach and classify the knowledge in the Industrial sector 4.0 from government ideas on SMEs to deal with the Industrial 4.0 era. We offer the concepts that support the strengthening of the foundation for the development of SMEs in Indonesia to face the Industrial 4.0 era. Our concept is presented as a new industrial model for SMEs. We conclude this model as a dynamic strategy for SMEs to face the Industrial 4.0 era. This concept is a zoning-based development model for Small and Medium Enterprise (SMEs) and can be ascertained to strengthen the supply chain value in accordance with the government programs. The SMEs database system that will be integrated with the e-commerce in Indonesia will make it easier for the prospective and the customers of SMIs to find their needs since they have been zoned. Finally, SMEs will no longer see the consequences of Industry 4.0 as frightening, but it will become a guide to develop their new globalized and standardized industries. This will realize the development program of the real sector that can withstand the economic downturn from the influence of the world economic system.*

**Keywords:** Industry 4.0; Small and Medium Enterprise; Zoning Sytem; Economic Developmen



## Introduction

Small and Medium Enterprise are beginning to feel the touch of a virtual world that unites human connectivity with machines and data through its operations. This change is a demand from industry 4.0 which opens the opportunities and challenges to develop or be eliminated from change. Industrial 4.0 age integrates an online systems towards the production lines in both Small and Medium Enterprise. All of SME production processes are carried out using the internet as the main support for its operations (Arifianto & Himawan, 2018). The Noveria (2018) report in *alineia.id* explains that the Indonesian government through Making Indonesia 4.0 provides a clear direction for national industry movements. Its implementation is claimed to be able to boost the real GDP growth by 1-2% per year, so that GDP growth per year will increase from the baseline from 5% to 6-7% in the 2018-2030 period. From these achievements, the manufacturing industry will contribute about 21-26% of GDP in 2030. *Making Indonesia* (2018) presented states that Indonesia will push 10 national priorities in the initiative of “Making Indonesia 4.0”.

One of these 10 priorities is empowering MSMEs, where nearly 70% of Indonesia’s workforce works for micro, small and medium enterprises (MSMEs). Therefore the Government of Indonesia agrees to support the MSME businesses by building e-commerce platforms for MSMEs, farmers and craftsmen; building technology centers in order to improve MSME access toward technology acquisition, and providing the mentoring support to encourage innovation. One of the efforts, that is encouraged continuously by the government on the digital economy trend towards SMEs, is to market their products countinuously through online trading with the e-Smart IKM program collaborating with Bukalapak market-place, Tokopedia, Shopee, BliBli, Blanja.com, and Ralali, and Gojek Indonesia (Kusuma, 2018). The problem is whether not the human resources in the SME industry can answer these challenges? Therefore, we set the objectives of this article to study the ideas, essence, and nature of SME Programs in Indonesia in facing the Industrial 4.0 age.

## Methodology

The methodology used in this study includes literature analysis, systematization, classification of knowledge and systemic analysis methods, structural & functional analysis. The information base of this study includes materials from legal normative documents government official from various agencies. We carry out a systematized conceptual approach and classify existing knowledge in the Industrial 4.0 sector based on the government’s idea of Small and Medium Enterprise in order to deal with Industry 4.0 trends.

Literature review of Moeuf, Pellerin, Lamouri, Tamayo-Giraldo, & Barbaray (2018) shows that Industrial 4.0 projects in SMEs are cost-driven



initiatives and there is still no evidence of the transformation of a real business model at this present time. This is proved by the results of their research showing that SMEs do not exploit all resources to implement Industry 4.0 and often limit themselves to Cloud Computing adoption and the Internet of Things. Likewise with SMEs in Indonesia, in accordance with the aim of making Indonesia 4.0 program which is still in the stage of building an e-commerce platform nationally, building bank technology and developing the business foundation of SMEs (Kearney, 2018).

## **Result and Discussion**

### **Indonesia Road of New Industrialization**

“RI Strategy Entering the 4th Industrial Revolution,” (2018) explains that the basic steps that have been initiated by Indonesia, namely improving the competence of human resources through link and match programs between industry and education. This effort is carried out in synergy between the Ministry of Industry and related ministries and institutions such as Bappenas, the Ministry of BUMN, the Ministry of Manpower, the Ministry of Education and Culture, and the Ministry of Research, Technology and Higher Education. Along with the government’s move, Massepe (2018) presented the need for the development of science areas in the region (Science Techno Park) which collaborate the triple helix (government, universities and industrial corporations) to develop the STP (Science Techno Park) in the region as the heart of industry 4.0. Thus the steps taken by the government are still at the level of a concept that is socialized to deal with and respond to the challenges and threats of changing trends in the industry. While Priyadi (2018) analysis of industrial travel in Indonesia stated that it still need an export-oriented industry not only to create a rapid growth but also to obtain foreign exchange to finance the machinery import and industrial equipment in the country to mass produce needs..

### **Strategic Developing and Advanced SMEs**

Kusuma (2018) reports that national industries require connectivity and interaction through integrated technology, information and communication. These connectivity must be utilized in all manufacturing chains to achieve efficiency and improve the product quality. To achieve this, Indonesia must master the 5 main technologies supporting Industry 4.0 implementation. Namely, Internet of Things, Artificial Intelligence, Human-Machine Interface, robotics and sensor technology, and 3D Printing technology. Industry 4.0 can increase the value of Indonesian products. “Increased investment is the key to compete and win the competition in recent global competition.” In addition, Industry 4.0 implementation can attract foreign investment, improve the quality of human resources, develop innovation ecosystems, incentives for technology investment, and harmonization of rules and policies.

The Indonesian government has set 10 national priority steps in the effort to implement the Making Indonesia road map 4.0. IndoTelko (2018) writing this strategy is believed to be able to accelerate the development of the national manufacturing industry to be more globally competitive in the current digital era. More importantly, these ten initiatives; *first*, improving the flow of goods and material. This effort will strengthen local production in the upstream and medium sectors through capacity building and acceleration of technology adoption. *Second*, redesigning the industrial zones. From several industrial zones that have been built across the country, Indonesia will optimize the policies of the industrial zones by aligning the road maps of the industrial sectors that are the main focus in Making Indonesia 4.0. *Third*, accommodate sustainability standards. Indonesia sees the challenges of sustainability as an opportunity to build national industry capabilities, such as those based on clean technology, electricity, biochemistry and renewable energy. *Fourth*, empowering micro, small and medium enterprises (MSMEs). *Fifth*, build a national digital infrastructure. Indonesia will accelerate the development of digital infrastructure, including high-speed internet and enhance digital capabilities through cooperation between the government and the public and the private sector in the aim to be able to invest in digital technologies such as cloud, data centers, security management and broadband infrastructure. *Sixth*, attracting foreign investment. This can encourage technology transfer to local companies. *Seventh*, improving the quality of human resources (HR). *Eighth*, development of an innovation ecosystem. The government will develop a national innovation center blueprint, prepare a pilot for innovation centers and optimize the related regulations, including protection of intellectual property rights and fiscal incentives to accelerate cross-sector collaboration between private business actors or Ministry of State Owned Enterprises with universities. *Ninth*, incentives for technology investment. The government will redesign plans for technology adoption incentives, such as subsidies, corporate tax breaks, and exemptions from import tax duties for companies committed to implement industrial technology 4.0. In addition, Indonesia will launch state investment funds to support additional funding for investment activities and innovation in advanced technology. And the tenth is harmonization of rules and policies. Indonesia is committed to harmonizing rules and policies to support industrial competitiveness and ensure close coordination of policy makers between ministries and institutions related to local governments.

Furthermore IndoTelko (2018) also explained in his report that Making Indonesia 4.0 also prioritized the development of small and medium enterprise. In order for national SMEs to utilize digital technology, the Ministry of Industry has made its facilities through e-Smart IKM. Up to now there are 1,730 SMI practitioners who have participated in the IKM e-Smart workshop. Until 2019, Minister of Industry set to involve 10 thousands of Indonesian IKM participants

to take place in the workshop. Minister of Industry confirmed, in the current digital era, the most important thing is to have to innovate. In this case, the Ministry of Industry is trying to build an innovation ecosystem through cross-sector collaboration, including involving the government, academics and industry players.

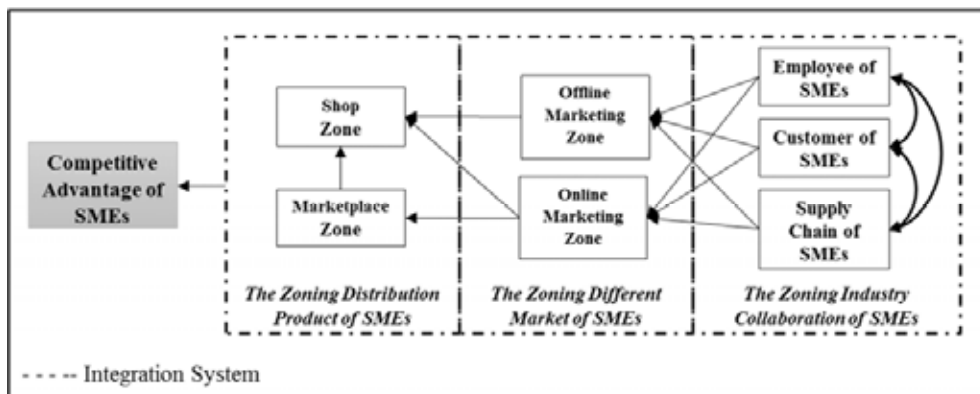
### **Industrial Policy**

The tenth point of Indonesia's 4.0 making strategy is the effort to harmonize policies among related institutions. Previously in the 2017 national consultation on "Accelerating Quality National Economic Growth through Industrial Revitalization and Digital Economy Industry Development", Winarto (2017) has reported that Rahmat Gobel, former Minister of Trade, suggested to build a quality economy, the government must pay attention and harmonize the cost (export) and regulation (policy). But this is again carried up. In the writing of Hanjarwadi (2018) he explained that the Directorate General of Taxes through the Director of International Taxation at the Directorate General of Taxation, John Hutagaol, said that Indonesia along with 115 members of the country or jurisdiction who are members of the international Inclusive Framework on BEPS (Base Erosion and Profit Shifting) were working towards the realization digital economy era taxation norms in Industry 4.0 scheme.

Final Report on the Study of Improvement of Investment Policy in Indonesia, Tadashi (2007) specifically for SMEs, SIAP (The Japan-Indonesia Strategic Investment Action Plan) recommends policies Industrial competitiveness and SME development through the implementation of industrial policies, including encouraging supporting industries, that are making and implementing industrial policies based on the strategy of three industrial sectors; Specifically supporting the mold and die industry association that was built to create a number of skilled workforce for the mold and die industry. Then the initial determination of the Investment Law for consolidated investment policies, including; submit the draft Investment Law to Parliament as soon as possible and the implementation of consolidated investment policies by supervising the private sector's preference for tax incentives, BKPM facilities and the role of the National Team for the Investment and Promotion of Exports (PEPI). The description and statement explained that long before the Indonesian government had not had constraints on policy harmonization, especially for the SME Industry. Whereas in entering the industrial revolution 4.0, the policy problem turns out not only to occur in Indonesia but also to exist in other countries in the world.

We offer concepts that support the strengthening of the foundation of SME development in Indonesia to face the Industrial 4.0 era. We present this concept as a new industry model for SMEs. We conclude this model as a dynamic attachment strategy for SMEs to face the Industrial 4.0 era (Sarkum,

Pramuka, & Suroso, 2017). According to Sarkum, Pramuka, Suroso, Suliyanto, & Sutarmin (2017) attachment can provide insight to management in optimizing the company's ability to carry out its marketing function. This concept is a zonasion-based small and medium industrial development model that can ensure supply chain value in accordance with the program government. While the SME database system will be integrated with e-commerce in Indonesia. This will make it easier for prospective and SME customers to find the needs to be fulfilled in the market zoning system.



**Figure 1. Industry Strategy 4.0 for SMEs**

## Conclusion

The concept of industrial strategy 4.0 for SMEs collaborates on the engagement of multi actors in the operational functions of marketing and production. The implementation of collaboration has resulted in SME strategies in two different market zones, namely offline and online. Furthermore, collaboration in two different markets was followed up to e-commerce which has been collaborated by the government as a marketplace for SMEs to market their products in the zones provided. Furthermore, the results of the implementation are connected to and can be distributed through SME stores as a continuation of the trade. This system will be a sustainability advantage for SMEs because the creation of shared values of the three actors is the basis for the dynamics of SMEs in managing marketing strategies in two different markets. The strategy concept of Industry 4.0 for SMEs will change the perspective of SMEs to the challenges in the industry 4.0. In the end, SMIs no longer see the consequences of the Industrial revolution as frightening but will be a clue to developing a new, globalized and standardized industry. This will realize the development program of the real sector that can withstand the economic downturn from the influence of the world economic system.

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# The Influence of Salary Satisfaction, Job Satisfaction and Organizational Commitment to Turnover

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## ABSTRACT

*High rate of turnover causes to adverse effect to an organization. The adverse effect such as instability and uncertainty towards employment condition and rising human resource cost in term of training that organization invested of them, new recruitment and training programs. High turnover also impact ineffectiveness organization since it loses experienced employees and spends much times in training new inexperienced employees. This study aims to analyze the effect of salary satisfaction, work satisfaction and organizational commitment on withdrawal intention and to analyze the most affective variable on withdrawal intention. There are 203 respondents for the samples and data analysis. This research is held by using SEM and AMOS 5 program. According to the analysis, it is concluded as the followings: work satisfaction has a positive effect on organizational commitment (CR = 6.052); salary satisfaction has a negative effect on turnover (CR = -4.306); work satisfaction has a negative effect on turnover (CR = -4.846); and organizational commitment has a negative effect on turnover (CR = -2.822).*

**Keyword:** Salary Satisfaction, Job Satisfaction, Organizational Commitment, Turnover Intention.

## INTRODUCTION

High turnover rate will cause a negative impact to the organization, it is like creating instability and uncertainty against labor conditions and the rising cost of human resources in the form of training costs that have been invested in to employees unit the cost of recruitment and retraining. It also causes ineffectiveness is in organization since the company loses experienced employees and needs to retrain new employees.



Based on the results of the Deloitte Millennial Survey (2016) states that, for the next five years the number of employees who have a desire to leave the organization amounts to 66% with 27% of employees having a desire to remain in the organization, while the remaining 7% have the desire to leave the organization at the time more than five years. This survey involved 29 countries with methods interview. Based on the survey results, employees in Indonesia have a 62% desire to leave the company where they work for the next five years.

According to Harnoto (2002: 2): Turnover intentions are characterized by various things concerning employee behavior, including: increased absenteeism, lazy work, increased courage to violate work rules, courage to oppose or protest to superiors, or seriousness to complete all employee responsibilities are very different from usual. These indications can be used as a reference to predict turnover intentions employee in a company (Harnoto 2002, 2).

High turnover intention can take the company's attention because it can disrupt company activities and increase costs such as; recruitment, interviews, tests, holiday allowances. Higher turnover intention in the company can make the company have transfer or turnover employee and the costs incurred by the company are much greater. The low of turnover intention can reduce employee turnover and decrease the costs incurred (Dubas and Nijhawan, 2007).

Handoko (1998) stated that one of the administrative objectives of compensation in this case is to retain existing employees, if compensation is not competitive and unfair, it will cause implications for many good employees to come out.

Satisfaction and dissatisfaction with the salary received is a function of incompatibility between the amount of salary that is considered to be acceptance by someone with how much someone receives. Salary satisfaction can predict absenteeism and turnover rates employee. Many studies have concluded that the relationship between salary satisfaction and exit intention is negative (Motowildo, 1983 in Lum et al., 1998; Yuyetta, 2002).

According to Mobley (1977) in Judge (1994), the desire to quit the job or leave an organization is negatively related to job satisfaction. Job satisfaction that is felt can affect employee to leave the organization. Evaluation of various job alternatives, in the end it will ultimately bring about a turnover because individuals who opt out of the organization will expect more satisfying results elsewhere.

Job satisfaction is also negatively associated with employee (turnover intention) but other factors such as labor market conditions, alternative employment opportunities, and length of employment are important obstacles to leaving existing jobs (Robbins, 2001; Tett and Meyer, 1993; Johnson et. Al, 1987). Individuals who feel satisfied with their work tend to survive in the

organization. While individuals who feel less satisfied with their work will choose to leave the organization.

Meyer et al. (1991) supported that increased commitment is associated with increased productivity and turnover lower. Organizational commitment contributes in predicting important organizational variables related to outcomes (quit / leave intention). The outcome variables tested in this study relate to the individual's desire to leave the organization and the sample used is the nurse. Meyer also concluded that organizational commitment is significantly related to the individual's desire to leave office and activities in the organization. Workers with strong affective commitment will remain in the organization because they feel they should work like that (Johnson et al., 1987; Tett and Meyer, 1995; Lum et al., 1998).

According to the results of the study Shore (1989) and Muller and Price (1990), cited from Lum et al. (1998), concluded that job satisfaction and commitment are related to turnover, however organizational commitment has a stronger relationship to quit/leave intention, meaning that job satisfaction is a variable that precedes organizational commitment.

PT Nusantara Indah is a manpower service and employment contracting business entity established in the city of Surabaya since 2007. Apart from the legality side, PT Nusantara Indah is one of the pioneers of the service provider company that respects regulations in terms of employment and wages since the company was established.

This study tried to examine further previous studies that examined salary satisfaction, job satisfaction, organizational commitment to the desire to move done by Lum. L. (1998) entitled "Explaining Nursing Turnover Intent: Job Satisfaction Salary Satisfaction or Organizational Commitment". What was done at the Hospital in Florida with the number of Respondents 466 Employees with a data collection method in the form of a questionnaire with a Likert scale. The data analysis technique used is Multiple Linear Regression.

This study aims to answer the question whether Salary Satisfaction and Job Satisfaction affect Organizational Commitment and impact on Turnover Intention at PT. Nusantara Indah.

## **REVIEW OF THEORY**

### **Turn Over Intention**

Turnover Intention is the process by which the workforce leaves the organization and someone must replace it (Mathis & Jackson, 2001). Turnover Intention is a movement that crosses the membership boundary of an organization, the transfer of work in this case is a voluntary avoidance of work that cannot be avoided (Simamora, 1997). Turnover Intention reflects an

individual's desire to leave the organization and look for other alternative jobs (Suwandi & Indriantoro, 1999)

The model turnover intention developed by March and Simon (1958), Mobley (1977), Price (1977) on Lum et al., (1998) all three predict the same thing about someone's desire to leave the organization, namely an evaluation of one's current position regarding dissatisfaction can trigger a person's desire to go out and find another job.

The causes of turnover include workers, salary satisfaction, job satisfaction and low organizational commitment to their current work and are motivated to find other jobs.

### **Organizational Commitment**

Organizational commitment according to William and Hazer (1986) quoted from Lum et al., (1998) defined the level of frequency of identification and individual attachment to the organization, where the characteristics of organizational commitment include individual loyalty to the organization, willingness to use name of organization, agreement between one's goals and organizational goals.

Meyer and Allen, (1991) in Hackett et al., (1994) define organizational commitment as the degree to which workers identify themselves with the organization and its involvement in the organization.

Organizational commitment is a relatively broad power relationship between individuals and organizations, whose characteristics (Mowday et al., 1987) include;

1. There is a strong belief and acceptance of the goals of organizational values,
2. Willingness to work as big as possible for the organization, and
3. A definite desire to know participation in the organization.

### **Salary Satisfaction**

Salary satisfaction can mean that someone will be satisfied with his salary when the perception of salary and what they get as expected. Some studies identify aspects of satisfaction that are found to be related to the individual's desire to leave the organization including satisfaction with wages and promotion of Lum et al., (1998); Tett & Meyer (1993). Hellriegel & White, 1973; Koch & Steers, 1978; Kraut, 1975; Mobley et. al., 1978) to Suwandi and Indriantoro (1999)

Individuals feel a sense of equity towards the salary received in connection with work (Lum et al., 1998). Handoko, (1998) stated that companies must pay their attention to the principle of fairness in determining the policy of payment of wages and salaries.

Salary satisfaction is a multidimensional satisfaction construct and consists of four sub-dimensions namely salary level, salary management structure, increase in salary and benefits (Heneman & Schwab, 1988)

### Job Satisfaction

Job satisfaction is an individual orientation that influences the role in work and characteristics of the work. Handoko (1998), defines that job satisfaction is a pleasant or unpleasant emotional state with which employees. Workforce entry is closely related to job dissatisfaction (Mathis & Jackson, 2001).

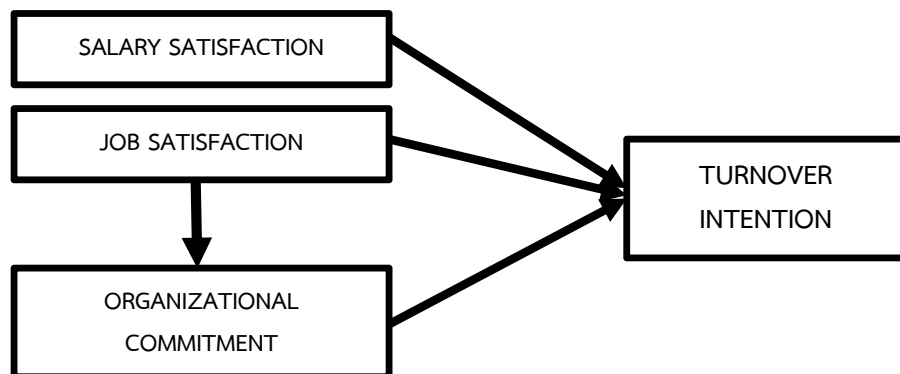
Job satisfaction is also negatively associated with employee's turnover intention but other factors such as labor market conditions, alternative employment opportunities, and length of employment are important obstacles to leaving an existing job (Robbins, 2001).

Employees with high job satisfaction will feel happy and happy in doing their work and not trying to evaluate alternative work. Conversely employees who feel dissatisfied in their work tend to have the mind to go out, evaluate alternative work and want to come out because they hope to find a more satisfying job (Lum et al, 1998)

### Research Conceptual Framework

Turnover Intention influences organizational effectiveness, the higher turnover increased investment costs in human resources (HR), and can lead to instability and uncertainty in the condition of the employee's workforce so that this can have implications for the company's performance. This high turnover rate is identified due to several factors including salary satisfaction and low job satisfaction and lack of organizational commitment from its employees.

Organizational commitment greatly affects employees to be loyal to the company by expressing their attention to the company so that it can be concluded that organizational commitment influences exit intention.



**FIGURE 1. Research Framework**

Source: Lum et al., 1998; Lance & Vandenberg, 1992; Lee et al., 1992

## Hypothesis

Based on the development of the mindset model above, the hypotheses in this study are:

H1: Salary Satisfaction effect to Turnover intention.

H2: Job satisfaction effect to organizational commitment.

H3: Job satisfaction effect to Turnover Intention.

H4: Organizational Commitment effect to Turnover Intention

## RESEARCH METHODS

### Subjects

In this study, the population used was employees of PT Nusantara Indah in Surabaya which aims to determine the level of salary satisfaction, job satisfaction and organizational commitment to turnover intention of the company. The total population in this study were 203 people.

The sample in this study is permanent employees who work more than two years with the consideration that they have experienced a relatively stable adjustment to organizational values. According to Hair et al. (1995), establishes the formula for determining the number of samples taken for a study by multiplying the number of 20 indicators, the number of sample sizes suitable for SEM is 100-200 respondents. The number of respondents in this study were 203 people.

### Data Collection Techniques

The Data used in this study is primary data in the form of questionnaires. The research questionnaire was designed based on theoretical studies and empirical research formulated in the form of open and closed questions. Respondent identity data was obtained through open questions, while perception data was obtained through closed questions. The instrument used in this study was a list of standard questions that have previously been tested for suitability, so that a list of standard questions is modified on items considered necessary according to the level of understanding of respondents taken as samples.

### Data Analysis Techniques

Researchers used the Structural Equation Modeling (SEM) program operated through the AMOS program. As an equation model of AMOS structure has often been used in management research. The AMOS causality model describes the measurement problem and its structure and information are used to analyze and test hypotheses. AMOS is suitable for a variety of analyzes because of its ability to: (1) Estimate unknown coefficients from a set of structured linear equations, (2) Accommodate models that include latent variables, (3) Accommodate measurement of errors both dependent and independent (4) Accommodate reciprocal, simultaneous and interdependent warnings. This is as explained by Arbuckle (1997) and Bacon (1997) in Ferdinand (2000).

**Table 1. Operational Definition of Variables**

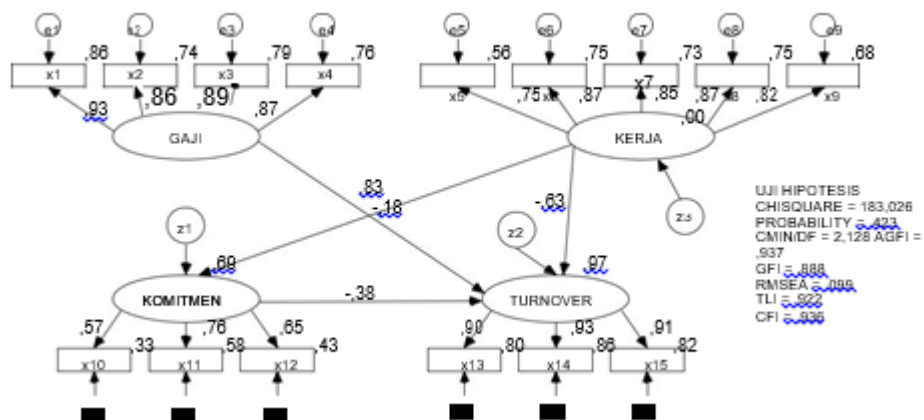
Independent Variables	Indicator	Scale
<b>Salary Satisfaction</b>	1. Pay Levels	Likert
	2. Benefits	
	3. Pay Raise	
	4. Pay Structure and Administration	
<b>Job Satisfaction</b>	1. Creativity	Likert
	2. Work Condition	
	3. Responsibility	
	4. Opportunity to Advance	
	5. Individual Satisfaction	
<b>Organizational Commitment</b>	1. Loyalty to the Organization	Likert
	2. Loyalty to the Organization	
	3. Suitability Objectives	
<b>Turnover Intention</b>	1. Tends to Leave the Organization	
	2. Look for work in Other Organizations	

Source: Meyer & Allen, 1991, Lum et al., 1998; Lee et al., 1987 & 1992

## RESEARCH FINDINGS AND DISCUSSION

### The Analysis of Structural Equation Modeling

In this analysis, causality relationships between variables included in the research model were tested. Testing Structural Equation Modeling (SEM) is carried out with two types of tests, namely test suitability of the model and test of causality. Data processing results for full model SEM analysis are shown in Figure 2, Table 2, and Table 3



**Figure 2. Testing Results Structural Equation Model**  
Source: Output SEM

### Suitability Test Model - Goodness of fit test

This test was conducted for the purpose of knowing how well the Goodness of Fit level of the research model . This research must fulfill several criteria required in SEM. The results of data processing are expected to meet the specified statistical limits.

**Table 2. Goodness of Fit Indices for Full Model**

Goodness of fit index	Cut off value	Evaluation	
		Analysis	Model
Chi-Square	Expected small	183.026	Marginal
Significancy probability	of > 0.05	0.425	Good
RMSEA	<0.08	0.099	Marginal
GFI>	0.90	0.888	Marginal
AGFI	> 0.90	0.937	Good
CMIN / DF	<1.96	2.128	Marginal
TLI>		0.922	Marginal
CFI>		0.936	Marginal

The result of suitability test on this model, there are two indicators that have a value below the standard that is GFI, CMIN / DF , TLI, CFI and Chi Square can occur because of the many variables and indicators studied, so that they have a level of complexity in the calculation in the SEM analysis tool, however the value is still considered marginal and fit for the overall model (Hair, 1995)

**Table 3. Standardized Regression Weights**

		Estimate	SE	CR	P
COMMITMENT	<- LABOR	0,829	0.076	6.052	0.000
TURNOVER	<- SALARY	-0.176	0.059	-4.306	0.000
TURNOVER	<- LABOR	-0.628	0.199	-4.846	0.000
TURNOVER	<- COMMITMENTS	-0,381	0.373	-2.822	0.004
x1	<- SALARY	0.930			
x2	<- SALARY	0.857	0.059	13.944	0.000
x3	<- SALARY	0.890	0.063	15.307	0.000
x4	<- SALARY	0.869	0.067	14.421	0.000
x5	<- WORKING	0,751			
x6	<- WORK	0.868	0.109	9.837	0.000
x7	<- WORKING	0.852	0.111	9.634	0.000
x8	<- WORKING	0.868	0.121	9.840	0.000
x9	<- WORKING	0.825	0.115	9.272	0.000
x12	<- COMMITMENTS	0.654			
x11	<- COMMITMENTS	0.764	0.181	6.700	0.000
x10	<- COMMITMENT	0.571	0.171	5.289	0.000



			Estimate	SE	CR	P
x15	<-	TURNOVER	0.908			
x14	<-	TURNOVER	0.928	0.061	16.788	0.000
x13	<-	TURNOVER	0.896	0.059	15.254	0.000

From Figure 2 and Table 3 above it can be concluded that the level of significance to test the hypothesis of difference is  $\chi^2$  - Chi Square of 151.031 with a probability of 0.050, indicating that the null hypothesis which states that there is no difference between the sample covariance matrix and the estimated population covariance matrix cannot be rejected, meaning that the null hypothesis is accepted.

From Table 3 it can be concluded that the value of  $CR \geq 1.96$  indicates the acceptance of all hypothesis models in this study (H1-H4) or in other words all hypotheses regarding causality relationships as presented in this research model can be accepted.

### The Result of Hypothesis Test

Results of the testing Structural Equation Model contained in Table 4 below to examine further to accept or reject the hypothesis contained in this study.

**Table 4. Hypothesis Testing**

			Estimate	SE	CR	P
COMMITMENT	<-	LABOR	0.459	0.076	6.052	0.000
TURNOVER	<-	SALARY	-0.253	0.059	-4.306	0.000
TURNOVER	<-	LABOR	-0.970	0.199	-4.846	0.000
TURNOVER	<-	COMMITMENTS	-1.063	0.373	-2.822	0.004

#### H1: Salary Satisfaction effect to Turnover Intention.

From the test results obtained the estimation parameters conducted between salary satisfaction and turnover produce  $CR = -4.306$ , where this value meets the requirements of  $CR \geq 2.0$  at a 5% significance level and value  $p = 0,000$  fulfills the condition  $<0.05$ . Thus it can be concluded that the second hypothesis is proven, namely the dimension of salary satisfaction has a negative overall effect on turnover. The negative influence of job satisfaction on turnover indicates that employees who have been satisfied with the salary they receive result in low employee desire to make turnover. In addition, salary satisfaction is a salary level indicator (pay level, compensation (benefits, increase salary (pay raise) and payroll structure and administration that has been high in the eyes of employees resulting in low employee desires to leave the organization he works now as well as the possibility of people will be looking for a job in another organization.

**H2: Job Satisfaction effect to Organizational Commitment.**

From the test results conducted by the results of parameter estimation obtained job satisfaction and commitment of organizations working generate the value of  $CR = 6.052$  where this value qualifies  $CR \geq 1.96$  at a significance level of 5% and the value of  $p = 0,000$  fulfills the condition  $<0.05$ , thus it can be concluded that the first hypothesis is proven, namely the dimension of job satisfaction has a positive overall effect on organizational commitment. the organization signifies employees who are satisfied with creativity & independence, working conditions, responsibilities, opportunities for advancement, individual satisfaction, creativity and achievement that are in line with the wishes of employees will result in increased loyalty to the organization, willingness to use the business on behalf of the organization (loyalty towards the organization) and suitability between one's goals and organizational goals.

**H3: Job Satisfaction effect to Turnover Intention.**

From the test results conducted the estimation parameters obtained between job satisfaction and turnover produce  $CR = -4.846$ , where this value meets the requirements of  $CR \geq 2.0$  at a significance level of 5% and  $p$  value = 0,000 fulfills the condition  $<0.05$ . Thus it can be concluded that the third hypothesis is proven, namely the dimensions of job satisfaction have a negative overall effect on turnover. The negative influence of job satisfaction which consists of creativity independence, working conditions, responsibilities, opportunities to progress, individual satisfaction, creativity and achievement that are in accordance with the wishes of employees will result in a low desire of employees to leave the organization where they work now and the possibility of individuals looking for work with other organizations.

**H4: Organizational Commitment effect to Turnover Information.**

From the test results, it is obtained the estimation parameters conducted between organizational commitment and turnover produce  $CR = -2.882$ , where this value meets the requirements of  $CR \geq 2.0$  at a significance level of 5% and a  $p$  value of 0.004 fulfill the requirement  $<0.05$ . Thus, it can be concluded that the second hypothesis is proven, namely the dimensions of organizational commitment have a negative overall effect on turnover. The negative influence of organizational commitment on turn over indicates that employees who have someone's loyalty to the organization, the willingness to use the business on behalf of the organization (loyalty to the organization) and the suitability of one's goals with organizational goals cause employees to have a low desire to leave the organization where they work now and the possibility of individuals looking for work in other organizations.

## CONCLUSION

This study provides significant support for the concept which states that salary satisfaction, job satisfaction and organizational commitment have a negative influence on turnover intention as an integral effort to reduce turnover.

In efforts of decreasing turnover rate, PT Nusantara Indah should improve the salary rate granted to the employees, provide adequate financial aid to help the economy of the employees, enhance the relationship between employees and suppliers, give opportunity to any employee to improve his or her quality through formal education, strengthen loyalty to the company by fulfilling the needs and intention of the employees, and give rise to employees' awareness that they have significant roles in supporting the company's progression.

This research also contributes specifically to the themes of turnover intention that have previously been studied by many scientists with various factors or variables as a series of efforts to reduce turnover by increasing salary satisfaction, job satisfaction and organizational commitment. Thus the problem formulation in this study has been answered.

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# Impact of Talent Management, Talent Pool on Employee Engagement and Employee Retention

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## ABSTRACT

*The purpose of this research is to know the influence of talent management and talent pool toward employee engagement, talent management and talent pool toward employee retention, employee engagement and talent management toward employee retention through employee engagement, talent pool toward employee retention through employee engagement. The method used is the quantitative descriptive method by using the test statistic tool path analysis. There are 159 employees of PT. Epson Batam with the number of research samples of 159 employees. Sampling technique is used in the census. The results of this research are as follows: the talent management significantly influence employee engagement, talent pool insignificantly influence employee engagement, talent management significantly influence employee retention, talent pool insignificantly influence employee retention, employee engagement significantly influence employee retention, talent management significantly influence employee retention through employee engagement, talent pool insignificant influence employee retention through employee engagement.*

**Keywords:** *Talent Management, Talent Pool, Employee Engagement, Employee Retention*

## INTRODUCTION

Talent management practice within organization is an international human resource strategy that seeks to identify, develop, deploy and retain talented and high potential employees, (Mangusho, Murel and Nelima, 2015). Therefore, organizations must manage their human capital as human beings, so that it can provide added value and become a competitive advantage for the organization in the era of global competition.

Corporate and Industries are concerned much on the talents to march forward the business in the competitive era. In India, a 25 percent difference in

attrition rate translates into a million-dollar organizational expense to replace these professionals for every 50 positions in the firm (Dhanabhakym and Kokilambal, 2017).

Today, organizations have well realized that they require the best talent to succeed in a global complex economy and to remain in a competitive business environment. The organization 's efforts to recruit, develop and maintain talent, directly linked to their success in the business environment, (Moayedine and Vaseghi, 2016).

The employee's role is very important for the organization because the employee provides dominant contribution to the advancement of the organizations, therefore the organization should pay attention and manage the employees well.

Talent management is the pool of activities which concerns to attracting, selecting, developing and retaining the best employees in the strategic roles. They further point out that talent management recognizes people who excel at particular activities and performance upon whom support is offered to enable them to push the envelope while capturing and sharing what they do differently so as colleagues can emulate them (Scullion and Collings, 2010).

Organization should have the ability and the capacity to recognize the people and the capability that may create value and deliver the competitive advantage for the organization; in addition, talent management also aims at developing and deploying the right people at the right job on the right time and providing them the right environment to show off their abilities in a best possible way for the organizations (Uren & Jackson, 2012).

Talent management has become a challenge to all the organizations in a global context irrespective of the country. Furthermore, the anxiety for the scarcity of the talent is a universal issue. All organizations around the globe are competing for the same talent. Global integration trend shows the standardization in talent recruitment, management and development to make sure their competitive advantage in the market. Therefore, organizations are adopting best global and local talent management practices (Rabbi, et al, 2015).

The implementation of a proactive talent management, according to a survey conducted by ASTD Research Institute, says that there are some potentials that can hinder the effectiveness of the implementation of the talent management those are the culture of the organization does not support talent management effectively, lack of leadership support for starting talent management. Organizational policies and procedures that are inconsistent with the purpose of talent management, inability to engage workers and failure to integrate the components in talent management.



Talent Management is essential to the success of any organization. Leaders need to recruit, train, and retain qualified employees. Providing incentives and developing individual is the difference between engaging people and merely employing them. Investing in talent management will provide financial benefits as it improves the company's culture, (Pamela, Ghazzawi, and Arnaout, 2017).

According to said the one way to measure the value of talent management program is to explore whether the run program contributes to employee engagement that later can increase employee retention. Then the most important process is what will be done after the identification and how it will affect the organization. The second trigger is the satisfaction of employees towards the organization policy played. If this is implemented in the concept of the talent pool process, the fact that the talent was satisfied against the process that executed by the organization regarding the process of talent pool, then this can eventually trigger the employee retention.

Most employees are part of a talent management program emphasizes on the development of employees who have a future potential leadership (Autti, 2011).

The study was backed by the problem of the high lecturers' turnover of the three (3) years in PT. Epson Batam. Based on the results of the exit interview conducted at a time when employees resign, they complained of a lack of management talent pool, talent management, employee management is unstructured properly which affected the low level retention of the employee.

Formulations of the problem in this research are as follows: what is talent management's influence on employee engagement? What is the talent pool is effect on employee engagement? What is the talent management's influence on employee retention? How does the talent pool affect employee retention? How does employee engagement affect employee retention? What is talent management's influence on employee retention through employee engagement? How does talent pool affect employee retention through employee engagement?

## **LITERATURE REVIEW**

### **Talent Management**

Talent Management definitions differ greatly in literature (Dries, 2013; McDonnell et al., 2010; Mellahi and Collings, 2010; Thunnissen, Boselie and Fruytier, 2013) and the main part of Talent Management publications content has no definition on Talent Management (Dries, 2013). For instance, Talent Management is related to the achievement of strategic company objectives (Silzer and Dowell, 2010; Collings, D.G., Scullion, H. and Vaiman, V. (2011) or considered as supply-demand function in order to cater to talent needs punctually (Vaiman, V., Collings, D. and Scullion, H. (2013): Cappelli, P., Keller, J., (2014). Because of ambiguities on Talent Management definitions (Dries, 2013) and a

lack of consistent theoretical fundament, Talent Management is also related to a fashion management at first glance (Dries, 2013; Iles, Preece and Chuai, 2010). But, this assumption is negated clearly (Dries, 2013). Management of talents is a strategic issue. Talent management is not something that arose by accident, but rather something to be planned in earnest – and got the support of the Executive. The first company will benefit people who have the ability to perform the job well. Second, the talented people can be developed to receive wider and greater responsibilities. The third, namely the appointment and the selection of talented people can be taken from the internal sources, (Levenson, 2012).

### **Talent Pool**

Talent Pool is simply defined as a list of talents or a collection of superior or potential employees. The process of identifying Talent Pool is implemented by performing the assessment against the competency of employees based on the position and level. This assessment process is a gap analysis between the competence of employees compared with the standard of competence for each position. Talent Pool is generally obtained by combining competency assessment and assessment of performance. The combination of identified, who have high competence and performance are high or often called as High Potential (HiPo) and also vice versa employee competencies and performance. Because of a superior talent identification involves aspects of performance, then the sharpness of the identification process was also supported by a performance management system applied to the organization (Collings, D.G., Scullion, H. and Vaiman, V. , 2011).

The definition of talent differ, from focusing on certain individuals in an organization, having a certain number of characteristics that describes talent to the concept referring to statements of need (Yarnall, 2011).

In ancient Syria, Babylonia, Greece and the Roman Empire, the word “talent” was a denomination of weight, and later surfaced in the Bible as a monetary unit. The medieval ages, the word talent was developed into the word as we know it today, and refered to natural ability and aptitudes. Nowadays in our modern European languages, talent refers to an innate giftedness, which is regarded as a gift (Tansley, 2011).

Talent is innate. It can be identified and developed at an early stage (Burkus and Osula, 2011).

### **Employee Engagement**

Employee engagement is a great idea in organizational behavior that became an attraction in recent years. This appeal arises because the employee engagement affects overall company performance. In fact, although there are many opinions regarding the factors included in employee engagement, there are

still unclear definition and measurement of employee engagement (Robertson and Cooper, 2010). Employees who have an attachment to the company will be emotionally and intellectually committed to the company and will give his best effort beyond the targets in a job.

## **Employee Retention**

Employee Retention is the company's ability to sustain the potential employee-owned company to remain loyal to the company. The purpose of employee retention is to retain employees who are deemed qualified to work in a company as long as possible because the employee is a qualified property (intangible asset) that is invaluable for the company. So if the qualified employees gets out of the company over its own will it is a loss of intellectual capital for the company. Employees who work in the long term and loyal will bring corporate values and knowledge of various organizational processes and sensitiveness expected to the needs of the customers.

## **Previous Research**

Research conducted by Kamil (2011) entitled A Study on The Implementation of Talent Management Practices At Malaysian Companies, to scrutinize the practices of talent management in 6 companies in Malaysia, the research explores the practice of talent management in particular in the implementation and the effects of the practices of talent management and retention. In the research, it was concluded that talent management is an organizational strategy for employee retention. His strategy involves human resource activities such as recruitment, selection, training, development, and performance management. Engagement and retention the talented employees needed for the success of the organization and improve the performance of the organization.

Johnson, A.H. (2014) in his research, that there is no true need for Talent Management – the right fit for an organization. But it is clear that if implemented correctly, the talent management will produce something tangible, the results of which can be enjoyed by any organization. Talent management into something that has always been a strength for the Organization, a mechanism that helps us to determine the candidates – prospective future leaders, identifying gap between what is needed and belonged to an organization.

Research carried out by Johnson, A.H. (2014) in South African Public Service, talent management should not be seen as a quick fix in terms of recruitment as well as the challenges of development management. But more than that, if the talent management is implemented correctly, then it will be a model in the future for the integration of the functions of the department of human resources, including recruitment, talent management, and development talent mentoring.

Employee engagement is the key driver of organizational effectiveness and performance. Employees need to have a sense of belonging and share in the organization vision and then enable an employee to find their role in the organization (Kennedy & Daim 2010).

### **The Influence Among Variables The influence of Talent Management toward Employee Engagement**

Effective talent management policies that demonstrate a commitment results to human capital that is more engaged and low-level turn over of employees consequently, employee engagement has a substantial influence on the productivity of employees and talent retention. More over, the basis for the engaged workforce is through the quality, depth, and a real communication between Human Resources and senior management to employees is also the quality of supervision provided. Functions of managers as the most enable employees to be committed to her work, organizations, and teams cannot be denied. More over, when it is done, the practice that supports talent management also supports employee engagement for example. The program drew between work and personal life – flexitime, reward programs, and also systems performance management (Vaiman, V., Collings, D. and Scullion, H. , 2013).

### **The Influence of Talent Pool Towards Employee Engagement**

In the talent pool, management began by identifying the most suitable employees, who then meet his needs to the development of the employees so that each individual can contribute to the team and also for the development of the organization. By recruiting talent means taking into account their position and customize it with recruitment strategies, namely towards attracting and retaining them. By attracting and retaining them through the development and mentoring in the talent pool is a step towards a successful employee engagement. The facts remain that is – people are more interested in what more than money and talent they should be used and developed by the approach of the integrated implementation of talent pool (Vaiman, V., Collings, D. and Scullion, H. , 2013).

### **The Influence of Talent Management Towards Employee Retention**

Talent management refers to the process of development and integration of new employees, employee development, and retention, and attracts employees who have high performance to join the company.

Talent management is the additional management processes and opportunities that are made available to people in the organization that are considered to be ‘talent’.” (Dhanabhakya and Kokilambal, 2014). Companies that implement a talent management plan and integrate processes to manage talent with some of the following stages: Sourcing in order to attract and recruit qualified candidates and have a competitive background, managing and determine the yield of competitive services, opportunities for training and

development, performance management process (performance management), transition and retention, promotion program.

### **The Influence of Talent Pool Towards Employee Retention**

Talent Pool as the part of a Talent Development Program is the identification program, a collection of winning potential employees in the company. Companies that provide a great opportunity for employees to follow programmes employee development is potentially large to retain employees. Similarly, companies that have career planning, succession management, talent management as well as systematic and accountable, are potentially compelling its employees, and the labor force outside the company, to stick around and join working in the company.

### **The Influence of Employee Engagement Towards Employee Retention**

Retention measures at the right people using a combination of financial incentives and the customized non financial. But the companies don't see the retention of employees as a practice that is quite done occasionally only. On the contrary, best practice approach is by building attention continually and timely communication is a step to help employees understand the uncertainty inherent in organizational change. In the end, what many employees want from all is clarity about their future with the company. Create the clarity that the significant intervention of the managers, including the ongoing work progress tracking so that the company can quickly intervene when problems arise (Kehinde, 2012).

### **The Influence of Talent Pool Towards Employee Retention Through Employee Engagement**

Research results between the talent pool and the engagement against the occupation has seen that the drivers of the overall engagement are the ability to learn and grow as an individual, as well as the ability to be able to challenge the ability of self, Johnson, A.H. (2014). Talent development program is designed so that employees are given the opportunity to be given training, found to have the influence on the engagement of employees.

### **The Influence of Talent Management Towards Employee Retention through Employee Engagement**

Employee engagement has a substantial impact on employee productivity and talent retention. Employees who are committed to doing 20% better, 87% less likely to resign. In addition, the basis for the employees engaged factory was built with quality, communication between HR and senior management to employees, as well as the quality of supervision provided. From some of the interviews conducted by the researchers categorized into the talent pool, the employees have a positive response toward their work, as well as their jobs.

## METHODOLOGY

In this research, the method used is the quantitative descriptive method by using statistic test toolpath analysis. Quantitative analysis comprising: test validity and reliability, the assumptions test of classical, and test hypotheses.

## FINDINGS AND DISCUSSION

In this study, the path analysis is used to illustrate and test the model influences between variables that is causal influence shaped directly and indirectly influenced from one variable to another. The calculating coefficient in this research path is helped by SPSS version 22.0. To know the direct and indirect influences between variables are then seen from the results of the calculation of the coefficients of the line while to know the significance of the t-test was used to compare  $t_{\text{calculated}}$  with  $t_{\text{table}}$ . After the  $t_{\text{calculated}}$  value retrieved then the results are used to interpret the provision: If  $t_{\text{calculated}} > t_{\text{table}}$ ,  $H_0$  denied (there is a significant influence), if  $t_{\text{calculated}} < t_{\text{table}}$ ,  $H_0$  accepted (no significant influence)

To find out the value of  $t_{\text{table}}$  is used  $n-2$  in terms of extent noticeable ( $\alpha$ ) of 5% or 1%. Based on the calculation  $t_{\text{table}}$  t value obtained of 1.983 ( $\alpha = 0.05$ ;  $v_1 = 2$ ,  $v_2 = 102$ ) and 2.624 ( $\alpha = 0.01$ ) whereas the results of the calculation of the coefficients of the path direct influence.

The results of the calculation of the path analysis and its significance of direct influences between variables can be described as follows: the results of path analysis talent management (X 1) of employee engagement (X 3) acquired the line coefficient of 0.851 with  $t_{\text{calculated}} = \text{value } t_{\text{table}} = \text{while } 12.560$  1.983 ( $\alpha = 0.05$ ) and 2.642 ( $\alpha = 0.01$ ). Because the value of  $t_{\text{calculated}} > t_{\text{table}}$ , then it can be inferred that the path coefficients are significant. The results of path analysis talent pool (X 2) against the employee employee engagement (X 3) obtained a direct path coefficient of 0.049 with  $t_{\text{calculated}} = 0.725 = t_{\text{table}}$  1.983 value whereas ( $\alpha = 0.05$ ) and 2.642 ( $\alpha = 0.01$ ). Because the value of  $t_{\text{calculated}} < t_{\text{table}}$ , then it can be inferred that the line coefficient is not significant. The results of path analysis talent management (X 1) against employee retention (X 4) obtained a direct path coefficient of 0.998 with  $t_{\text{calculated}} = \text{value } t_{\text{table}} = \text{while } 11.254$  1.983 ( $\alpha = 0.05$ ) and 2.642 ( $\alpha = 0.01$ ). Because the value of  $t_{\text{calculated}} > t_{\text{table}}$ , then it can be inferred that the path coefficients are significant. The results of path analysis talent pool (X 2) against employee retention (X 4) obtained a direct path coefficient of 0.024 with  $t_{\text{calculated}} = 0.252$  while the value  $t_{\text{table}} = 1.983$  ( $\alpha = 0.05$ ) and 2.642 ( $\alpha = 0.01$ ). Because the value of  $t_{\text{calculated}} < t_{\text{table}}$ , then it can be inferred that the path coefficient is not significant. Based on the results of path analysis employee engagement (X 3) against the employee retention (X4) acquired the line coefficient of 0.168 with  $t_{\text{calculated}} = \text{value } t_{\text{table}} = \text{while } 2.752$  1.983 ( $\alpha = 0.05$ ) and 2.642 ( $\alpha = 0.01$ ). Because the value of  $t_{\text{calculated}} > t_{\text{table}}$ , then it can be inferred that the path coefficients are significant.



Based on the direct influence of each variable on the top, then the indirect influence can be counted among the exogenous variables toward endogenous variable through intervening variables with the calculation as follows: influence of talent management ( $X_1$ ) toward employee retention ( $X_4$ ) through employee engagement ( $X_3$ ), obtained from the results of multiplication between the regression coefficients  $X_1$  with regression coefficients  $X_4$ . ( $p_1x_1 \times p_3X_{1j}$ ) = (0,851 x 0,024) = 0.020. The influence of the talent pool ( $X_2$ ) toward employee retention( $X_4$ ) through employee engagement ( $X_3$ ), obtained from the results of multiplication between the regression coefficients  $X_2$  with regression coefficients  $X_4$ . ( $p_2x_2 \times p_4x_2$ ) = (0,049 x 0,462) = 0.022. Next to find out the significance of indirect influence, first, it is conducted a search error 1 ( $\varepsilon_1$ ) and error 2 ( $\varepsilon_2$ ) with the help of the value Adjusted R-Square for the equation structure 1 and Structure 2.

An adjusted R-square value was 0.786, showed that the contribution of variation values  $X_1$  and  $X_2$  in influencing variations  $X_3$  is 78.6 %, the rest is 21.4%, it is other variables contribution in the study. Based on the Adjusted R-Square to determine the value of the coefficient of the line with the residual ( $\varepsilon_1$ ) used calculations as follows:  $\varepsilon_1 = \sqrt{((1)-R^2)}$ ,  $\varepsilon_1 = R^2$ ,  $\varepsilon_1 =$ ,  $\varepsilon_1 = 0,462$  Whereas the value Adjusted R-Square for the equation of structure 2 is obtained value of 0.827. The adjusted R-square value above is of 0.827, pointed out that the contribution of variation values  $X_1$  and  $X_2$  in influencing variation of  $X_3$  is 82.7%, the rest is 17.3% as other variables contribution in the study.

Based on the Adjusted R-Square to determine the value of the path coefficient with residualnya ( $\varepsilon_2$ ) used calculations as follows:  $e_2 = R^2$ ,  $e_2 =$ ,  $e_2 = 0,415$

Next to figure out the significance of indirect influence of exogenous variables toward endogenous variables through intervening variables is used the use  $t_{hitung}$  test that compared with  $t_{tabel}$  with calculation as follows:  $t$  calculate of the indirect influence of the talent management ( $X_1$ ) toward employee retention ( $X_4$ ) through employee engagement ( $X_3$ ) is as following:  $t_{calculated} : = = 2,108$ ,  $t_{calculated}$  of the indirect influence of the talent pool ( $X_2$ ) toward employee retention ( $X_4$ ) through the employee engagement ( $X_3$ ) is as following:  $t_{calculated} : = = 1,193$

Based on the results of path analysis and its significance of indirect influence, then it can be described as follows: the results of path analysis talent management ( $X_1$ ) against employee retention ( $X_4$ ) through employee engagement ( $X_3$ ) acquired the path coefficient of 0.020 with  $t_{calculated} = 2.108$  while the value of  $t_{tabel}$  is 1.983 ( $\alpha = 0.05$ ) and 2.642 ( $\alpha = 0.01$ ). Because the value of  $t_{calculated} > t_{tabel}$ , then it can be inferred that the path coefficients are significant. The results of path analysis talent pool ( $X_2$ ) toward employee retention ( $X_4$ ) through employee engagement ( $X_3$ ) acquired the path coefficient of 0.022 with  $t_{calculated} = 1.193$  while the value of  $t_{tabel}$  was 1.983 ( $\alpha = 0.05$ ) and 2.642 ( $\alpha$



= 0.01). Because the value of  $t_{\text{calculated}} < t_{\text{table}}$ , then it can be inferred that the path coefficient is not significant.

Standard coefficient value of talent management ( $X_1$ ) toward employee engagement ( $X_3$ ) is significant at  $p = 0.000$  ( $p < 0.05$ ), this indicates that the talent management directly influence and parallel with the employee engagement. It also shows that the higher the talent management, then the higher employee engagement. The proven the first hypothesis which stated there is a direct influence on talent management towards employee engagement, then it can be indicated that the want to improve employee engagement can be done by improving practices talent management, namely by managing potentially employees in the organization through the directed and integrated development, for example by improving employee recruitment process; give awards to employees, etc.

Standard coefficient value talent pool ( $X_2$ ) toward employee engagement ( $X_3$ ) was not significant at  $p = 0.470$  ( $p > 0.05$ ), this indicates that the talent pool has no direct influence toward employee engagement. Thus the second hypothesis was rejected. This insignificant direct influence of the talent pool toward employee engagement assumed because of the less serious of the company in managing and developing the best employee. It is because of the less precisely of the method used in the talent pool at the company.

Standard coefficient value of talent management ( $X_1$ ) toward employee retention ( $X_4$ ) was not significant at  $p = 0.802$  ( $p > 0.05$ ), this shows that talent management has no direct influence toward employee retention. Thus the third hypothesis was rejected. Direct talent management does not influence significantly to employee retention caused by less serious in the way of companies in managing the potential employee. This is because of the programs – program related talent management that is run just a formality to meet the procedures established by the central management. Then, the employees feel less cared for and tend to have a low loyalty and declining performance.

Standard coefficient value of talent pool ( $X_2$ ) toward employee retention ( $X_4$ ) was significant at  $p = 0.007$  ( $p < 0.05$ ), this indicates that the talent pool is directly influenced and parallel to the employee retention. It also shows that the higher the talent pool, then the higher employee retention. The fourth hypothesis is proven, there is significant direct influence between the talent pool toward employee retention, it can be indicated that the want to improve employee retention can be done by improving the implementation of the talent pool, such as developing individualized development program in order providing a structured development program personally.

Standard coefficient value of employee engagement ( $X_3$ ) toward the employee retention ( $X_4$ ) was significant at  $p = 0.000$  ( $p < 0.05$ ), this indicates that employee engagement directly influential and parallel with the employee

retention. It also shows that the higher employee engagement, then the higher employee retention. The fifth hypothesis is proven, it states that there is direct influence between employee engagement toward employee retention, it can be indicated that the want to improve employee retention can be done with increasing the employee engagement. The analysis result of the indirect influence of the coefficient values is  $(0.849) > \text{direct influence } (0.024)$ , then the conclusion is Talent Management ( $X_1$ ) significantly influenced the Employee Retention ( $X_4$ ) through Employee Engagement ( $X_3$ ). Employee Engagement ( $X_3$ ) is intervening variables between Talent Management ( $X_1$ ) and Employee Retention ( $X_4$ ), so the influence between Talent Management ( $X_1$ ) toward Employee Retention ( $X_4$ ) is the indirect influence. The sixth hypothesis is proven, it states that there is an indirect influence of talent management toward employee retention, it can be indicated that the want to improve employee retention should be firstly improving the practice of employee engagement. If the practice of talent management is done properly, then the employee engagement will create properly in relation with the increasing of employee retention.

The analysis result of the indirect influence of the coefficient values  $(0.049) < \text{direct influence } (0.168)$ , then the conclusion is Talent Pool ( $X_2$ ) insignificantly influence toward Employee Retention ( $X_4$ ) through Employee Engagement ( $X_3$ ). Employee Engagement ( $X_3$ ) is not a variable intervening between the Talent Pool ( $X_2$ ) and Employee Retention ( $X_4$ ), so the influence between the Talent Pool ( $X_2$ ) toward Employee Retention ( $X_4$ ) is actual direct, it means that the seventh hypothesis was rejected. Thus it can be indicated when looking to increase employee retention firstly should perform an increasing talent pool, for example by doing a list of talent identification or superior employees by doing the correct assessment to employees based on the position and compared with the standard of competence for each position.

## CONCLUSIONS

The conclusions of this study are as follows:

1. The talent management significantly influence employee engagement. This supports research from Mohammed (2015), Isfahadi and Boustani (2014), Karuri and Nahason (2015).
2. The talent pool insignificantly influence employee engagement. This supports research from Autti (2011).
3. The talent management insignificantly influence employee retention. This supports research from Rana and Abbas (2013).
4. The talent pool significantly influence employee retention. This supports research from Autti (2011).
5. Employee engagement significantly influence employee retention. This supports research from Balakrishnan, Masthan and Chandra (2013).

6. The talent pool significantly influence employee retention through employee engagement. This supports research from Autti (2011).

7. Talent management insignificantly influence employee retention through employee engagement. This supports research from Rana and Abbas (2013).

## SUGGESTIONS

The study recommends that further research should be carried on other firms in the same industry as well as different industries to find out if the same results would be obtained. This will get comprehensive information on how other organizations view impact of talent management, talent pool on employee engagement and employee retention.

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# Strategies to Overcome the Selling Price Fluctuations of Palm Oil Fresh Fruit Bunches (FFB): The Farmers Efforts in Welcoming Industry 4.0

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## Abstract

*The purpose of this research is to build a system that can solve the problems faced by the palm oil farmers. The phenomenon is that the farmers did not get a concrete information about the market price of palm oil Fresh Fruit Bunches (FFB) when harvesting. This condition occurs due to the absence of a digital system that can be accessed by farmers in order to obtain information about the selling price of palm oil FFB. Information can only be obtained through cellular communication with trading entrepreneurs. While the pricing of small-scale entrepreneurs at times occurs, the price fluctuates. This is because the information received by the small entrepreneurs from the palm oil FFB processing industry also uses the same method. On the other hand, the farmers and supply chains are susceptible to losses due to the price fluctuations and the decrease in the quality of TBS because they experience shrinkage, thereby reducing the yield. The sample of the study was farmers and entrepreneurs in the palm oil supply chain industry in Labuhanbatu District, North Sumatra Province, Indonesia. The data collection uses the research field by investigating and interviewing supply chain farmers and entrepreneurs. While the analysis was done by using a descriptive method. Then the system design uses the waterfall method which is tested by the Black Box and White Box Testing methods. The system built is an Android-based information system that involves two actors (administrator and user) to interact directly through the application embedded in a smartphone. This research is expected to contribute in helping the realization of Indonesian government program to face the 4.0 industrial eras, one of which focuses on empowering SMEs through strengthening the supply chains. This*



*information system can also be a benchmark for the farmers in managing the harvest time to accommodate the unstable price fluctuations.*

**Keywords:** Palm Oil; Market Price; Information System; Android; Industries 4.0

## Introduction

Industrial term 4.0 still have a diverse understanding. The German Chancellor, Merkel (2014) argues that Industry 4.0 is a comprehensive transformation of all aspects of production in industry through a combination of digital technology and the internet with conventional industries. Schlechtendahl, Keinert, Kretschmer, Lechler, & Verl (2014) emphasize more on the speed element of information availability, which is an industrial environment where all entities are always connected and able to share information between one another. A more technical definition was conveyed by Kagermann, Wahlster, & Helbig (2013) that Industry 4.0 is an integration of *Cyber-Physical System* (CPS) and The *Internet of Things and Services* (IoT and IoS) into industrial processes including manufacturing and logistics and other processes. This merger can be realized through the integration between physical and computational processes (*embedded computers* and network technology) in a *closed loop* Lee (2008).

Industry 4.0 has been pushing the technological innovations that impact the disruption or a fundamental change on people's lives. Changes in the era of disruption by Kasali (2017) is essentially not only on changes to a car or strategy but also on the fundamental aspects of the business. The domain of disruption era extends from the start of the cost structure, culture to the industrial ideology. The implication is that business management is no longer centered on individual ownership, but is a division of roles or collaboration or mutual cooperation. In the world of higher education, we can see this phenomenon of disruption from the development of collaborative researches between researchers from various disciplines and universities. Research is no longer associated with problem-solving, but is encouraged to find potential problems and potential economic value that can help people to anticipate various socioeconomic and political problems in the future.

In 2015, the President of the Republic of Indonesia launched the Revitalization of Agriculture, Fisheries, and Forestry (RAFF) program. The program aims to empower capabilities and improve agricultural performance in national development. The revitalization is also intended to change the paradigm of the community in seeing that agriculture is not only limited to farming but has multiple uses, namely as a source of life and nature conservation. Therefore, the agricultural business must be integrated with the development of its industry, both upstream and downstream industries. Most of the revitalization program is closely related to the development of the marketing subsystem of agricultural



products which includes promotion, sales and ending with distribution (Me, B, & Wahyono, 2008).

Marketing is one of the determinants of the success of agricultural business. Commodity prices in the market are one type of information that can be very useful, considering a large number of Indonesian people who are very dependent on their lives with the market. According to Toya (2014) basically, the most needed by both parties (buyers and sellers) is the existence of media or container that can collect and disseminate information of all parties about various matters concerning the object (Sinaga, Munir, & Daulay, 2017).

In the era of information development that is supported by technological advances such as today, various facilities are provided by technology. People from cities to remote areas can access the information they want from anywhere and anytime. Currently, mobile devices are platforms that are widely used by the public, especially *the Android platform*. According to Gargenta (2011), devices that support this *platform* are relatively cheaper on the market compared to other smart device *platforms*. In addition, this *open-source platform* can do *multitasking* and *rooting*. With these advantages, the Android platform is a good platform for developing information systems. Seeing that currently more and more smartphone users, this information system is applied to *the android platform* so that it can be easily used.

Labuhanbatu Regency is one of the centers of oil palm plantations in North Sumatra, Indonesia. The Most of Labuhanbatu land in the district is used for mustard oil people plantation covering an area of 130, 264 hectare (51%) (Badan Pusat Statistik Kabupaten Labuhanbatu, 2010). “Data Luas Areal, Produksi dan Produktivitas Perkebunan Rakyat” (2017) showed that the total production of Fresh Fruit Bunches (FFB) in 2017 reached 540,856.59 tons . This shows that the main sector of the Labuhanbatu community’s income comes from oil palm plantations. The oil palm farmers are very dependent on their crops. So the higher the selling price of FFB, it will be more profitable for farmers.

This study aims to build a system that can solve the problems of oil palm farmers. The phenomenon that occurred that the farmers did not get information about the market price of Fresh Fruit Bunches (FFB) in a concrete manner when harvesting. This condition occurs due to the absence of a digital system that can be accessed by farmers to obtain information on the selling price of palm oil FFB. Information can only be obtained through cellular communication with loading ramps entrepreneurs, while the pricing of small-scale entrepreneurs at times fluctuations prices. This is because the information received by small entrepreneurs from the palm oil FFB processing industry also uses the same method. On the other hand, farmers and supply chains are susceptible to losses due to price fluctuations and decreases in the quality of FFB because they experience shrinkage, thereby reducing yield.

## Method

The population respondents in this study were farmers and entrepreneurs as the supplier of the palm oil industry in Labuhan District, North Sumatra-Indonesia Province. Data Collection used *field research* by observing and interviewing farmers and entrepreneurs supply chain. While the analysis was done using a descriptive method. The system's design is using waterfall method. The system built is an Android-based information system that involves two actors (administrators and users) to interact directly through the application embedded in a smartphone. The sample used was farmers and traders of fresh fruit bunches of 30 people. At this stage, interviews and observations were carried out. The appropriation of quantity of samples is composed of: (1) palm oil farmers 20 people, (2) collector traders or small agents 5 people, (3) large traders or large agents as many 5 people, (4) palm oil processing factories 5 people.

The method used in application development refers to the concept *Software Development Life Cycle* (SDLC) by applying the Waterfall model: *First*, the Requirement Analysis stage is done to identify the functional and the non-functional needs in the program; *Second*, in the design stage, the requirements obtained from the previous stage are then translated into a system design that becomes the basis for application development; *Third*, the development stage in the manufacture of Oil Price Information System Applications in accordance with the right design which has been produced previously; Next in the *Fourth* stage, Tests carried out using the method of Black Box and White Box Testing; And the last stage is the maintenance of the system that is designed by periodic inspection of the data in the application.

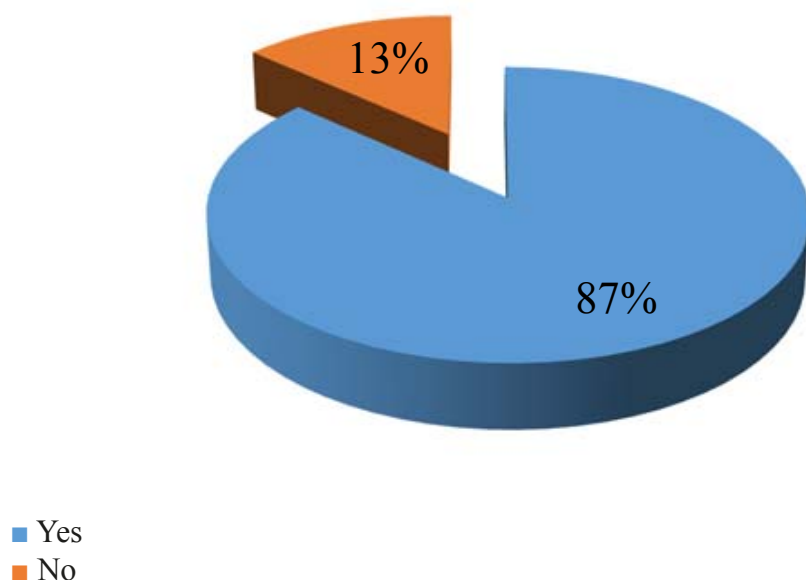
## Findings and Discussion

The test results with the BlackBox method on the Admin and User show the suitability between the analysis of the system requirements and the results of the system creation. As for the white box method using the base path method, it is obtained a complex logic estimation so that the execution flow of the program can be defined.

Determining the feasibility of a system which has been built is done by giving questionnaires to farmers and entrepreneur's ramps. Questionnaires distributed (Table.1) consist of two types, namely *check list functionality* and application *usability check list*.

**Table 1. Questionnaire results in functional check list Farmers and FFB Traders**

No.	Question	Yes	No
1	Is this application running properly and functioning properly on your <i>smartphone</i> ?	10	0
2	Has the <i>Registration</i> function been running properly?	7	3
3	Is the <i>Log in</i> function running properly?	10	0
4	Has the <i>Price Info</i> function been running properly?	8	2
5	Has the <i>Change Password</i> function been running properly?	8	2
6	Has the <i>Logout</i> function been running properly?	9	1
<b>Total</b>		<b>52</b>	<b>8</b>

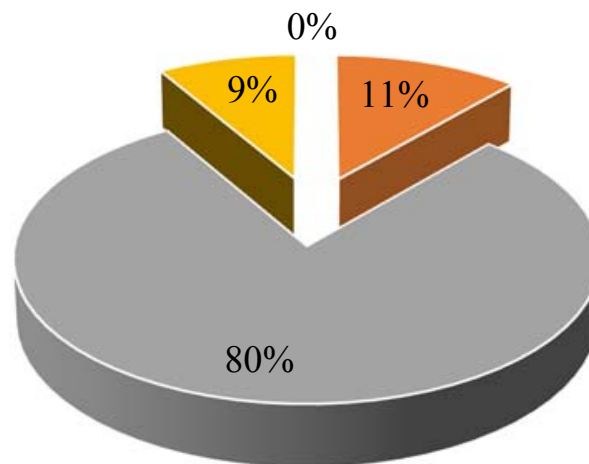
**Figure 1. Questionnaire Results in Check List Functionality Farmers and FFB Entrepreneurs**

In Figure 1. Explains that the results of the questionnaire on the *functional application checklist* for 10 farmer and businessmen respondents, 87% stated that the function of this application was running properly. While 13% of respondents said no. Furthermore, the results of the *usability checklist* questionnaire (Table 2) stated that the application (Figure 2) obtained 0% of the respondents of the farmers and the businessmen said that they did not agree, 11% of respondents stated that they did not agree, 80% of the respondents agreed, and 9% of the respondents agreed strongly.

**Table 2. Questionnaire results in Check List Usability of Farmers and FFB Traders**

No.	Question	DA	LA	A	SA
1	Overall, I am satisfied with the ease of using this application	0	0	9	1
2	The use of this application is very simple	0	0	8	2
3	I get info quickly on this application	0	0	7	3
4	I get accurate info with this application	0	2	8	0
5	This application is fun	0	3	7	0
6	This application has a function that meets according to my expectations	0	1	9	0
<b>Total</b>		<b>0</b>	<b>8</b>	<b>56</b>	<b>6</b>

- DA = Disagree
- LA = Less Agree
- A = Agree
- SA = Strongly Agree

**Figure 2. Questionnaire Results in Check List of Usability of Farmers and FFB Entrepreneurs**

The results of the questionnaire *check list functionality and usability checklist* application that is given to farmers and businessmen, the results show that the application that has been built is able to solve the problems of farmers and entrepreneurs in dealing with price fluctuations of palm oil FFB.

## **Conclusions**

The application of the palm oil price information system from the results of this study can be used as a guideline for farmers and entrepreneurs in obtaining information about the price of palm oil fresh fruit bunches (FFB). The availability of fast information from this Android-based system can be a solution to overcome fluctuations in FFB prices and can provide benefits for palm oil farmers after harvesting.

Finally, we recommend that the results of this research are expected to contribute to helping to realize the Indonesian government program in the face of the 4.0 industrial era, one of which focuses on empowering SMEs through strengthening supply chains. Based on this research, we declare that this information system can also be a benchmark for farmers in managing harvest time to accommodate unstable price fluctuations. We also recommend for research on the development of this system can further be combined with added features, like price comparisons between the palm oil fruit collector (ramps) and the others.

In addition, it can also apply Geographical Information System (GIS) on applications so that it can help farmers to find out the location of palm oil fruit collectors (ramps).

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# **Influence of Dividend Policy as Mediator Variable on Stock Prices of Food and Beverage Companies Listed on the Stock Exchange of Thailand**

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## **ABSTRACT**

*The research objectives are (1) to examine the effect of profitability, liquidity, leverage, EPS and company size on dividend policy, (2) to examine the effect of profitability, liquidity, leverage, EPS, company size, and dividend policy on stock prices, (3) to examine whether dividend policy is able to mediate profitability, liquidity, leverage, EPS, and Size to stock prices. The research was conducted Food and Beverage companies listed on the Stock Exchange of Thailand, 2013-2017. As a result of purposive sampling 15 companies were selected as research samples. The paper adopts Path Analysis as its methods. The findings of the research are: (1) Classical assumption test stated that the data distributed normally, Multicollinearity does not occur, and there is no autocorrelation. (2) Profitability and EPS have a significant influence on dividend policy while liquidity, leverage, size have no effect on dividend policy, (3) Profitability, EPS and Dividend policy affect stock prices while Liquidity, Leverage and Size do not have a significant effect on stock prices, (4) Dividend policy is able to mediate Profitability, Leverage and Size so as to effect on stock prices while the dividend policy is not able to mediate liquidity and EPS of a company. Implication: (1) Investors and companies should pay attention to the level of profitability and dividend policy so that stock prices can increase.*

**Keywords:** Corporate Financial Ratios, Dividend Policy, Stock Prices

## **Introduction**

Thailand is a country with rapid tourism growth based on data released by the ASEAN Tourism Dashboard stated that among countries in the Southeast Asia region, Thailand is a country with rapid increase in tourist arrivals and become the first as a country visited by foreign tourists. Malaysia is ranked 2<sup>nd</sup>, followed by Singapore and rank 4<sup>th</sup> is Indonesia. Increasing number of tourists in Thailand, the Thai government captures this opportunity by increasing industrial development. The food industry in Thailand even earned USD 24 billion in 2016



which consisted of 40% of agricultural commodities and 60% by processing agricultural products. Industrial output from food industry in Thailand then became a special interest for investors in investing funds in food and beverage companies.

Investor or fund owners certainly expect returns from funds that have been issued to the issuer. In investing in stocks, investor have the main goal of seeking profit from the rate of return on investment in the form of dividends and income from the difference in the selling price of stocks and buying price of stocks or capital gain (Septian, 2014). The accurate information is needed in influencing investors' decisions to invest in capital market. In this case, investors not only analyze opportunities through external companies such as industrial output of an industry in a region or country but also internal company. According to Gordon in Qaisi, et al (2016) variables that come from internal companies such as dividends, revenue growth, liquidity, company size and other financial ratios can affect stock prices.

Shareholder can obtain two types of dividends, namely cash dividends and non-cash dividends. Cash dividends are dividends distributed or paid by the issuer to shareholders and also the management of the issuer's in a cash. Non-cash dividends are dividends distributed or paid in shares in certain proportions. As the party that has issued the funds, of course investors expect the return of funds in the form of dividends can be distributed stably to increase investor trust to the company. According to Deitiana (2012) dividend payments will not cause problems as long as they do not affect the company's funding and investment policies. This is because dividends will affect the company's funding policy, because it will reduce cash and encourage companies to issue new securities. Companies need a high level of liquidity in order to cover the possibility of financial costs.

The company's financial statements then become a source of information that is able to communicate the company's financial condition. This is based on the exposure of Weston and Brigham that factors that can affect stock prices include the company's financial condition obtained through financial statement. Likewise, in analyzing the level of liquidity and other financial ratios, investors need to conduct a careful, thorough analysis and are supported by accurate data. (Ratih et al., 2013).

### **Profitability**

Profitability is the ratio used to measure the level of reward or gain (profit) compared to sales or assets, measuring how much the company's ability to make a profit in relation to sales, assets and profits and own capital. This ratio can be measured using the Return on Equity formula which compares the net profit after tax with own capital. This ratio is used to measure the ability of own capital to generate profits for all shareholders (Sujarweni, 2017: 64-65). The

profits obtained by shareholders can be in the form of share price or capital gain differences and can be in the form of dividend distribution. This is in line with the research conducted by Putri (2017) and Idawati et al., (2013) which shows the results that profitability has a positive and significant influence on dividend policy. In research conducted by Ratih et al., (2013) profitability (ROE) has a positive and significant effect on stock prices. The research was supported by the results of Purnamawati et al., (2016) research that profitability has a positive effect on stock prices.

### **Liquiditiy**

According to the signaling theory of management actions, one of which is to pay dividends to shareholders in a constant manner that will show that the company's liquidity is stable. According to Sujarweni (2017: 60) liquidity is the ratio used to measure the company's ability to meet short-term financial obligations in the form of short-term debts. How fast the company fulfills its financial performance. In this research liquidity is measured using quick ratio. Liquidity is predicted to have a negative relationship with risk, which is rationally known that the more liquid the company is, the smaller the risk (Hartono, 2014: 460). Companies that are able to maintain their financial liquidity will have a greater opportunity to distribute dividends because the company is not burdened by its short-term obligations (Adnyana and Badjra, 2014). This is in line with the results of research that shows that liquidity has a positive and significant influence on dividend policy. While its influence on stock prices, Detiana (2012) shows that liquidity has a significant positive effect on stock prices.

### **Leverage**

Leverage is the ratio used to measure a company's ability to fulfill all its obligations both short and long term (Sujarweni, 2017: 61). The use of debt that is too high will endanger the company because the company will be included in the category of extreme leverage, namely the company is trapped in a high level of debt and difficult to release the debt burden (Fahmi, 2014: 62). Leverage measured using Total Debt to Total Asset Ratio is the ratio between total debt and total assets. This ratio shows how much of the total assets spent by debt (Sujarweni, 2017: 62). This statement assumes that if a company has a large liability, the profits earned in the future tend to be used to pay obligations due. So that it can reduce dividends to shareholders. This assumption is supported by research conducted by Wijaya (2017), Oktaviani et al., (2015), and Ratih et al., (2013) which show the results that leverage has a negative effect on dividend policy.

### **Earning per Share**

Earning per Share is a measurement of managerial efficiency and company performances. Tandelin in Talamati et al., (2015) states that information

on Earning per Share of a company shows that the company's net income is ready to be distributed throughout the company's shareholders. High earning per share means that the company will provide a large income opportunity for investors. EPS is considered as an algorithmic tool that uses the level of corporate profitability. According to Adnyana et al., (2014) companies that are able to perform optimally and generate earnings will have a greater opportunity to distribute dividends. This statement is evidenced by the results of research that obtained results that EPS has a significant positive effect on dividend policy. For the influence of EPS on stock prices, previous research conducted by Ratih et al., (2013), the effect of EPS on stock prices shows a significant positive effect, which means that if EPS has increased, the stock price will also increase.

### **Size**

Research conducted by Wijaya (2017) and Putri (2017) size has a positive and significant effect on stock prices. The size of large companies tends to have ease in access to the capital market, so that it can affect investors in their investment decisions. Funds obtained can then be rotated for company operations in order to generate profits which can later be distributed to shareholders in the form of dividends. Size is a grouping of companies into several groups, including large, medium and small companies. The scale of the company is a measure used to reflect the size of the company which is based on the company's total assets (Suwito et al, 2005).

### **Dividend Policy**

Measured by dividend pay out is dividend paid in the share with the profit available for general shareholders. Lintner (1956) in Hartono (2014: 458) provides a rational reason that companies are reluctant to reduce dividends. If the company deducts dividends, it will be considered a bad signal because it is considered the company needs funds. Therefore, companies that have a high risk tend to pay a smaller dividend payment so that they will not deduct dividends if the profit is reduced. Based on research conducted by Wijaya (2017) dividend policy has a positive and significant influence on stock prices. This was supported by Docking and Czech statements in Yurko (2018) "*Consistently with Signaling Theory, dividend announcements and increases are positively realted to market value*" that any surge or decrease in dividends can change the investor's reaction based on the nature of the news when revealed. In the real world, however, changes in dividend policy are often followed by changes in stock market values.

### **Stock Price**

According to Samsul (2015: 197) stated that stock prices are prices that are formed in a market whose magnitude is affected by the law of demand and supply. Investors will buy shares when the stock value (estimated stock

price) will tend to rise later. Instead investors will sell shares when they see a tendency for stock prices to decline. The analytical methods commonly used to determine the price trend are Technical analysis, Event analysis, Dividend discounted models, Price earnings ratios, and price value ratios. In this study, to determine the tendency of the stock price of researchers to use technical analysis or technical analysis. Technical analysis is an analysis that prioritizes the observation of the price and quantity of shares traded from minute to minute during trading hours. Prices can be formed up to tens of times in one trading day for one type of stock. So that the stock exchange in this case the Stock Exchange of Thailand summarizes the prices formed into 3 groups: the highest price, the lowest price, and the closing price. This closing price is then used in this study to determine stock prices.

Based on the inconsistency of previous researchers and theoretical studies, the researcher analyzes whether internal factors including profitability, liquidity, leverage, earnings per share, and firm size can influence stock prices by using dividend policy as a mediating variable.

The purpose of this study are as follows:

1. To investigate the effects of profitability, liquidity, leverage, earning per share, and size on dividend policy.
2. To investigate th effects of profitability, liquidity, leverage, earning per share, size and dividend policy on stock prices.
3. To investigate effect of dividend policy is able to mediate the relationship of profitability, liquidity, leverage, earning per share, and size on stock prices through dividend policy.

## Method

This type of research was explanatory research. The data used on this research were secondary data from listed companies in Stock Exchange of Thailand in the periode 2013 -2017. The target population were food and beverage companies listed on Stock Exchange of Thailand with the number 38 companies. Used purposive sampling in determining the sample, in order to obtain the sample of 15 companies, the sample of the study consisted of Charoen Pokphand Foods Public Company Limited (CPF), Chiangmai Frozen Foods Public Company Limited (CM), Chumporn Palm Oil Industry Public Company Limited (CPI), Haad Thip Public Company Limited (HTC), Lam Soon (Thailand) Public Company Limited (LST), Oishi Group Public Company Limited (OISHI), President Bakery Public Company Limited (PB), Premier Marketing Public Company Limited (PM), Thai theparos Public Company Limited (SAUCI), Surapon Foods Public Company Limited (SSF), Thai President Foods Public Company Limited (TFMAMA), Thai Vegetable Oil Public Company (TVO), Thai Union Group Public Company Limited (TU), S.Khonkaen Foods Public Company Limited (SORKON), S&P Syndicate Public

Company Limited (SNP).SPSS 23.0 were used to perform path analysis, the path analysis equation as follows:

$$Z = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon_1$$

$$Y = \beta_6 X_1 + \beta_7 X_2 + \beta_8 X_3 + \beta_9 X_4 + \beta_{10} X_5 + \beta_{11} Z + \epsilon_2$$

## Findings and Discussion

### Finding

The data already tabulated with SPSS, will be shown as follows:

#### a. Descriptive statistic

The result of statistical descriptive test of food and beverage companies as follows:

**Table 1. Descriptive Statistics**

Variable	Min	Max	Mean	Std Dev
Profitability	0.12	0.32	0.1376	0.0828
Liquidity	0.23	8.44	1.7580	1.966
Leverage	0.08	0.69	0.3859	0.191
EPS	0.63	10.62	1.9341	2.381
Size	18.77	25.47	22.1474	1.209
Dividend Policy	2.50	4.49	0.6896	0.870
Stock price	1.68	192.0	35.2311	44.97

Data source: Processed

The result of statistical descriptive test resulted the size of sample were 75 and all the variables showed positive value. The percentage of the profitability minimum was 0.12 (TU company on 2013), maximum was 0.32 (TVO company on 2016), mean was 13,76 std deviation was 8,28 where std deviation lower than mean, showed that has no big fluctuation in profitability as the sample. The percentage of the liquidity was 0.23 (OISHI company on 2014), maximum was 8.44 (CM company on 2016), mean was 1.758, std deviation was 1.966 where the std deviation bigger than mean, showed that has big fluctuation in liquidity as the sample. The percentage of leverage minimum was 0.08 (CM company on 2014), maximum was 0.69 (CPF company on 2016), mean was -.3859, std deviation was 0.191 where std deviation lower than mean, showed that has no big fluctuation in leverage as the sample. The percentage of EPS minimum was 0.63 (SSF company tahun 2013), maximum was 10.62 (TFMAMA company on 2015), mean was 1.9341, std deviation was 2.381 where std deviation bigger than mean value, showed that has a big fluctuation in EPS as the sample. The percentage of size minimum was 18.77 (TU company on 2016), maximum was 25.47 (TU company on 2014), mean was 22.1474, std deviation was 1.209 where the std deviation lower than mean, showed that has no big fluctuation in size as the sample. The percentage of dividend policy minimum was 2.50 (CPI

company on 2015), maximum was 4.49 (SNP company on 2013, mean was 0.6895, std deviation was 0.876 where the std deviation lower than mean, showed that has no big fluctuation in dividend policy as the sample. The percentage of stock price minimum was 1.68 (CPI company on 2015), maximum was 192.00 (TFMAMA company on 2016), mean was 35.2311, std deviation was 44.97 where std deviation bigger than mean, showed that has big fluctuation in stock price as the sample.

**b. Classical Assumption Test.**

The result of classical assumption test for normality test showed that dependent variable dividend policy with Asymp. Sig. (2-tailed)  $0.098 > 0.05$  (sig. level) and dependent variable stock price with Asymp. Sig. (2-tailed)  $0.200 > 0.05$  (sig. level), it means that the data was distributed normally.

The result of multicollinearity test, it was found that the tolerance was not close too, it was between 0.113 – 0.813 and dependent variable stock price tolerance was between 0.112 – 0.827. VIF was between 1.229 – 8.873, dependent variable stock price VIF was between 1.209 – 8.930. Concluded that has no multicollinearity between independent variable in the regression model.

It was concluded that Durbin Watson value range from 1.676, variable the stock price was 1.977. So that it can be said that autocorrelation does not occur.

**c. Path analysis using SPSS version 23.0 with the results as follow:**

**Table 2. Coefficients Result**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	-,269	3,846		-,070	,945
Profitability	,391	,129	,443	3,041	,003
Liquidity	-,141	,214	-,216	-,661	,511
Leverage	-,243	,299	-,264	-,812	,419
EPS	-,240	,076	-,458	-3,150	,002
Size	,145	1,276	,014	,114	,910

a. Dependent Variable: DividendPolicy

**Coefficientsa**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	3,441	2,496		1,379	,172
Profitability	-,312	,089	-,185	-3,514	,001
Liquidity	-,112	,139	-,089	-,804	,424
Leverage	-,165	,195	-,094	-,848	,400
EPS	1,092	,053	1,086	20,621	,000
Size	-,417	,828	-,021	-,504	,616
DividendPolicy	,374	,078	,195	4,791	,000

a. Dependent Variable: StockPrice

From the result of table 2 above, then the The results of table 2 above, the path equation analysis as follows:

$$Z = 0,391X_1 - 0,141X_2 - 0,243X_3 - 0,240X_4 + 0,145X_5 + \varepsilon_1$$

$$Y = -0,312X_1 - 0,112X_2 - 0,165X_3 + 1,092X_4 - 0,417X_5 + 0,374Z + \varepsilon_2$$

The results of table 2 above can be seen the effect of exogenous variables with endogenous variables as follows:

**Table 3. Direct Effect**

Path	Sig	Decision	Explanation
Profitability against dividend policy	0,003	H <sub>0</sub> rejected	Significant influence
Liquidity against dividend policy	0,511	H <sub>0</sub> accepted	Insignificant influence
Leverage against dividend policy	0,419	H <sub>0</sub> accepted	Insignificant influence
EPS against dividend policy	0,002	H <sub>0</sub> rejected	Significant influence
Size against dividend policy	0,910	H <sub>0</sub> accepted	Insignificant influence
Profitability against stock price	0,001	H <sub>0</sub> rejected	Significant influence
Liquidity against stock price	0,424	H <sub>0</sub> accepted	Insignificant influence
Leverage against stock price	0,400	H <sub>0</sub> accepted	Insignificant influence

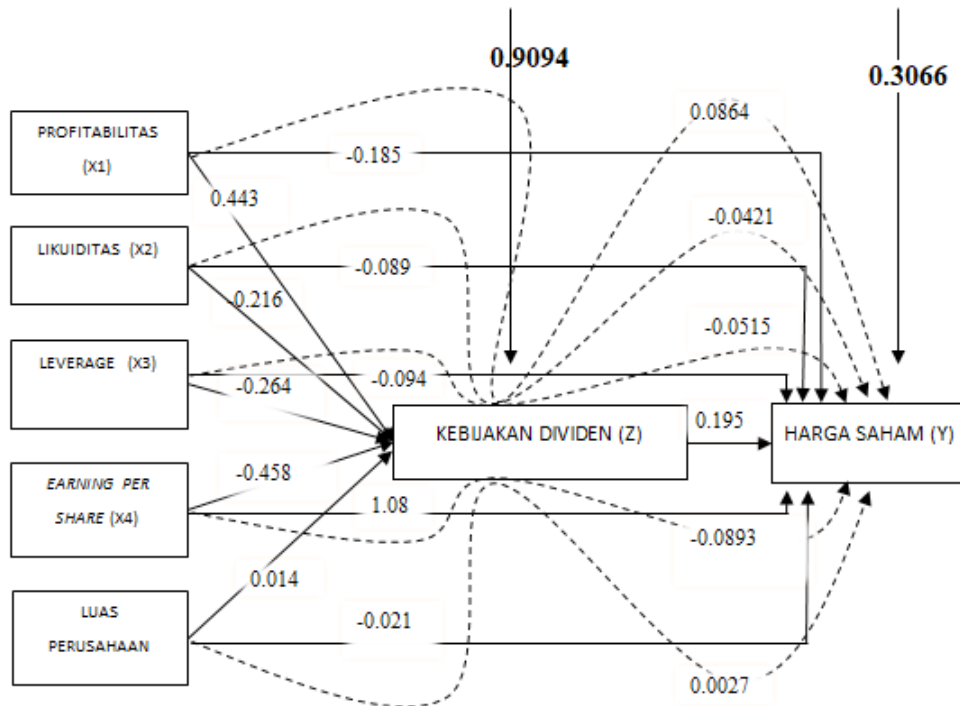


Path	Sig	Decision	Explanation
EPS against stock price	0,000	H <sub>0</sub> rejected	Significant influence
Size against stock price	0,616	H <sub>0</sub> accepted	Insignificant influence
Dividend policy against stock price	0,000	H <sub>0</sub> rejected	Significant influence

Based on table with known beta value then can be counted the direct effect, indirect effect and the total effect path analysis model, as follow:

**Table 4. Direct Effect and Indirect Effect**

Var	Direct	Inindirect	Total	Result	Conclusion
ROE	-0,185	0,087	0,683	Indirect > direct= Intervening	DPR as an intervening variable
QR	-0,089	-0,421	-0,021	Indirect < direct= tidak Intervening	DPR is not an intervening variable
DAR	-0,094	-0,052	-0,069	Indirect > direct= Intervening	DPR as an intervening variable
EPS	1,086	-0,089	-0,263	Indirect < direct= tidak Intervening	DPR is not an intervening variable
SIZE	-0,021	0,003	0,209	Indirect > direct= Intervening	DPR as an intervening variable



**Picture 1. Path Coefficien Result**

## Discussion

This discussion aims to determine the effect of profitability (ROE), liquidity (QR), leverage (DA), earnings per share, and size on stock prices with dividend policy (DPR) as an intervening variable in food and beverage companies listed on the Stock Exchange Thailand (SET).

### Effect of profitability on dividend policy

Based on the results of the t test profitability has a positive and significant influence on dividend policy. So the hypothesis which states that profitability affects dividend policy is accepted. This is because companies with high levels of profitability or high level of profit generating ability tend to distribute dividends more because profitability ratios are used to measure the ability of their own capital to generate profits for all shareholders (Sujarweni, 2017: 56).

The results of this study are consistent with the research conducted by Putri (2017) and Idawati and Sudiarta (2013), which states that profitability has a positive and significant effect on dividend policy due to the assumption that the benefits that are feasible to be shared with shareholders are profits after the company fulfills its obligations. its fixed obligations are interest and taxes. Therefore dividends taken from net profits will affect the dividend payout ratio.

Companies that have greater profits will pay a greater portion of their income as dividends (Oktaviani and Basana, 2015).

### **Effect of Liquidity on dividend policy**

Liquidity has a negative relationship and significant effect on dividend policy. So that the hypothesis that liquidity influences dividend policy cannot be accepted. Therefore, companies with a high level of liquidity will then pay low dividends.

Liquidity measured using a quick ratio shows the ability of a company to pay its short-term liabilities by using current assets without taking into account inventory. Cash, which is one element of current assets, if the high quick ratio considered to be used to pay off its short-term liabilities so that the profits earned and entered into the company's cash, the cash is used to pay off short-term liabilities. This caused a decrease in dividend distribution to shareholders. This assumption is in line with that expressed by Hartono (2014: 460) that liquidity is predicted to have a negative relationship with risk, namely rationally known that the more liquid the company, the smaller the risk.

Nevertheless, the results of this study are not in line with the previous research conducted by Idawati and Sudiarta (2013) and Adnyana and Badjra (2014). The results of previous studies show that liquidity has a positive and significant effect on dividend policy.

### **Effect of leverage on dividend policy**

Leverage has a negative relationship and significant effect on dividend policy. So the hypothesis which states that leverage affects dividend policy is not acceptable. A high level of leverage in the company will reduce dividends.

Leverage measured using debt to total assets shows how much the company's assets are financed by loan capital or debt. The greater the amount of assets financed by debt, the company will focus more on reducing loan capital. So it is probable that the amount of retained earnings is allocated to repay the company's debt, which then causes a decrease in the amount of dividends distributed.

The results of this study are consistent with two previous studies, namely the research conducted by Wijaya (2017) and Oktaviani and Basana (2015) that leverage has a negative effect on dividend policy. This is due to the assumption that if the company has a large liability, the profits obtained in the future tend to be used to pay the obligations that are due.

### **Effect of Earning Per Share on dividend policy**

Earning per share has a unidirectional relationship and significant effect on dividend policy. Thus, the hypothesis that states earnings per share has an

effect on dividend policy. Companies with high earnings per share, the greater the amount of dividends distributed.

The results of this study support previous research conducted by Adnyana and Badjara (2014). The assumption that supports this research is that companies that are able to perform optimally and generate large profits will also have greater opportunities to distribute their dividends.

### **Effect of size on dividend policy**

Size has unidirectional relationship and has no significant effect on dividend policy. Thus, the hypothesis that size influences dividend policy is not acceptable.

Size measured by natural logarithm, total assets cannot represent the amount of dividends that the company can pay to shareholders. The number of company assets does not become a constraint in dividend distribution as long as the amount of retained earnings and profit generated in the current year is quite large.

The results of this study do not support two previous studies conducted by Wijaya Z (2017) and Putri (2017), where the two studies provide results that size has a positive and significant effect on dividend policy. Previous research assumed that large company size would be easier to access to the capital market so that it had the opportunity to get investment funds to be screened for company operations aimed at generating profits, this profit would then increase the company's ability to distribute dividends..

### **Effect of Profitability on stock price**

Profitability has an unidirectional relationship and significant effect on stock prices. Thus, for the hypothesis that profitability affects stock prices, it cannot be rejected. A high level of profitability, will result in a decrease in stock prices.

Nevertheless, the results of this study are not in accordance with research conducted by Ratih et al., (2013) and Purnamawati (2016) and Sharif et al., (2015) which show that profitability measured using ROE has a positive and significant effect on stock prices.

### **Effect of Liquidity on stock price**

Liquidity has an unidirectional relationship and does not affect the stock price. So, for the hypothesis that liquidity affects stock prices, it cannot be accepted. The results of this study are not in accordance with research conducted by Deitiana, et al (2015) which states that liquidity has a positive and significant effect on stock prices.

**Effect of Leverage on stock price**

Leverage has an unidirectional relationship and has no significant effect on stock prices. Thus, the hypothesis which states leverage affects stock prices, cannot be accepted. The results of this study support the previous research conducted by Ratih, et al (2013) which gives results that leverage has a negative effect on stock prices. Leverage which measured by using debt to total assets shows that the greater the amount of assets financed by loan capital, it can attract investors to invest, as a result the stock price will decrease.

**Effect of Earning Per Share on stock price**

Earning per share has a direct or positive relationship and significant effect on stock prices. Thus, the hypothesis that states earnings per share affect the stock price, cannot be rejected. The amount of profit per share that can be accessed by investors at the company's annual report that has been issued can be a trigger for investor interest in investing their funds. If the demand for shares of a high company is likely the stock price offered by the market will also be higher. The results of this study support the research conducted by Ratih, et al. (2013), the effect of earnings per share on stock prices shows a significant positive effect, which means that if Earning per share increases then the stock price also increases and vice versa.

**Effect of size on stock price**

The results shows that size on stock prices have an undirect relationship or negative and significant effect on stock prices. Thus, a hypothesis that states size influences stock prices cannot be accepted. The results of this study do not support the three previous studies carried out by Qaisi et al. (2016), Hasanah et al. (2016) and Wijaya Z. (2017) which gave results that size has a positive effect on stock prices.

**Effect of dividend policy on stock price.**

Dividend policy has a direct or positive relationship and has a significant effect on stock prices. Thus, the hypothesis which states dividend policy affects stock prices, cannot be rejected. A consistent dividend distribution can provide a good image for the company while attracting investors to invest in the company. So the higher the dividend distributed, the higher the share price of the company.

The results of this study are in line with research conducted by Hunjra, et al (2014), Ali et al., (2014) and Wijaya (2017) which states that dividend policy has a positive and significant effect on stock prices. This shows that any surge or decrease in dividends can change investor reactions based on the nature of the news when revealed. In the real world, however, changes in dividend policy are often followed by changes in stock market values.

## Conclusion

Below are conclusions from the results of this study:

1. Profitability and earnings per share show a significant influence on dividend policy (Dividend Payout Ratio). Whereas, liquidity, leverage and size on dividend policy show insignificant influence.
2. Profitability, earnings per share and dividend policy show a significant influence on stock prices. Meanwhile, the effect of liquidity, leverage and size on stock prices show no significant influence.
3. Dividend policy can be an intervening variable between profitability, leverage and size on stock prices. While the dividend policy is not able to be an intervening variable between liquidity and earnings per share of stock prices.

## Suggestion

Based on the results of the research, discussion, and conclusions above, the suggestions that can be given by researchers are:

- a. Further research can add independent variables such as not only internal company factors but also external factors that influence stock prices.
- b. The research period extends more than 5 years for further research.
- c. Comparing Thai manufacturing companies with other countries

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# Impact of Ecotourism on Sustainable Livelihoods, Conservation and Change of Human Behaviour in Sebangau National Park, Indonesia

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## Abstract

*Ecotourism becomes one of the main options to empower the community and at the same time preserving the natural resources in the Sebangau National Park. With an objective to identify the contribution of ecotourism to the improvement of communities' livelihood, too quantified impacts of ecotourism on environmental conservation and the local people is behavioural change from a illegal logger to conservationist. This study was carried out in the Kereng Bangkirai, Keruing and Baun Bango Village which have direct access to the park. Fifty four households were interviewed. Ecotourism helps in environmental conservation and socioeconomic development. Change in the local community is point of view from harvest into forest sustainable management. Also helps in increasing employment and entrepreneurship at a local level. Income and expenditure of local people had increased because of ecotourism. Participation in ecotourism, the education level, an increase in productive human capital and an increase in income had enhanced people's livelihoods. So, awareness towards conservation and education programmes related to tourism, and local government involvement would be recommended.*

**Keywords :** ecotourism, Sebangau National Park, economic, local community

## Introduction

Tourism is one of the more important sectors in the Indonesian economy, and the only sector that has, not experienced a decline it rather also achieved an increase each year in foreign exchange earnings. (Ministry of Tourism, 2015). Sembiring *et al* defines that tourism is traveling to natural places that are relatively undistributed or contaminated, with the specific purpose of studying, admiring, and enjoying the scenery, which includes plant and wildlife (including the potential regions such as ecosystem, climatic conditions, natural phenomena, the peculiarities of plant and animals) and also all manifestation of culture

(including the socio-cultural environment), both from the past and the present in these places with the aim of preserving the environment and improving the welfare of local people.

Sebangau National Park, which has a total area of 542,141.7 ha (SK. 529 Year 2012), is a new national park located in Central Kalimantan, Indonesia. Central Kalimantan itself is one of the five provinces of Kalimantan, the Indonesian part of Borneo, an island that boasts enormous biodiversity and is one of the largest centers for ecotourism in the world (Ashton, 2005; Kier, Mutke, Dinerstein, Ricketts, Küper, Kreft&Barthlott, 2005; Myers, Mittermeier, Mittermeier, Da Fonseca & Kent, 2000; Oakley, Pilcher & Wood, 2000; Persoon&Osseweijer, 2008; Raes, 2009). Thus, Sebangau National Park undoubtedly has the potential to be further developed as an ecotourism destination.

Sebangau National Park has the primary purpose of conservation and reforestation, reflecting the fact that the forested area has been significantly degraded by illegal logging.

The main income for local people is harvesting timber; though this was deemed illegal logging by the government in 1970. At that time, local people could earn the equivalent of 80-85 Euros per month by logging; thus, the change of status to a national park threatened their livelihoods.

Sebangau National Park has the following advantages: (i) it has a high potential biodiversity; (ii) it contains many endangered species of flora and fauna; and (iii) it is an important water catchment area for the surrounding region (Nugroho, 2010).

The management of National Park has faced the challenge that the park is located in a region that has long suffered interference from various parties, leading to ethnic problems and conflict between the agrarian, wood and palm oil industries. This reality adds to the overall complexity of the development of Sebangau National Park as an ecotourism destination in Kalimantan. Moreover, ecotourism itself is a new development for Sebangau National Park following the campaign in 2010 to become an ecotourism gateway in Central Kalimantan.

## **Objectives of the Study**

The general aim of the study is to ascertain the livelihood enhancement opportunities brought in the wake of ecotourism development in Sebangau whilst the specific objectives were to :

1. Identify the income generating ecotourism related activities in the community.
2. Assess the success of conservation in rising the local awareness related to the development of ecotourism in Sebangau.

## Methods

1. Document Review, the Review Program was conducted to find out the forms of intervention from the meaning program and also information about the conditions before many interventions were carried out (or as a baseline). Based on this information, it is known that an intensive community livelihood program/ ecotourism was only carried out in 2012.

2. Survey to local community and Visitors. The survey locations selected 3 villages that involved on the ecotourism program. There are Kereng Bangkirai, Keruing and Baun Bango villages,

3. Interviews are conducted for existing stakeholders at three levels, village, district / city, and province. At the village, interviews were conducted with Village Heads, community fire care, ecotourism groups, fish cooperatives, Damang, and community forums. Especially for fish cooperatives, Damang, and Formas, interviews are not conducted in each village but only in several villages that have three institutions.

## Result

Ecotourism activities have begun in recent years. Sebangau National Park Management have also facilitated the formation of ecotourism nodes / groups in several villages. Ecotourism is expected not only to increase the income of the community, but also to preserve natural resources in the Sebangau National park area. By getting to know the goals and activities of conservation in SNP, it is hoped that the community will increasingly participate in preserving nature in Sebangau National Park.

In the 3 villages as targets of evaluation, there were 54 respondents who had participated in ecotourism activities. The activities that followed were varied, including river cruising, flora and fauna observations, educational tours, fishing, art performances, tour guides, and jungle trekking. The respondents confirmed that ecotourism not only has an impact on increasing the income of citizens, but also contributes to maintaining and preserving natural resources in the Sebangau National Park area. Among these respondents, 87 % said there was an increase in forest resources and animals because they were protected by ecotourism. On the other hand, 83% mentioned getting increased income from ecotourism. The ecotourism group also mentioned that through their involvement in ecotourism around the Sebangau National Park, it made them increasingly aware of the importance of maintaining Sebangau National Park, because it could be one of the sources of income.

Because ecotourism activities can provide income for the community and involve many residents, the three ecotourism groups interviewed (in Kereng Bangkirai, Karuing, and Baun Bango) are concerned that in the future ecotourism activities will be managed by the private sector. When the private sector starts

to enter a lot of ecotourism activities, the community will increasingly not get benefits.

The survey results of tourist visitors in Kereng Bangkirai and Panggu Alas indicate that the majority (70%) of visitors are young people aged 15-25 years. They prefer to spend time in the tourist area around 2-6 hours. That is, tour packages in the form of a maximum of 1 day package are more attractive to visitors. There are only 22 % who spend 1-3 days or more in the TNS area, especially this for those who do nature tourism in Panggu Alas because it requires more time to reach it.

Whereas in terms of tourist attraction, natural scenery and river trekking are the main choices that attract visitors. Peat animals and forests are also chosen, but not many. This data confirms that the preservation of natural resources that are still good in the TNS is the attraction of visitors to come. Therefore, as long as the SNP management and the community can maintain the sustainability of the natural resources, then more visitors will come.

## **Conclusion and Recommendation**

Using the ecotourism concept approach, (Rama Bhayu2017) identified that correlation of the tourists' values with their behaviours can be found by analysing both their behaviour against other actors (local people) and their perceptions of nature. The tourists were ready to share knowledge with local people and to consider nature as something important; thus, their behaviour correlates with the concept of ecotourism (e.g. Chambliss et al., 2007; Fennell, 2008; Honey, 1999; TIES, 2006). Furthermore there is a positive correlation between behaviour of the local community for sharing knowledge that supports the conservation of nature.

In order to achieve a balance between tourism and conservation, therefore, national park authorities must consider all aspects of management holistically, including perspectives such as that of local communities. This implies that collaborative management is essential to the effective development of national parks, a conclusion that is supported by several studies that identify how national parks which are managed by a collaborative approach gain some benefits, such as: (i) enhancement of local management and knowledge, (ii) delivery of a sense of belonging and ownership amongst members, (iii) creation of a sense of ownership of available natural resources amongst indigenous people, and (iv) support for the presence of local people in the national park, potentially reducing poverty through community empowerment (Alder 1996; Christie & White, 1997; Christie et al., 1994; Elliot et al., 2001; Gilman, 1997; Goodwin & Bah, 2012; Nielson & Vedsmand, 1999; Pimbert & Pretty, 1997; Veitayaki, 1998; Wells & White, 1995; White & Palaganas, 1991). Furthermore, the concept of ecotourism in particular is considered to facilitate collaborative management approaches

and to promote a 'win-win' solution, especially between conservation and the recreational use of national parks (Fennell, 2013; Wood, 2012).,

This study achieves that objective by providing a description of what occurs at Sebangau National Park. This new national park was recently proclaimed as an ecotourism destination and its utilisation has been rapidly transformed within two decades; from timber concession areas, then illegal logging lands, to a national park with underpinning on conservation, and finally as an ecotourism destination

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# Generating Superior Business Performances Through Digital Marketing Case Study on Four Star Hotels in Batam, Indonesia

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## Abstract

*This study aims to analyze the influence of digital marketing on business performance with intellectual capital and perceived quality as intervening variables on four star hotels in Batam, Indonesia. Tourism in Indonesia especially in cities neighboring with others countries like Batam experienced a significant growth. One of them is the hospitality industry. With the rapidly evolving technology, digital media is used in all marketing activities in the hospitality industry in order to improve the business performance. This study was conducted by distributing questionnaires to 120 respondents of four-star hotel employees in Batam, Indonesia. Analysis technique used is quantitative analysis technique with path analysis method. The result showed that digital marketing is important for four-star hotel industry to have continually grow and be competitive. This is evidenced in the statistical calculation, the implementation of digital marketing has a positive effect on intellectual capital and perceived quality and those variables play important roles in creating business performance.*

**Keywords:** Digital Marketing, Business Performance, Intellectual Capital, Perceived Quality

## Introduction

Economic growth in Indonesia over the last few years has continued to experience a cumulative growth. Cummulatively, Indonesia's economic growth throughout 2016 was recorded at 5.02 percent, has increased compared to 2015 by 4.88 percent and also higher by 5.01 percent compared to 2014 (Central Bureau of Statistics, 2017). This growth is derived from a variety of industry sectors in Indonesia. One of them is from the tourism and hospitality industry.

It said that the development of tourism and hospitality business in Indonesia has increased quite significantly. This can be seen by the increasing



number of tourist arrivals in Indonesia and the growth of the tourism industry including the growing number of hotels in Indonesia. The growth of the middle economic class helped bring positive impact on the tourist statistics in Indonesia. Frost & Sullivan research in 2013 showed expenditure incurred Indonesian people for traveling worth US \$ 6.4 billion. By 2030, that number is expected to grow nearly four-fold, reaching US \$ 23.7 billion.

The tourists in this era dominated by the younger, fluent on the Internet, and want everything done quickly. These characteristics are seen as great potential by a number of businessmen in Indonesia. Nowadays, the higher level of competition in the hospitality industry force hoteliers to improve the quality of service to deal with competitors. According to data from Ministry of Tourism, room occupancy rate of four star hotels in Batam reached the highest of 58.14 in 2016. In addition, the average occupancy rate is the highest occupancy hotel in Riau Islands province exceeded Bintan and Tanjung Pinang. This may indicate a good business prospects in the hotel industry, especially in the area of Batam. The ability of the company in utilizing the optimal digital marketing is expected to improve the performance of the company, especially in the hospitality industry which in this case we know as business performance or the performance of the business. Business performance is a key aspect in the management of many studies in the literature because it plays an important role in developing, implementing and monitoring the strategic plan and determine its future direction.

In achieving business performance with high standards, it is of course influenced also by the perceived quality and capital. Seeing the fact that this time the workers of productive age are dominated by their very capable technology, the use of digital marketing in all aspects will greatly affect the intellectual capital of the company. It must be realized 50-90% enterprise value is determined by intellectual capital and is not determined by fixed assets of the company. The development of the new economy driven by information and knowledge which led to increased attention on intellectual capital. Therefore, Intellectual capital becomes an important component that must be managed by an organization.

Perceived quality is also a variable that is affected by the digital marketing and broker in achieving better business performance. According to Aaker (2003), perceived quality is the consumers' perception of overall quality or superiority of a product or service which is exactly why he had hoped.

To See the influence of digital marketing to intellectual capital and perceived quality to improve business performance in the hospitality sector, as well as to see the intense competition in the hospitality industry in Batam, it is an interesting study to see how the influence between the above variables by selecting a research object four-star hotel in Batam because it is believed that the hospitality industry should have an interesting strategy to be competitive

with other hotels and in order to improve business performance. Based on the above, the author wants to do research on the influence of digital marketing to business performance through intellectual capital and perceived quality at a four-star hotel industry in Batam.

## LITERATURE REVIEW

### Digital Marketing

*Digital Marketing Institute* defines digital marketing as the use of digital technology to create an integrated communications, and measurable objectives that help to acquire and retain customers while building a deeper relationship with them. Digital marketing include direct marketing, which treat customers as individuals and to define themselves not only by individual characteristics but also by how they behave, and interactive marketing, which has the ability to cope with people and the ability to gather and remember the response that individual.

Eun Young Kim (2011) set four dimensions Digital Marketing can be described as follows:

- a) Cost / Transaction,
- b) Interactive
- c) Incentive Program
- d) site Design

### Intellectual Capital

*Intellectual capital* can be seen as the establishment of knowledge, intellectual property and experience that can be used to create wealth (Stewart, 1997). Intellectual capital can also be defined as an investment of intangible resources to allocate organizational resources are intangible physically. In this case, the organization's resources, such as expertise, knowledge, and capabilities of the company organization cannot be assessed directly.

Intellectual Capital has a very important role in measuring human resources in a company. Intellectual Capital is classified as an intangible asset. Intellectual Capital is a very important asset in the era of information and knowledge, where Intellectual Capital refers to the knowledge and capabilities of a social collectivity, such as intellectual community organizations or professional practice. Intellectual Capital is knowledge, not all knowledge included in the Intellectual Capital.

Of the several definitions of some research in measuring intellectual capital, it divided into three components: human capital, structural capital and customer capital (Bontis, 2008). The three components are mutually assist in helping to create value and to give each other reciprocal benefits.

## Perceived Quality

*Perceived quality* can be defined as a judgment perception of consumers to the benefits of a product as a whole. Perception of quality itself involves the difference between the amount of benefits received and the sacrifice. Aaker (2003) suggests that the perceived quality as customers' perception of the overall quality or excellence of a product or service in connection with the expected purpose.

*High perceived quality* indicates that consumers have found differences and advantages of the product with a similar product after a long period of time. Perceived quality is a component of the brand value, therefore high perceived quality that would encourage consumers to prefer the brand over competitors. Various different criteria need to base the valuation of perceived quality, and most importantly, the most important is the satisfaction derived by the customer is not the same as the perceived quality.

A product of quality otherwise if it can meet the expectations of customers in accordance with the existing dimensions. In the opinion of Bernardin and Russell (1993), there are eight dimensions in determining the quality of a company:

1. Performance
2. Durability
3. serviceability
4. Aesthetics
5. Perceived
6. conformance
7. Reliability
8. Features

## Organizational Performance

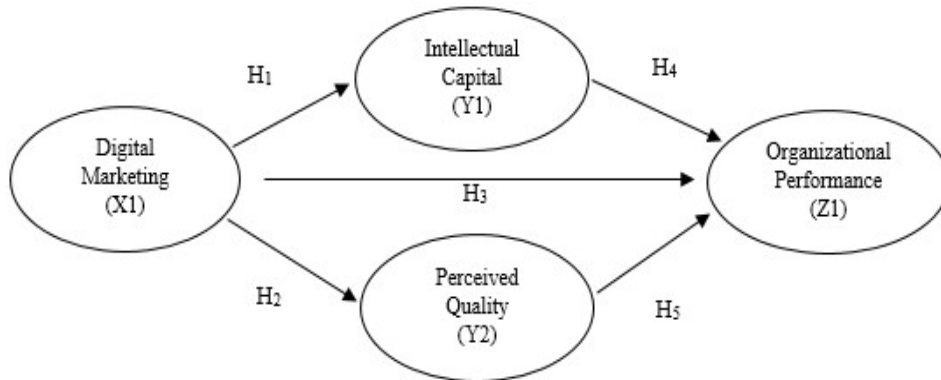
Bernardin and Russel (in Ruky, 2002) defines performance as a record of the results obtained from specific job functions or activities during the period. Payaman Simanjuntak (2005) defines performance as a result of the implementation phase to the level of specific duties and performance of the results achieved from the fairly behavior of members of the organization. Therefore, company performance is the level of achievement in order to achieve company goals and the overall activities carried out to improve the performance of the company or organization.

Bontis (2008) adopted six elements of Organizational Performance. The six elements that help the success of the business as the dependent variable. Six of these elements are known as follows:

1. Role Set
2. *role Script*

3. *role congruence*
4. *role Expansion*
5. *role Discrepancy*
6. *role Conflict*

### Research model



**Figure 1. Research model**

### Hypothesis

- H1: Digital Marketing a positive effect on Intellectual Capital  
 H2: Digital Marketing a positive effect on Perceived Quality  
 H3: Digital Marketing a positive effect on Business Performance  
 H4: Intellectual Capital has a positive effect on Business Performance  
 H5: Perceived Quality positive effect on Business Performance

## METHODOLOGY

### Population

The population is a combination of all the elements that have a series of similar characteristics, which include rules for the benefit of the marketing research problem (Malhotra, 2004). Another opinion says that the population is generalization region consisting of the objects or subjects that have certain qualities and characteristics that are applied by researchers to learn and then drawn conclusions (Sugiyono, 2009). The population in this study is the internal of a four star hotel industry in Batam.

### Samples

The samples are part of the population defined by the researchers (Sugiyono, 2009). Malhotra (2007) also added that the sample is a group of elements of the population are selected to participate in the study. In conducting the survey does not need to examine all the individuals in the population because it would be costly and time consuming. However, the main requirement is good

samples represent samples taken when the features and characteristics of the population (representative) with a small bias (Sugiyono, 2009).

### **Variables Operational Definition**

1. Digital Marketing (X1)
  - a. Transaction / Cost
  - b. Is one technique promotional discount high level of efficiency so as to reduce the cost and time of the transaction.
  - c. Incentive Program
  - d. The programs draw would be superior in every sale made. These programs are also expected to provide more value to the company.
  - e. site Design
  - f. An attractive display in digital media marketing that can provide a positive value for the company.
  - g. Interactive
  - h. Is a two-way relationship between the companies and consumers who can provide information and can be received well and clearly.
2. Intellectual Capital (Y1)
  - a. Human Capital
  - b. Is a collection of intangible assets reflects the ability of the company in the form of knowledge in the form of their professional workers
  - c. Structural Capital
  - d. A corporate structure that supports the efforts of the workers of the company to produce optimal intellectual performance.
  - e. Customer Capital
  - f. Is the relationship between the company and partners and external parties whether from customers, suppliers, and even the relationship between the company and the government or the local community.
3. Perceived Quality (Y2)
  - a. Features value-added or new innovations are added to the basic features. So it can be according to customer requirements.
  - b. Reliability namely the possibility of a product or service to meet the needs or desires of customers so as to meet customer ideals.
  - c. Conformance namely the suitability of the performance and quality products with the promise given by the company to the consumer.
  - d. Durability that is associated with a term or the useful life of the goods or services used within a certain period.

- e. Serviceability namely the ease of getting the information and services required by the customer.
  - f. Aesthetics namely regarding the beauty or appearance and presentation of the service or services.
4. Business Performance (Z1)
- a. Role Set namely the role of the internal set which was formed through the relationship and understanding of the role of commitment working with the service provider.
  - b. Role Script ie the expected role behavior, apply or developed in the service interface with client.
  - c. Role congruence occurs when a clear understanding of existing and role expectations are met.
  - d. Role Expansion, yaituperubahan experienced role through increased responsibilities.
  - e. Role Discrepancy, ie gaps under compliance between actual and planned aspect.

## ANALYSIS TOOLS

### Path Analysis

Statistical testing methods to be used on the model of path analysis in this study is the Partial Least Square. Partial Least Square (PLS) is part of the Structural Equation Modeling (SEM). The PLS method is a new method that has been widely used in research because it can use a number of small sample. The advantages of PLS-SEM is the method capable completing various models of complex / complexes with a variety of endogenous and exogenous variables with the number of existing indicators, can be used on samples with a small amount, and the existing distribution data (Abdillah & Hartono, 2015).

### T-test

In this study there is an intervening variable that is a liaison between the dependent variable and independent variables. Testing the hypothesis of mediation (the intervening variables) can be performed with T-test procedure. Testing of T-test was used to obtain the value of t-statistics are necessary if researchers wanted to test the hypothesis, so that researchers can say the influence of a variable can be said to have a significant effect or not. T-test was performed using bootstrapping method.

Bootstrapping method is a process of re-sampling testing performed by the computer system to measure the accuracy of the sample estimate. Bootstrapping is used to measure the accuracy of the sample. If the bootstrap value of more than ( $>$ ) 1.96 then stated that these variables have a significant

effect, while if the value of the bootstrap lower ( $<$ ) than 1.96, then the variable is declared weak effect (Abdillah & Hartono, 2015).

### Descriptive statistics

Descriptive statistics were used to present descriptive data that describes the characteristics of the respondent and respondent's answers so that they can be used as a conclusion from the questionnaire that has been distributed throughout the research.

## ANALYSIS AND DISCUSSION

### Descriptive Analysis

*Table 1. Transaction Descriptive Analysis /Cost*

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing reduces promotion costs (X1.1)	0	7	33	65	15	3,73	0,750
2.	Digital marketing shorten transaction time (X1.2)	0	5	33	66	16	3,78	0,724

Dimensions Transaction / cost reflects the ability of Digital Marketing in the company to press their costs need to be incurred in the promotion of engineering company with a very high level of efficiency for digital marketing can save the cost is so great. In Table 1 can be explained that the greatest mean value can be found on the indicator X1.1 3.78. This value is clear that the majority of employees agreed with the statement that digital marketing shorten the time of the transaction. With the increasingly advanced technology, the use of digital media in the context of the transaction process easier. Things like this will make it easier in terms of the company in reaching a wider target market. With the digital marketing that almost every community have the facility, Companies do not need to reduce the cost of the promotion for his company. With the help of digital marketing, its own subscribers will find out for himself. Indirectly, this will have an impact on time efficiency to be achieved by each customer. Customers do not need to come first to the hotel for a reservation or find anything like the facilities offered by the hotel and so forth, but enough digital marketing assistance, customers can shorten the time to make reservations early in the application they have. With this, the efficiency of employees also increased due to shorter transaction time anyway. Indirectly, this will have an impact on time efficiency to be achieved by each customer. Customers do not need to come first to the hotel for a reservation or find anything like the facilities



offered by the hotel and so forth, but enough digital marketing assistance, customers can shorten the time to make reservations early in the application they have. With this, the efficiency of employees also increased due to shorter transaction time anyway. Indirectly, this will have an impact on time efficiency to be achieved by each customer. Customers do not need to come first to the hotel for a reservation or find anything like the facilities offered by the hotel and so forth, but enough digital marketing assistance, customers can shorten the time to make reservations early in the application they have. With this, the efficiency of employees also increased due to shorter transaction time anyway.

X1.2 indicator has an average of 3.73 which generally indicates that employees in four star hotels feel that with the digital marketing, the cost of conventional sale drastically reduced. This is because of digital marketing systems that are so rampant in all aspects of marketing so slowly abandoned the conventional system. When the first to conduct a campaign to be with media such as billboards, banners, flyers, and so on, then with their digital media marketing can be replaced with, for example the promotion through social media, e-mail, and through the application so that the campaign carried out directly on target.

**Table 2. Descriptive Analysis of Incentive Program**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing provides clear information (X1.3)	0	6	30	65	19	3,81	0,756
2.	Digital marketing helps employees explain the product and services (X1.4)	0	1	27	74	18	3,91	0,632

Incentive Program Indicators show X1.4 can be seen having a mean of 3.91 and it can be concluded that that digital marketing has helped the employees describe the products and services that the company had. Digital marketing helps employees to explain the products and services, it indicates that the employee agrees that digital marketing is helpful in providing information that is clear, in a sense, website or social networking account that companies use to help employees in light of the information about the products owned by the company, in doing so, the employee's performance can be allocated to other things more important.

X1.3 indicator also has a fairly high mean value, namely 3.82. Digital marketing sites or social networks owned by the company, it can be proved from the website owned by the company, the employees agreed with the statement that digital media marketing company they have to provide the information clearly.

**Table 3. Dimensional Descriptive Analysis Site Design**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing has attractive design (X1.5)	0	7	30	58	25	3,84	0,816
2.	Digital marketing design is neatly arranged (X1.6)	0	8	28	59	25	3,84	0,827

Site Design an attractive display that can be a weapon in delivering a positive value for potential customers. X1.5 and X1.6 on the indicator shows the same mean value amounting to 3.84. This indicates that employees in the industry agree that a 4 star hotel between attractive design and compact design are equally important. Things like this should be considered for the company in order to give a positive value for the customer. The main thing that consumers need to take advantage of the company's digital marketing is the ease in accessing the information they need. If the terms of the digital display marketing answer this need, the potential consumers will indirectly continue what their needs are. Reforming the sake look so neat to see, layout design that attract attention and clear navigation should be considered by the company. Consumers tend to use digital marketing facilities through their sophisticated mobile phones, hence the appearance of the web computer must be in sync with the display customers' access via smartphones.

**Table 4. Descriptive Analysis of Dimensional Interactive**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing makes communication with consumers easier (X1.7)	0	11	32	56	21	3,73	0,856
2.	Digital marketing helps employee managing complain (X1.8)	0	10	25	65	20	3,79	0,815

Two-way interaction between companies and consumers is the most important thing that cannot be abandoned, especially if through digital marketing. Table 4 shows that employees agree to their dimensions in digital marketing Interactive. Evident from the indicator X1.8 with a mean value of 3.79 which

states that digital marketing help employees respond to customer complaints. The first thing that proves that the digital marketing help employees in response to the complaint is when consumers provide feedback to the company will be more objective using the media than in writing. Moreover, it will make it easier for companies to collect data compared manually or in writing.

On X1.7 indicators show that digital marketing also played a role in terms of communication between employees and customers. It is seen from the company's facilities have to offer in the media as a 24-hour hotline that makes it easy for prospective customers to ask questions about their company's needs.

**Table 5. Descriptive Analysis of Human Capital Dimension**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing helps employee to lean product (Y1.1)	0	5	26	69	20	3,87	0,730
2.	Digital marketing helps employee to provide services (Y1.8)	0	4	30	60	26	3,90	0,768

Human Capital reflects a company's ability to produce the best solution based on the knowledge possessed by those who are arriving in such knowledge. These dimensions can be measured by two indicators presented in Table 5. The indicator with the average number of the highest response was Y1.2 amounted to 3.90. Employee four-star hotel in Batam admitted that facilitate digital marketing employees to provide the best service to consumers. By utilizing the digital marketing, the employee will be easier to provide services for all integrated into an online system.

For example, employees who are promoting the company to prospective customers or subscribers, simply take advantage of digital marketing facilities owned by the company in presenting their products (hotel facilities, drawing room, as well as other offers presented through animation and graphics).

Indicators Y1.1 have average amount which is not much different from Y1.2 indicator is a mean value of 3.87. Employees agree that the four-star hotels with their digital marketing, will enable them to learn digital marketing product that is owned by the company. In this case, the digital marketing has a dominant role mastering employees. In addition to its more advanced technology and the needs of consumers who want a fast-paced, it resulted in employees want or do not want to have to master the digital media marketing. By mastering the products of the company, the process of delivering information to customers

also will go well. Thus the role of digital marketing is enough to affect the understanding of the product from its employees.

**Table 6. Descriptive Analysis of Structural Capital Dimensions**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing helps staff getting information (Y1.3)	0	5	22	71	22	3,92	0,726
2.	Digital marketing helps staff learning SOP (Y1.4)	0	4	38	56	22	3,80	0,770

Structural capital is a company's ability to perform routine activities, as well as the structure of the companies that support the efforts of the workers of the company to produce optimal intellectual performance. Indicators Y1.3 had a mean grade of 3.92. The majority of employees agree that this is the biggest indicator than indicators eat it in this dimension as evidenced by the 77.5% was agreed and strongly agreed with the statement that digital marketing is it easier for employees to find information. Whether it's information that is primary or secondary. As an example of that is the presence of big data owned by the company regarding its customer list making it easier for employees to do a follow-up to its customers and can be accessed from anywhere because it is online digital marketing and inter-connected networks. These developments led the employees to be capable or able to gather relevant information which can be a valuable contribution to the development of the company.

Y1.4 indicators also showed a fairly high figure is a mean value of 3.80 with the total responses 46.67% agree and 18.33% said strongly agree. This indicates a majority of employees agree that a 4 star hotel digital marketing easier for employees to learn SOP or standard operating procedures. SOP implementation process required the company in order to introduce the SOP to everyone involved in the company's structure and make SOP become an important part of every routine operation. Digital marketing plays an important role here because recaps SOP documents are distributed according to need can be accessed easily by all member companies, especially those directly involved in the SOP.

**Table 7. Descriptive Analysis of Customer Capital Dimensions**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing makes staff and consumer closer (Y1.5)	0	8	26	56	30	3,92	0,850
2.	Digital marketing used to communicate among stakeholders (Y1.6)	0	7	31	57	25	3,83	0,820

Customer Capital or also known as capital or external relational capital consists of relationships with customers and suppliers, government or relevant industry associations, brand names, trademarks and reputation. Customer capital is the harmonious relationship which is owned by the company to its partners and to its customers. Indicators Y1.5 with an average value of 3.90 indicates the employee agrees that digital marketing is able to make the employees closer to customers. As an example of which is when employees do the follow-up via SMS and email to be able to communicate personally with information about informasi informasi and current promotions. Customers can also contact the company through social media, telephone, e-mail and the official website of the hotel.

Indicators Y1.5 Y1.6 strengthen indicator above the mean value of 3.83. Partnership with stakeholders is highly considered by the company as stakeholders become one of the important assets that must be maintained. With the good relationship with stakeholders, it will be directly related to the performance of the company. In this case the customer is the one part of the stakeholders should be taken good care by the company. Furthermore, conjunction with the ease of communicating with stakeholders is simultaneously to the service provider, the hotel has been close to the customer. In this case the employee agrees that Digital Marketing it easier for employees to communicate with stakeholders.

**Table 8. Dimensional Descriptive Analysis Features**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing has the latest technology (Y2.1)	0	3	32	63	22	3,87	0,730
2.	Digital marketing has consumer database (Y2.2)	0	5	32	68	15	3,78	0,713

Features in digital marketing is the extra features or additions exist to complete the main features of digital marketing. These features are complementary because they relate to additional aspects can complement each other. The strongest indicators that affect this dimension is an indicator Y2.1 with a mean value of 3.87. This indicator discuss about the features in digital marketing technologically up to date. This means that the employees agree with their digital marketing that has the latest technology in accordance with the development that will support the customer perception that may have a direct impact on employee performance, are easier for employees by educating and attracting customers. With the master and utilize emerging technology,

By having and using the technology up to date, then the customer database that was filled previously by the customer will be stored neatly through digital media marketing and will affect the company because the company's assets is maintained. Customer database will improve the value of the company automatically, these data can be sold later and will go as Big Data. It is approved by the respondent on the indicator Y2.2 to agree as much as 56.67% of respondents answered strongly agree and 12.5%.

**Table 9. Dimensional Descriptive Analysis of Reliability**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing provides information for consumers (Y2.3)	0	6	31	67	16	3,78	0,736
2.	Digital marketing make it easier for staff and consumer to communicate (Y2.4)	0	5	42	48	25	3,78	0,812

Reliability a digital marketing possibilities in carrying out their functions properly every time it is used. In indicator Y2.3 and Y2.4 we can see have the same mean is 3.78. This marks the employees feel that digital marketing can help employees to provide information and facilitate employees communicate with customers equally well. By utilizing the digital marketing, it can directly provide information without the need to explain. Customers can directly view the information contained on the website as well as the company's social accounts. Communication is also a matter of concern. Communication happens is 2-way and there are no obstacles or barriers that occur.

**Table 10. Descriptive analysis of Conformance Dimensions**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing assures consumer's security (Y2.5)	0	7	28	69	16	3,78	0,744
2.	Digital marketing convinces consumer (Y2.6)	0	3	33	72	12	3,78	0,651

Conformance a conformity that occurs between employees and customers, both in terms of security and trust. At 2 indicators in this dimension, which is an indicator Y2.5 and Y2.6 we can find that both these indicators have the same mean anyway is 3.78. Digital marketing is able to provide security for the customer, that is by keeping personal data belonging to customers who have their previous contents. This system makes customers feel comfortable and safe because it does not worry about their personal data could be hacked by parties who are not responsible.

Followed by Y2.6 indicators where 70% of the respondents agree with this statement, digital marketing can help employees to reassure customers, with an attractive web design, the site contains information that is weighted, and the reviews from previous customers, of course customers will be more interested in seeing and seek to know about the company and products that we are being marketed. This causes the performance of the organization increases because customers feel confident of the company.

**Table 11. Durability Dimensional Descriptive Analysis**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing is free from hackers (Y2.7)	0	2	29	70	19	3,88	0,673
2.	Digital marketing provides consistency (Y2.8)	0	4	32	67	17	3,81	0,711

Durability is the resistance of the digital marketing itself, whether the digital marketing safe from tampering by hackers who are not responsible, and also resistance seen from digital marketing period itself can be utilized by the company. In this case, with a mean value of 3.88, the majority of employees agree with their skilled programmers will create a digital marketing accounts



of the company will be safe from hackers and will not leak any data and the content contained therein, which are all maintained in order privacy and personal data company. Y2.7 indicator shows that digital marketing used by companies already safe from hackers and other interference.

Indicators Y2.8 which has a mean of 3.81 also indicates that employees agree with their digital marketing, digital marketing that they have had a good consistency. What is meant by a good consistency is not easy down the site, social networking accounts that are always active, as well as email accounts and hotlines are always active in receiving information and customer complaints as well as to accept criticism and suggestions.

Both of these indicators, namely Y2.7 and Y2.8 are two indicators that are related to each other, because if the account has been hacked, the trust that has been built by the company will be lost and the company's reputation would be decreased due to mistrust of the subscriber to companies and considers that the company is less consistent in managing the digital marketing held.

**Table 12. Serviceability Dimensional Descriptive Analysis**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing provides excellent services (Y2.9)	0	6	28	64	22	3,85	0,771
2.	Digital marketing used to respond complaints (Y2.10)	0	5	27	76	12	3,79	0,670

Serviceability is the ease of the service of companies and their improvement when it is being required by the customer. This of course should be considered to maximize the role of digital marketing as a promotional strategy provided by the company.

In Y2.9 indicator, digital marketing is able to provide the best services. This means that help digital marketing company has been able to provide the best service. This means that customers can get information easily, no difficulty in digging up information, and not difficult for customers to access the company's digital marketing. Employees agree that digital marketing they use is able to provide the best service, because with it, the customer can easily search for information without the employee must provide a general explanations. In this case the employee greatly assisted by the digital marketing. The mean value of 3.85 to be evidence that the employees feel that the digital marketing.

*Digital marketing* capable of responding to customer complaints, the site owned by the company will certainly there is a column comments, criticisms,

and suggestions in it. It is already being felt employees and it makes them understand what needs to be taken extra and understand the grievances what is perceived by the customer, and can be addressed quickly by the company so that the company's image is not bad. Y2.10 indicator has a 3.79 Mean value, the value is quite high and it can be said that the employees of the hotel 4 respondents in this study agree with the statement that they are using digital marketing capable of handling his complaints from customers.

**Table 13. Descriptive Analysis Dimension Aesthetics**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing has attractive display (Y2.11)	0	6	34	61	19	3,78	0,769
2.	Digital marketing has modern display (Y2.12)	0	3	34	67	16	3,80	0,690

Aesthetics or beauty concerning composition, construction and arrangement rather than digital marketing site itself. Y2.11 Indicators Mean value of 3.78. These values indicate that the employees agreed with the statement that they make digital marketing has an attractive appearance, it is very influential and impactful to customers.

The look and design of a website interesting digital marketing will make customers feel at ease and interested to search deeper information about the company. By that, the digital display marketing should be made as attractive as possible so that customers do not feel tired and bored.

Y2.12 indicators also approved by most employees. With a mean value of 3.80 can be concluded that the employee also has a digital marketing with a modern look, it also affects the taste of the customer's interest to linger in the digital marketing sites. In addition to the content and the content interesting, futuristic and modern design that will attract the attention of customers. Aesthetics are important things that must be considered in a site and other digital marketing. Without a good aesthetic, of the design and appearance of the site to be without purpose and unsightly and difficult to understand. With the good aesthetic and attractive, then the curiosity of consumers will also be higher.

**Table 14. Dimensional Descriptive Analysis Role Set**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing develops teamwork (Z1.1)	0	3	26	73	18	3,88	0,673
2.	Digital marketing makes services easier (Z1.2)	0	4	32	72	12	3,77	0,667

Role set the role of the internal set which was formed through the relationship and understanding of the role of commitment working with the service provider. Digital Marketing helps relationships teamwork, because of easy communication, intense, and unbiased. Digital media marketing helps in this regard, employees can post messages and read at that time, so that the exchange of information that occurs automatically increased in terms of speed, efficiency and cooperation will create a good team will be going along with the rapid information exchange. Can we see indicators Z1.1 with a mean value of 3.88 indicates that employees agree with that.

Indicators Z1.2 has a mean value of 3.77, it can be said that digital marketing is it easier for employees in serving customers, with digital marketing, employees can respond to customers quickly and appropriately. With the help of digital media marketing, the frequency of the employees to talk to customers would be reduced because all can be accessed online.

**Table 15. Dimensional Descriptive Analysis Role Script**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing upgrades hotel's services (Z1.3)	0	4	28	68	20	3,87	0,718
2.	Digital marketing provides continous development (Z1.4)	0	7	28	74	11	3,74	0,701

Role script is an expected behavior role, apply or developed in the service interface with client. Indicators Z1.3 has a mean value is high enough, ie 3.87, in that it can be indicated that the employees agreed with the statement, that digital marketing services to improve the quality of the hotel. With digital marketing their employees are assisted in improving the quality of hotel services, because

of the media owned by the company, customers can directly see, order, and pay for services they want.

Digital marketing facilitate hotel provide sustainable services. Indicators Z1.4 has a mean value is 3.74, which means true that employees feel that digital marketing to help them and facilitate hotel in delivering the best service. This is because customers can directly order all the existing services and mutual respect between each other.

Role congruence occurs when a clear understanding of existing and role expectations are met. Indicators Z1.5 has a mean value of 3.81, which states that the hotel digital marketing helps in attracting customers, it is because digital marketing increase customer wishes to design an attractive website, and is also supported by sites that are not complicated and easy to access. If the digital media marketing sites and destination difficult to access, the tendency of customers will change and will move on to a website or other sites. In this case 81.67% of employees agreed with the statement above.

**Table 16. Dimensional Descriptive Analysis Role congruence**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing generates consumer demand (Z1.5)	0	7	20	82	11	3,81	0,674
2.	Digital marketing provides information (Z1.6)	0	3	28	69	20	3,88	0,697

The above statement can be interpreted that digital marketing is able to assist employees in providing information and deliver it. Indicators Z1.6 with a mean value of 3.89 can be concluded that the employees agreed with the statement, for digital direct marketing can provide information without the need to explain. Customers can directly view the information contained in the company's digital media marketing.

**Table 17. Dimensional Descriptive Analysis Role Expansion**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing generates new consumers (Z1.7)	0	3	24	79	14	3,87	0,632
2.	Digital marketing helps staff's job (Z1.8)	0	7	10	79	14	3,83	0,699

Role Expansion is the change of experienced role through increased responsibilities. In Z1.7 indicator can be seen that the hotel digital marketing helps in acquiring new customers. With a mean of 3.88, can we interpret that the employee agrees to digital marketing that help acquire new customers, this could be explained in the manufacture of digital media and modern marketing will attract customers' attention and improve the customer's desire to know more about the content in therein. From this can be interpreted that by providing digital marketing can assist employees in gaining customers.

Indicator stating Z1.8 digital marketing helps employees in many tasks (multi-task) have different mean values are not too far away that is equal to 3.86. This means that employees would agree with the statement, very helpful digital marketing, applications and media provided help employees perform several tasks at once, to shorten the working time. With can multitask, then the work will be more effective and efficient and influenced to the rise in the performance of the organization.

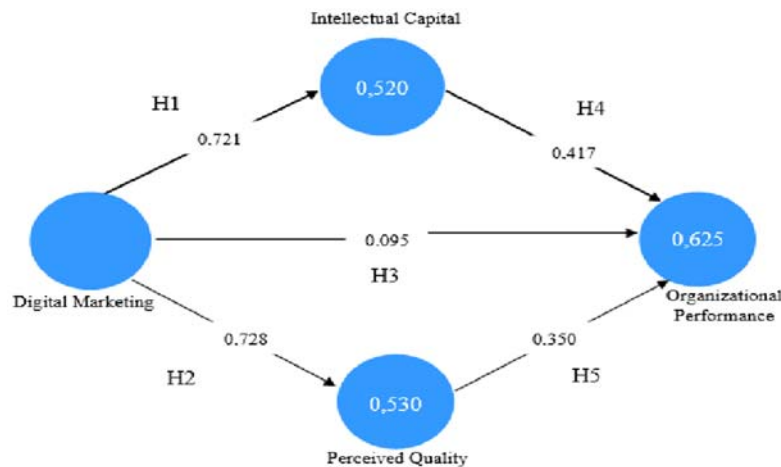
**Table 18. Dimensional Descriptive Analysis Role Discrepancy**

NO.	INDICATOR	RESULT					MEAN	DEV std
		SD	D	N	A	SA		
1.	Digital marketing helps staff for improvisation (Z1.9)	0	5	29	69	17	3,82	0,719
2.	Digital marketing develops staff's creativity (Z1.10)	0	4	22	79	15	3,88	0,653

Discrepancy *is* a gap occurs under the compliance between actual and planned aspect. In this dimension, we can see the indicators Z1.10 have a mean of 3.88, which means the employees agree that digital marketing increase employee creativity. With their digital media in the form of this marketing, would not want employees to be able to think in a creative and innovative in order ahead of competitors and consumers are increasingly interested in the existence and capabilities of the company.

While the indicator Z1.9 also have a fairly high mean for Z1.9. Digital marketing used by employees to improvise in order to become a differentiator among others, and will improve the performance of the company.

## Evaluation Path Coefficient and Coefficient of determination



**Figure 2. Path Coefficient and Coefficient of determination.**

On the path coefficient analysis has been proved that the Intellectual Capital and Perceived Quality an intervening variable which strengthens the relationship between Digital Marketing and Organizational Performance. From the picture above can be explained that the greatest value is shown on the path coefficient influence on the Perceived Quality of Digital Marketing at 0.728. While the contribution of the value of Digital Marketing to Intellectual Capital does not differ much, amounting to 0.721. The strongest relationship to the Organizational Performance Digital Marketing also obtained when passing Intellectual Capital and Perceived Quality towards Organizational Performance.

In relation to the Organizational Performance Digital Marketing directly own path worth 0.095 coefficient. Then when the relationship is through variables Intellectual Capital first, then the value of the path coefficient increased to 0.301 ( $= 0.721 \times 0.417$ ). So this is proof that Intellectual Capital is an intervening variable that strengthen the relationship between Digital Marketing with Organizational Performance.

In addition Intellectual Capital, Perceived Quality also has a role as an intervening variable which strengthened the relationship between Digital Marketing with Organizational Performance. It is known that the path coefficient value of the relationship with Organizational Performance Digital Marketing at 0.095. Then when the relationship is through variable Perceived Quality then nilaitersebut increased to 0.255 ( $= 0.728 \times 0.350$ ). So from that evidence that the Perceived Quality as an intervening variable strengthen existing relationships.

So the conclusion to all variables in this model has the path coefficient with positive numbers. That is, if the greater the value of the path coefficient

on the independent variable on the dependent variable, the stronger also the influence of the independent variable on the dependent variable. But the relationship on Organizational Performance Digital Marketing direct has the lowest number, which is 0.095 which means that the effect on Organizational Performance Digital Marketing lower.

Digital Relationship Marketing on Organizational Performance directly is not strong because only with digital media, 4 star hotel industry in East Java has not been able to improve the performance of the organization. Digital marketing has a good but not followed by the ability of intellectual capital resources in the form of employees who want to continue to learn and keep abreast of the times, and also the lack of a good quality perception of the public eye then the company is not able to increase the Organizational Performance. In this research object is needed role of Intellectual Capital and Organizational Performance Perceived Quality heading.

Meanwhile, the value of the coefficient of determination ( $R^2$ ) in the image shown in the figure in the circle of variables Intellectual Capital, Perceived Quality and Organizational Performance, proving that the variables Intellectual Capital influenced by Digital Marketing with a variance of 0.520. That is, as much as 48% more influenced by other variables outside the research. Then variable Perceived Quality is affected by the Digital Marketing with a variance of 0.530. This means that the influence of Digital Marketing on the Perceived Quality by 53%, while 47% is explained by other variables outside the research. While variable is influenced by variables Organizational Performance Digital Marketing, Intellectual Capital and Perceived Quality with a value of 0,625 variant.

**Table 19. T-Statistic**

	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Error (STERR)</b>	<b>T Statistics ( O/STERR)</b>
Digital Markting -> Intellectual Capital	0,721	0,725	0,044	16,403
Digital Markting -> Perceived Quality	0,728	0,734	0,047	15,531
Digital Markting -> Organizational Performance	0,095	0,084	0,105	0,903
Intellectual Capital -> Organizational Performance	0,417	0,417	0,083	5,011
Perceived Quality -> Organizational Performance	0,350	0,361	0,111	3,163



T-Statistic By looking at table 19, it can be interpreted that the original sample value (O) is the path coefficient value which indicates the strength of a latent effect of the latent variable to another variable. While the value of the column sample mean (M) indicates the midpoint of the path coefficient. While the standard error (STDERR), demonstrating the value of error in the sample mean. Value T statistics to see the value of T count that will be used to test the hypothesis, where T statistics that have a value above 1.96 have an influence.

## **DISCUSSION**

### **Digital Marketing on Intellectual Capital**

The results showed that the variables of Digital Marketing from a 4 star hotel in Batam has a positive influence on Marketing Capability with the results of the test Tstatistics values > 1.96 are sebesar 16,403.

Utilization of digital marketing technology is not limited only to the class and second-class. Related to intellectual capital, digital marketing has a very significant role. As the company's intangible assets, every element of intellectual capital should continue to be considered. Whether it's in terms of human capital, structural capital, and relational capital there. The Company is currently vying advance their assets with digital marketing. This strategy continues to be used for long-term success of the company.

While marketing activities others continue to run as usual, new strategies keep popping up with technology in a digital world that is growing very rapidly as social media integration, mobile marketing, web metrics and analytics, digital campaign management, email marketing, etc. , Plus the hotel industry that most customers are guests in order to do business or just for sightseeing, they must have been busy with their own affairs. The role of digital marketing is very necessary so that employees as a corporate asset can handle and responded well to customer needs quickly and practically. Therefore,

Digital Marketing itself has a value of a positive path towards Intellectual Capital at 0.721. This indicates that the Digital Marketing has a strong influence in shaping the Intellectual Capital of karyawanhotel 4 in East Java.

### **Digital Marketing on the Perceived Quality**

On the results of this study can be seen that the Digital Marketing not only have an influence on Intellectual Capital, but also affect the Perceived Quality of a 4 star hotel industry in Batam to test T-statistics values > 1.96, ie 15.531. These results prove that the Digital Marketing has a significant impact on the company's ability to enhance the impression of quality in the eyes of consumers.

Digital marketing as a good promotional technique and efficient, would be a serious threat in the competition are in a similar industry, especially in the hotel industry in Batam. Media can create the perception that was created

to consumers about the quality of a product offered by business people. It can be said that the application of Digital Marketing has a positive impact and is associated with the perception that is created to consumers.

In the application of digital media marketing, it is potentially creating a perception in the community regarding the quality or performance. Perceptions like this is an added value and not owned by hoteliers who do not utilize digital marketing. In addition, this era dominated by the generation that relies on technology and like all the fast-paced and instantaneous, then the creation of the impression of quality is what can be weapon in delivering value not previously owned. Perceptions are created for their digital marketing is becoming a distinct advantage in a long period. Surely, this to be a positive value of the company in the face of competition.

When viewed on a path coefficient value, the relationship of Digital Marketing to the Perceived Quality has a value of 0.728 which is a positive relationship. This means the existence of Digital Marketing in four star hotel industry in Batam is able to play a role in creating the impression of a good quality in the public eye.

### **Digital Marketing on Organizational Performance**

The results also show that Digital Marketing is not a strong enough influence on Organizational Performance. On the results of this research note that the absence of such a strong influence on the results of T-test statistics with a value of 0.903. This said to be not strong enough for T-statistics are owned less than 1.96. These results prove that the Digital Marketing does not have a significant effect on Organizational Performance. When viewed from the path coefficient, the relationship of Digital Marketing on Organizational Performance by 0.095. This figure is much smaller than the relationship of Digital Marketing on Organizational Performance when through Intellectual Capital in the amount of 0.301 ( $= 0.721 \times 0.417$ ) and Perceived Quality 0.255 ( $= 0.728 \times 0.350$ ).

Digital Marketing of 4 star hotel industry in Batam has not been able to directly improve the performance of the company's organization. This occurs because the digital marketing is good but not followed by the ability of intellectual capital resources in the form of employees who want to continue to learn and keep abreast of the times, and also the lack of a good quality perception of the public eye, then the company is not able to increase the Organizational Performance. Therefore, the object of this study is needed role of intervening variables Intellectual Capital and Perceived Quality to produce a good Organizational Performance.

## **Intellectual Capital on Organizational Performance**

Organizational Performance will create a company with Tstatistics test value > 1.96 is worth 5.011 thus concluded that the Digital Performance effect on increasing the company's Financial Performance.

The level of success of a company is determined by the ability of employees to manage assets and resources owned by the company. If the company has employees with high capability, competency nice, employees are satisfied, then the company has such a great organization structure and organizational processes are clear, then it can improve business performance.

In addition, when viewed from the path coefficient, the relationship of Intellectual Capital to the Organizational Performance of 0.417, which is a good relationship. This value is also greater than the direct relationship between Digital Marketing with Intellectual Capital Organizational Performance that proved instrumental as an intervening variable. It is confirmed that the company's intellectual capital in the form of intangible assets can improve the performance of the organization or company.

## **Perceived Quality on Organizational Performance**

The value of Perceived Quality on Organizational Performance in a four star hotel industry in Batam has a t-Statistic value above 1.96, which is 3.163. This value indicates that the relationship between Perceived Quality and Organizational Performance has significant value.

The creation of the impression of quality has a significant impact on the performance of the organization. A good perception of a company or a particular brand is a major source of competitive advantage. Therefore, it is a valuable strategic asset which is directly linked to performance and the performance of the company's organization, which in this case is a four star hotel industry in Batam. Highlighted that the organization can benefit from the perceived positively by employees and customers. A solid corporate image can be very interesting and they have a certain perception of an organization even before they begin to interact directly.

Path coefficient value of Perceived Quality on Organizational Performance is 0.350. This value shows the strong influence of Perceived Quality on Organizational Performance. Employees 4 star hotel in Batam have to enhance the impression of the quality of the company in the eyes of the people who will have an impact in improving the performance of the company.

## **CONCLUSIONS AND RECOMMENDATIONS**

From all the discussions in this study, it can be concluded that Digital Marketing is an important thing to be possessed by a four-star hotel industry to continue to grow and be able to face the competition. This is evidenced in the statistical calculation that positively influence the implementation of Digital

Marketing to Intellectual Capital and Perceived Quality as well as the variables that play an important role in creating Organizational Performance.

Therefore, the four-star hotel industry in Batam should further improve the Digital Marketing for the creation of intellectual capital and a good quality impression. With the training for its employees, it is expected that there is no gap so that the delivery of information to customers can be done well and it can improve the performance of the company's organization.

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## **The Development of the North Coast 500 : Scotland's Most Successful Tourist Route**

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### **Introduction and Context**

Routes and trails have been a part of our civilisation for centuries. They cross nations and boundaries connecting cities and destinations across the globe. They have historical origins in trade, migration and military use (Dallen and Boyd, 2015). Their role in tourism has been mixed and early records of pilgrimage trails cross into our understanding of early tourism behaviour. More recently trails have become omnipresent across the globe in destinations from China to California. Their success is mixed and theorists have struggled to identify the fundamental elements that lead to appeal and enduring levels of visitation. Indeed, any review of trails and tourism will highlight that the majority of such route neither catalyse visitation nor provide an enduring return for developers.

This paper considers the lessons in the development of the North Coast 500 and the benchmark learning taken from other routes .The fundamental aim of the NC 500 was to create a northern coast route way that traverses the meeting of land and sea and operated as a coherent tourist route. The route linked spectacular natural heritage and scenery with a range of quality visitor provision offering the best of the Highlands. It is used to connect:

- Food
- Accommodation
- Beverage
- Retail/ arts / crafts / agricultural produce
- Activities
- Attractions

The defining characteristic of these products and services is their quality, regional connectivity and links to the culture and context of the Northern Highlands. The idea being to create a uniform coherence in supply and service offers that reaffirms and supports the quality of the natural environment.

This northern landscape is one of the most breath taking in Europe providing contrast and drama in a route that could become an aspiration and an iconic representation for the Northern Highland visitor. It has evidenced

significantly more potential than much of the destination marketing that has been undertaken around geographical regions to date. The investment in tourism marketing, brands and fonts rarely produces anything enduring or memorable. In research on destination branding one of the only brands that has developed equity is the famous 'I Love NY' campaign. Others have been largely forgotten or ignored. This is a testament to the vapidity of much of the marketing undertaken to date. In contrast, a route such as this offers a tangible and unchanging offer that will endure long after brands have been changed, upgraded or simply forgotten.

This part of Scotland (along with the Islands) is amongst the least visited area in the nation (see tourism data contained at [www.VisitScotland.org](http://www.VisitScotland.org) 2015). The cost and time involved in getting here and the relatively lower density of developed visitor attractions has served to limit both international and domestic visitation. Similarly, levels of day visitation remain low given the distance from major population centres. Accordingly, an aspirational route that will endure over time as a basic element of highland infrastructure is both logical and appropriate. The long term iconic potential however was considerable and since it is now linked to a range of quality hospitality, accommodation, retail and attractions then the motivation to visit is created.

Route tourism is a developed element of the product mix and is sometimes referred to as 'themed routes', trails, scenic routes etc. Such developments have been particularly useful in driving visitation to less explored areas. They can provide a focus or element of special interest breaks or give direction to unplanned leisure breaks. Wine routes have been particularly successful in a range of destinations: USA, France, and Australia and of course whisky has been successfully tagged to the highlands for a number of years. It is notable however in both such cases (wine and whisky) that landscape is the third or fourth 'pull' factor. The primary appeal is the beverage tasting, purchasing and production.

The following series of short and longer benchmarks provide a range of development approaches which have relevance in this context. They are considered separately and the lessons and best practice indicators are considered in the individual final sections. The development of the NC500 has much in common with other established or developing routes such as:

- The Pacific Highway, New Zealand
- The Garden Route, South Africa
- The Great Ocean Road, Australia
- The Landscape and Legends Project, Norway and northern European Partners
- The Wild Atlantic Way, Ireland

The final case from Ireland is critically important as a nearby competitor and significant location of investment by the Irish government. It is a major

development project and provides significant value in terms of indications of staged development and related policy objectives. It was useful in providing consideration of the steps to help inform critical development of the North Coast 500.

The concept of themed routes as tourist attractions has gained prominence in recent decades. Such routes act to link a range of attractions together that independently would have more limited appeal. The synergy of linked route elements is aimed at growing the number of 'pull' factors and dispersing visitor expenditure among a larger number of recipients. Accordingly, the strategic aim of the NC500 has given greater prominence to the location and landscape and helped in the revival of the North Highland economy. Essentially, the route is a core economic development activity aiming to catalyse employment, build the rural economy and grow related tourism infrastructure.

- Fundamentally then the NC500 has :
- Improved distribution of visitors and income
- Increase the overall appeal of the destination / area
- Increase awareness of lesser known attractions
- Increase dwell time and expenditure
- Attracted new tourists and encouraged repeat visitation
- Helped cluster activities and attractions around a unified brand
- Stimulated cooperation and partnerships between geographical regions and rural areas

### **Benchmark Analysis: Learning from other Tourist Routes**

#### **Case Analysis: The Landscape and Legends Project, Norway and other European locations**

The Landscape and Legends project was based on the link between local legends and the landscape they originate from, and how this immaterial heritage can be conveyed through the use of art. The overall goal being to build a series of destinations that focus on the landscape, the legend, art and architecture and encourage people to stay longer. This EU funded transnational project unified sites located in areas with a rich storytelling tradition. The material cultural heritage was an important aspect in the experience of the landscape – it contains much of the site's identity, history and culture. One of the goals of the project was to bring forth the invisible cultural landscape: the tales, legends and history that was located in the surrounding landscapes.

Contemporary art and modern architecture was commissioned and located in the landscape, on sites linked to tales and legends. The installations were meant to add something to the sites and thus allow for new experiences of both the legend and the landscape. Information on sites and artworks was conveyed through the use of a mobile phone service, signposting, etc.



The project was built on an interdisciplinary platform, which focused on holistic planning and sustainability. Through this project there was a clear attempt to investigate the relationship between the distinctive features of each site and how these can be communicated through the use of art, design and architecture. There was also a complimentary focus on the experience economy, audience development and tourism.

The selected sites of the project partners included:

- Seljord,
- Loch Ness,
- Iceland,
- Sweden,
- Romania,
- Italy.

The project was predicated on the belief that art and design will act as a catalyst for appeal. Outdoor public art has traditionally been used as an embellishing element to improve the visual quality of our surroundings or already established functions and structures. The role of art has often been to represent an exclamation mark in the landscape through a contrasting form. Such works have often created debate and diverging opinions about the presence of art. In recent years, the social and political significance of public art has been awarded greater attention. As part of an increasing awareness regarding local development projects, art has to a larger extent been included as a cohesive element, contextualising renewal. Art does not necessarily represent something revolutionary and/or new, but is implemented in an overall plan for the development of place.

The use of art as a local development tool is often based on place-specific concepts, linked directly to the surroundings of the place. With possible locations as a starting point, the artist works through a process where the piece of art and its location are inextricably linked.

Minimalist sculptor Richard Serra's statement from 1989 says a lot about the core principles of the art movement that arose in the US at the end of the 1950s: "The works become part of the site and restructure both conceptually and perceptually the organization of the site".<sup>1</sup>

The Seljord and the Legends project has chosen to let site-specific art installations lay the foundations for a wide-ranging district development programme. With a background in Seljord's rich story-telling traditions, i.e. the legends, and the site-specific anchorage of these tales, contemporary art is being used to communicate and sustain these traditions. The art installations are placed into a holistic context with the legends and landscape as a backdrop.

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<sup>1</sup>Cited in Kwon 2004, p. 12.

The project's foundation is the stories that already exist, and an important part of the local inhabitants' identity is supported and strengthened by the manifestation of their own traditions through the art installations.

An important criterion for art as a tool in area development projects is the forming of a relationship between the work of art and its audience. The active participation to which the audience is invited defines a relational perspective where experience and interaction are emphasised. The viewer's background and personal experience in dialogue with the work of art form the basis for reflection and new stories.

In their programme for public art, KORO (*Statens organ for kunst i offentlige rom*) states that: "New art projects in the public realm are increasingly being used as meeting places, which includes and engages larger groups of the public in new ways".<sup>2</sup>

The artworks are not exclusively to be the objects of contemplation and distanced admiration, but also enter into the local inhabitants' everyday life and function as an attraction for tourists.

In Seljord focus has been on creating some of these meeting places in previously inaccessible areas. The viewing tower at Bjørgeyøan and the other viewpoints in Into the Landscape are based on the legend of the lake serpent in the Seljord Lake. The stories are told through architectural constructions integrated as art installations around the lake. The audience is guided out to the viewing tower via a wooden walkway, which meanders through the marshy landscape and makes the waterfront more accessible. Three additional meeting places invite people to take pause, to scan for ripples on the lake's surface. New arenas are established for encounters between art and people.

In Seljord the municipality has chosen to use art as a basic ingredient in the development of an area. In interaction with the area's natural landscape and history, art has been given the task of bringing together, underlining and emphasising that which already exists. Contemporary art makes an important cultural heritage topical while at the same time defining the conditions for new experiences when people are invited out into the landscape.

This pan European project failed to galvanise significant scale of development. Furthermore, it offered a disparate set of themes and contrasting locations. The link to the arts and creativity, narratives of the landscape and story were too broad and failed to provide the necessary coherence. The art linkages were interesting but failed to build serious route coherence and after development funding ceased most route experienced decline in awareness and utilisation. Art is perhaps one element of the proposed route but is not significantly robust to offer the major 'pull' factor.

<sup>2</sup><http://www.koro.no/no/prosjekter/kunstordninger/uterom/?module=Articles;action=Article.publicShow;ID=1525>; 02.12.2011

**Case Analysis: The Camino de Santiago, Spain**

This pilgrimage trail has its origins as a linear tourist product in medieval times. It is a 2000km long trail with perhaps the most famous element (circa 700km) in the Spanish region of Galicia. The current 'formal' contemporary tourist route of the Camino originated in 1998 as part of an EU Cultural Routes programme. It has out grown the original religious orientation and is now part of a general tourist experience incorporating heritage, food and wine in the cultural context of this part of Spain. Pilgrimages are still undertaken but they mix with other visitors from all over the world undertaking a part or the whole trail.

The trail is linked to events and festivals and visitation to the trail is estimated at circa 7million visitors per year. The route incorporates two modally separated routes for walkers and cyclists. It is a unique trail in a location of renowned scenic beauty and in an established tourism destination/nation. However, it is also a good example of cross national partnership (France and Spain) as well as local alliances built around tourism services ranging from accommodation to food and wine.

The scenic potential clearly evidences a major pull factor however the length of this trail shows that it is consumed in episodic visits and rarely as a whole. Thus length is merely one factor in appeal. What began as a religious trail has broadened into much greater appeal reducing the risk of overt dependence on any single source market.

**Case Analysis: South Africa and Route Development**

For South Africa, tourism is a vital element in dealing with rural poverty and rural economic development. However outside of the world famous Garden Route development has often been stalled and delayed. Critical in such delays has been disagreement between regions, areas and private sector associations. Private sector participation in route development has been a major issue since inception and local jealousies and antagonism between private and public sector partners have been hard to deal with. The key government agency the Environmental and Development Agency Trust (EDA); a major force for rural development and economic growth has struggled with longstanding distrust, fear, antagonism and disinterest entrenched by years of deprivation and neglect.

Since 2002, there have been a number of planned routes and imposed regeneration routes that have floundered. It is clear that in this environment development has to be led from the bottom up and unless local people are involved via consultation and shared decision making change is unlikely to be forthcoming.

A part of the South African solution has been the development of the Open Africa initiative, (originally established in 1993); which allowed communities and organisations to propose routes. This has had some success

in different parts of the nation and has the effect of democratising development but risks diluting appeal. There are now well over 100 routes linking hundreds of attractions, towns and accommodation providers. These are located on an Africa Dream site and have helped 'unify' a 'team Africa' approach to promotion.

However in reality this can appear as a series of routes crossing the nation many of which require investment in infrastructure, interpretation and marketing. Furthermore, safety and security on a number of routes remains an issue. The whole project remains heavily dependent upon public sector finance and will continue to offer an essentially mixed set of experiences. Yet, there does appear to be some evidence of the value of route based tourism in attracting visitors away from the traditional South African honeypots: the Garden Route, Cape town, Safari based holidays etc. These destinations remain important and are often 'gateways' either virtual or otherwise to the range of lesser known routes. Amongst the most notable triumphs is the Midlands Meander in KwaZulu-Natal which combines arts, crafts, agricultural produce and a scenic rural environment. It is managed by the Midlands Meander Association one of the most competent private sector led groups in South Africa.

To participate there is a joining fee (scaled depending upon size of establishment). In return members can utilise the 'brand' and receive market exposure through web, brochure and exhibition coverage. The promotion of arts, crafts and agriculture has been particularly positive in the rural environment and compliments excellently the range of elements visitor wish to experience as part of an 'authentic' African visit. There has also been a concerted effort to drive up the quality of member's establishments, products and services in the accommodation and food sectors. As visitor numbers to the trail have increased entrepreneurs converted old farmhouses or outbuildings into quality accommodation. Accordingly, accommodation supply has increase by 400% since 1999. Now direct employment in Meander related businesses stands at more than 3,500 with indirect employment estimated at more than 40,000 jobs. Critical in this growth and success has been a strong requirement for quality assurance amongst all members.

Clearly the South African example is very different from that envisioned for the NC500 however this range of developments suggested the centrality of consultation and liaison with local communities and residents in order to build support and involvement from inception.

Key issues in community involvement and successful development of partnerships is an appreciation of the following facts:

Communities frequently do not understand economic and capacity issues associated with tourism development

There is often a lack of financial assets and problems with related infrastructure

Market access and ability to successfully sell the proposition is often a problem at community level

There can also be problems in ensuring competitors collaborate for larger returns

The lack of strong and directive leadership can sometimes become very evident.

The Midlands Meander does offer some valuable lessons. It has moved from being a developing to a mature trail and destination over a period of 10 years. It offers a good product mix of complimentary elements with clear brand identity. It is led in a transparent and open way and is conscious of consumer feedback and has been the subject of regular evaluation. It should be noted that most route projects can take up to 20-30 years to mature and one should be realistic about the economic returns in the short to medium term. The Meander was an unusual exception in this regard.

### **Case Analysis: The Boston Freedom Trail and Heritage related trails in the USA**

This is the simple heritage trail that provides a walking tour of Boston that connects heritage sites and related commercial activities. It traverses heritage, visitor attractions, food halls and retail malls thus distributing visitors widely throughout the downtown, coast and surrounding areas. It is a simple maintenance challenge, since originally it was a painted red line. Perhaps one of the most cost effective development projects ever realised. However the trail now has incorporated a range of materials to provide direction and orientation.

It is a difficult comparison for the Highlands since it is essentially an urban location with a coherent set of heritage sites as the focus; literally relating the struggle for freedom and independence via the trail. Similar trails exist in the US, indeed Boston also has a Black History trail and further west there are Western heritage Trails that have served as catalysts for theatricality and activities in the form of wagon trains and horseback trails. Related development en route has included accommodation, museums and various activity elements such as staged authenticity e.g. battles, native American reservations etc. Settlements and 'living' museums have all featured as results of the development and the US domestic audience for this material remains the primary market.

The dominance of heritage as a unifying theme to trails such as the Freedom Trail offer in Boston is more unusual and the NC500 has wider unifying features that should be considered including geology, culture and linked quality tourism products and services. However, the idea of low maintenance and simplicity in conception and signage makes real sense and should be

adopted. Simplicity and low cost orientation has served this famous visitor route particularly well.

### **Case Analysis: The Wild Atlantic Way (WAW), Ireland**

This is the longest defined coastal touring route in the world and was Ireland's first long distance tourist route. It follows the coastline and showcases the best views and experiences that Ireland's extensive Atlantic coast has to offer. The WAW packages the west of Ireland via a central spine that navigates visitors along Ireland's Atlantic coast. The scenery is stunning, the opportunities are significant. The views are particularly strong no matter what time of the year for visitation, and the route offers many different appearances from one season to the next as the landscape transforms from winter to spring etc.

On completion in late 2014 the Wild Atlantic Way (WAW) exceeded the appeal of legendary driving routes such as South Africa's Garden route, California's Pacific Coast Highway, or Australia's Great Ocean Road.

The route links a range of tourism products and services including:

- 2,000+ accommodation businesses
- 516 visitor attractions
- 1,573 visitor activities
- 580 festivals and events
- 17 walking and biking trails
- 50 looped walks
- 53 Blue Flag beaches and
- 120 Golf courses

The route also incorporates 159 discovery points and 15 iconic viewpoints. The road is defined by signage and an iconic brand and the road surface is used to indicate that the driver is on part of the WAW. Many difficulties and problems were shared with the author in the development of this report and the following check list emerged from route identification and audit. It was developed as an invaluable aide memoire by the teams and was the product of significant failed development scenarios.

#### **Development Checklist**

- Review street width in settlements for parking (particularly coaches)
- Review quality of information centres
- Understand that much of the accommodation will be micro-businesses with room capacity of 4 or less bedrooms
- Accommodation is likely to be concentrated in key population centres rather than distributed across the route way
- Involvement of local retail, arts and crafts (as well as obvious partners such as attractions, accommodation, food and beverage) ensures the widest buy in to the project

- Packaging of elements of the route is logical and best provided by the private sector (themed around elements such as heritage buildings, culture, history etc.)
- Incorporation of agricultural produce and related agri-tourism projects is advised
- Think carefully about gateways both on the route and away from the route e.g. I Airport and route access.
- Attention to quality will be essential in accommodation, attractions, activities, and other consumer products and services.

### **Developing a North Coast Route**

The following general stages were recommended based on the case studies and related materials examined.

1. The route should be conceptualised around an understanding of the consumer and their key requirements.
2. An audit of the tourism products and services in the designated areas on and around the trail will be necessary. This will include natural and built heritage as well as services such as accommodation, food and beverage, retail, visitor attractions etc.
3. The unique sales proposition must then be developed at a macro-level that has market appeal.
4. The potential membership base must then be estimated and the product and service mix has to be examined. This may involve mentorship for aspirant members given that the quality focus is critical.
5. Marketing of the offer around the range of destinations and locations traversed has to also be considered.
6. The development of an operational strategy for the day-to-day organisation via an operational plan detailing responsibility and authority relationships will be required.
7. A detailed financial and marketing plan will be also required with clear milestones and development targets incorporated.

From a project development perspective the following key elements must be paramount:

- The coastal and northern focus of the route must be emphasised
- The route should follow the coast wherever possible
- The focus on attractive landscapes of contrasting beauty should inform the route and interpretation
- Quality partners envisaged should offer clusters of products, services and experiences

The route should not be diluted by leaving the coast particularly to connect to non-related attractions or settlements that simply do not fit the unifying theme(s)



The project was about developing a route experience which focuses on the northerly location where the land meets the water and is literally the end of mainland Scotland /UK. The Irish development team utilised a five stage development approach at a cost well in excess of £0.5m and this can simply be adapted. The following development phases are recommended:

Phase	Content
1	Development of Brand and Title
2	Detailed Route identification
3	Review of all route visitor elements (products and services)
4	Interpretation and incorporation of heritage, culture, arts, architecture
5	Marketing and Implementation (making extensive use of social and other electronic media to build expectation and create debate / discussion)

A number of these phases were undertaken simultaneously (e.g. 1 and 2). The initial stage is critical and the development team have to answer the fundamental brand proposition questions:

Questions	Potential Responses
<b>What is the offer?</b>	The most northerly coastal route in the British Isles The most beautiful coastal route in the world
<b>What does the offer comprise?</b>	Experience and explore Scotland's northern coast from east to west Explore, drive, walk and ride the Northern Skyway experience the nature, culture, heritage and people of the North
<b>What makes it unique?</b>	Where Scottish land, sea and sky meet
<b>Who will visit?</b>	Anyone who wishes to experience the authentic and wild Scottish landscape at its northern boundary – the edge of Scotland It will offer options for walking, cycling, touring by car, coach etc. It will combine the best of Scottish produce and service in a range of member businesses and organisations committed to the promotion of quality, authenticity and the natural beauty of this part of Scotland.

These types of questions formed the basis of consultation and discussion with businesses and communities as the project was developed. The following development stages were critical to bringing the project to market.

Project Process	Activity
1	Establish NC 500 ltd, Register brand and portal for copyright purposes
2	Primary Project Inception Meeting
3	Review of data collected to date, formation of brand proposition, collation of existing routes, visitor products and services (i.e. retail, food, beverages, attractions, activities, arts, crafts etc.)
4	Compile GIS data and map route options
5	Develop detailed concept and themes (natural / wild/ heritage/ culture etc.)
6	Provide detailed map of proposed route with identified partners and alliances and finalise selection
7	Develop modal routes (where feasible): walking, cycling, motorcycle, car, motorhomes, and coaches. Map interpretation, viewpoints, dwell points and other proposed installations This is a product of brand elements including: sea, landscape, heritage, history, culture, art, wildlife, produce and people.
8	Key elements include: the light, the changing vistas that have inspired artists and writers, the edge of the British Isles / Scotland, the sculptured coastline, the impacts of the weather and the sea on landscape, people, communities, history, wildlife and the way of life.
9	Consider Island connectivity
10	Undertake Public Consultation to be followed by reportage of findings Develop route master plan and formalise partnership / members Fundamentally the final route will be a function of :
11	<ul style="list-style-type: none"> <li>• Accessibility</li> <li>• Capacity</li> <li>• Scenic quality</li> <li>• Coastal proximity</li> <li>• Sea and landscape</li> <li>• Visitor Products and Services, attractions and activities</li> </ul>

The results of the project have been hugely successful and the reach of the brand in 2018 is estimated at more than 2.3 billion worldwide. This has transformed this part of the Highlands from a 4 month to a 10 month season and

generated more than 250 FTE jobs and injected massively increased expenditure into the local economy.

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## **Abstract**

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# The Analysis of Determinant Factors on Economic Growth and Work Opportunities in Central Kalimantan Province

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## Abstract

Economic growth in Central Kalimantan Province during 2011 – 2015 showed average of 7.01 percent, and the second best is Kalimantan Province region. As one of the stimulus for economic growth, the increase of private investment, especially foreign investment during the period of 2011-2015 showed a positive growth and grew by 41.77 percent, where foreign investment was more dominant to agriculture, plantation and mining sectors. So that in the last 5 years, average 1,121,958 people employ in this sector. The study aims to analyze determinant factors on Economic Growth and Employment Opportunities in Central Kalimantan Province. The research type is quantitative descriptive with the raw data obtained from National/Regional Bureau of Statistics (BPS) and Bureau of Regional Capital Investment. (BKPM). The model was Path Analysis Approach and the Statistical Package for Social Sciences (SPSS) Version 20 computer package were used for data analysis. The results of study show: 1) Private investment is a determinant factor and significant on economic growth influence, while government investment is not significant influence on economic growth. 2) Private investment and government investment are determinant factors and significantly influenced on employment opportunities, 3) Economic growth has direct and significant influence on employment opportunities.

**Keywords:** Investment, Economic Growth and Employment Opportunities

# The Prudential Implementation in Management of Local Government Company

Muchamad Taufiq  
Agus Salim

## Abstract

*The existence of local government companies which is strategic with the task of serving the public needs and the realization of welfare must be managed properly and correctly. In order to realize a good and right management, it must begin with prudence. The formulation of the problem of this research is what is the philosophical basis of prudence and how is the application of prudence in local government companies. This study aims to examine, analyze, understand and explain the prudential philosophical basis and discover to explain the prudential concept in management of local government companies. Benefits of this research are theoretically expected to provide study, analysis, understanding and the explanation of the basic philosophical prudential and practically useful in finding and explaining the concept of prudence in the management of local government companies. This type of research is a normative juridical review as the characteristic of law which is "Sui Generis" .*

**Key words:** implementation, prudential, regional companies



# **Brand Equity as A Mediation on the Influence of Marketing Communication on the Interest of Prospective students Choosing Private Universities in Besuki Raya region**

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## **Abstract**

*This study examines and analyzes the influence of marketing communication on the interest of prospective students choosing private universities with brand equity as a mediating variable. The purpose of this study was to examine the role of brand equity as a mediating variable in influencing marketing communication which may impact of prospective students choosing private universities. This research focuses more on the interest of prospective students before making a decision to choose private universities. Respondents who were sampled were grade three high school students or those who had graduated living in the Besuki Raya region which included 6 regencies in East Java. The number of respondents in this study was 380 people, with purposive sampling method, namely students who were interested in continuing their studies to universities. To analyze the data used with Smart Partial Least Square (Smart PLS). The results of the respondents' answers analysis indicate that, prospective students choose neutral. The results of research and hypothesis testing show that direct marketing communication has a significant effect on brand equity, and brand equity directly has a significant effect on the interest of prospective students choosing private universities. While marketing communication does not significantly influence the interest of prospective students choosing private universities, it means that brand equity has the role of mediating the influence of marketing communication on the interest of prospective students choosing private universities.*

**Keywords:** Brand equity; interest; marketing communication.

## **Improving the Quality of Trade Transactions**

# **with the Internet of Things Study: MSMEs (Micro Small and Medium Enterprises) Kolaka Southeast Sulawesi, Indonesia**

**Sulfikar Sallu and friend**

## **Abstract**

*The recent development of information technology has entered to a completely automatic phase. Nowadays, almost all spheres of life can be monitored by means of technology. The economic sector also experiences the impact. Moreover, UMKM (micro small and medium enterprises) is a form of business carried out by several people in the form of community groups throughout Indonesia. This paper was organized to produce economic concepts that can be implemented in increasing the volume and quality of trade through website-based and smartphone services. Waterfall method is a method that can be used in generating the development concept as a solution. With the Internet of Things connected to all existing electronic devices, it is expected that all potential MSMEs can increase the number of transactions and the wider spread of product information. The available technology on the Internet of Things is present in the economic sector in order to improve the quality of all existing services.*

# The Impact of Fintech on Financial Inclusion and Factors that Support the Development of Fintech in Indonesia

Tuti Eka Asmarani<sup>3</sup>, Rusli Abdulah<sup>4</sup>

## Abstract

*Fintech (financial technology) is a novelty in finance. Fintech join forces between technology and financial services. The goal of this research is to identify the impact of governance policies, infrastructure and education on the use of fintech. Then, it determines the impact of fintech on financial inclusion in Indonesia. The research uses the monthly data of 2011-2016 and conducted Two Stage Least Square methods. We find that government, infrastructure and education influenced fintech. Similarly, fintech is significant for financial inclusion. The hope is that “non-bankable” SMEs can quickly expand the business provided by fintech, and fintech can collaborate with banks to realise financial inclusion.*

**Keywords:** Financial Technology, Financial Inclusion, Two Stage Least Square, SMEs, Indonesia

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