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Special Dedication
Welcome Message

As president of Rajamangala University of Technology Krungthep, Thailand, I am proud and warmly excited to announce the publication of the third volume of the peer-reviewed International journal, “ICUTK Management Journal” for the Business and Management students, lecturers, and professionals based on the Industrial Era 4.0. The said journal will be published through our university website: http://www.ic.rmutk.ac.th/ and will be available to everyone online.

ICUTK Management Journal is the third volume publication by International College of Rajamangala University of Technology Krungthep, Thailand, which serves the continuous publication after the first journal and the first proceeding of ICUTK International Conference. This journal is designed as stimulus for teaching and research sharing in the area of International business for globalization and critical review of issues on applied trending businesses in Industrial Revolution 4.0 for area of interest in business globalization.

I would like to express many thanks to the editorial board and team who shared their time and expertise for the peer reviewed researches, and to those who submitted articles for publication for all your time and hard work. Your efforts are greatly respected and appreciated.

This third volume journal is dedicated to increase the availability of resources to promote evidence-based practice and research in business, human resource development and education, particularly in South-East Asia, including the Asia-Pacific region and which deliver the important and great knowledge for development especially the issue of Industrial Revolution 4.0.

I sincerely hope that many more excellent manuscripts will be submitted to our journal from many countries in the future. Your contribution will have some impacts for the Industrial Revolution 4.0 in your country or globalization era. We do hope that the body of knowledge and evidence-based Business and Management topics will have a great value and be shared internationally.

Once again, thank you all for devoting your time and for supporting our ICUTK Management Journal.

Best regards,

Dr. Sukit Nitinai
President
Rajamangala University of Technology Krungthep
Bangkok, Thailand
Dear Colleagues:

We are delighted and excited to release the 3rd Volume of ICUTK Management Journal in multi-discipline topics of management.

During the successful 1st ICUTK International Conference 2018 (IIC 2018) and Call for Paper, we have received overflowing research papers too good to reject, mostly from our valued academic partners in Indonesia. Therefore, research papers that have not been able to make it to our publishing deadline of the IIC 2018 proceeding are all here in Volume 3. We are grateful and honored to all these Indonesian researchers for their worthwhile contributions. Their articles have made the production of this journal easier and earlier than scheduled.

ICUTK would like to heartily dedicate this journal to a very dear friend who departed eternally with our Almighty, just a month after she participated our IIC 2018 in November, Dra. Ani Purjayanti of the Faculty of Economics and Management, Bogor Agricultural University, Indonesia and to all our beloved Indonesians who were greatly affected in the successive catastrophes that hit the country. Dra. Purjayanti’s last research paper that was presented during the conference was entitled “Prioritization in Selecting Suitable Type of Cattle Business for Rural Indonesian Farmers”.

Moreover, due to insistent requests following our successful International Conference, we are inviting everyone to our next International Conference in the middle of this year in cooperation with ADRI Indonesia. For more inquiries, please contact us.

Finally, we would like to thank our editorial team and reviewers for sharing their time and knowledge to make this journal possible.

We hope you enjoy this issue. As always, we welcome your feedback and submissions.

Best Regards,

Dr. Prattana Srisuk
Editor-in-Chief

Mrs. Ada Marie Gallego-Mascariñas
Managing Editor

Mr. Nico Irawan
Associate Editor
The Impact of Fintech on Financial Inclusion and Factors that Support the Development of Fintech in Indonesia

Tuti Eka Asmarani¹, Rusli Abdulah²

Abstract

Fintech (financial technology) is a novelty in finance. Fintech join forces between technology and financial services. The goal of this research is identifying 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

Introduction

Small and Medium Enterprises (SMEs) becomes one of the economic mobilizers in various countries, especially in developing countries. Small and Medium Enterprises (SMEs) can survive when the crisis hit Indonesia economy in 1998. Small and Medium Enterprises (SMEs) also can create long-term growth. The contribution of SMEs to gross domestic product (GDP) grew by 12.67% in 2012 (Ministry of Cooperatives and SMEs, 2018). Unfortunately, this substantial contribution not supported by the ease of access to financing to the banking sector.

Digitalisation has changed the entire life of the world society. Now, various activities can be done only with the help of a mobile phone, ranging from primary to tertiary needs. Fintech is a new sector in the industry that combines technology and finance functions. "Financial Technology (Fintech) is technology-focused start-ups, new market entrants innovate products and services currently provided by traditional financial service industries" (Raras Minerva, 2016).

Furthermore, the number of fintech in Indonesia is increasing. During 2011-2016, the number of start-up funding (as representation of fintech company) rose sharply. In 2011, the number of start-up funding only 88 companies. In 2016, the number of start up funding reached 126 companies. The tren indicates that more investors are interested in opening new fintech. That

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² Researcher at Institute for Development of Economics and Finance (INDEF), email: rusli.abdulah@indef.or.id
is why, the people’s interest in fintech are very encouraging. Societies, especially SMEs, which have been difficult to access financing to the banking sector, have begun to switch to other financing alternatives offered by Fintech.

![Figure 1: Number of Startup Funding](image1)
*Source: Tech in Asia, 2016*

Research on the potential of the fintech industry in supporting Small and Medium Enterprises (SMEs) in Indonesia has been carried out by Raras Minerva (2016). Minerva. The fintech industry has the potential to support the growth of SMEs in Indonesia. Because Indonesia has several common environments, such as population density, unbanked population, SME’s important role in economic growth, and SME’s financial constraints. Learning from China, success in exploring potential is largely determined by digital adoption of technology (mobile phone and internet penetration), financial literacy skills, and regulatory frameworks.

Based on a survey conducted by the Indonesian Internet Service Providers Association (APJII), the ages most that use the internet 13-18 years (75.50%) and ages 19-34 years (74.23%). This age is a productive age that has the potential to support the fintech industry, either as a service provider or as a service user.

![Figure 2: Internet user penetration based on age](image2)
*Source: Indonesian Internet Service Provider Association*
The research was also conducted by Anthony Abiodun Eniola et. al (2015). Anthony suggested that one of the ways to improve access to financing SMEs in Nigeria is through crowdfunding. This is based on the reality that occurred in that country, where the funds collected via crowdfunding were $1.5 billion in 2011 and jumped to $2.7 billion in 2012. However, the role of the government is needed in creating regulations that can support crowdfunding in Nigeria. With the expansion of financing access, it is expected that SMEs can transform from the informal sector to the formal sector. Transformation can be done by improving SMEs services, one of which is the use of payment channels. This is evidenced by a survey conducted by Godgift David et. al (2018). David surveyed 120 SMEs in Nigeria and analyzed them using inferential statistics. As a result, payment channels have a significant relationship to improved service delivery in SMEs. Therefore, SMEs are highly recommended to adopt payment channels in running their businesses.

To be able to maximize the use of fintech, it must be known in advance the factors that influence it. Joris J. Wolbers (2017) conducted a study in 62 developing countries in the world (19 countries in the South East Asia region, 23 countries in the Latin America & Caribbean region, 21 countries in Europe & Central Asia, and 37 countries in Africa). Using the 3 Stage Least Square (SLS) regression method, the results showed that the quality of infrastructure and business ecosystems had a positive influence on the use of fintech. Furthermore, fintech has a positive influence on financial inclusion, and financial inclusion influences the sustainability of economic development.

The goal of this research is to identify the impact governance policies, infrastructure and education on the use of fintech. Then, it identifies the impact fintech on financial inclusion in Indonesia. The data used is monthly data in 2011 to 2016. In order to accommodate the above research objectives, the Two Stage Least Square method is used. The hope is that "non-bankable" SMEs can easily expand the business provided by fintech. Fintech can collaborate with banks in an effort to realize financial inclusion.

**Methods**

This study uses annual data from World Bank Indicator in 2011 to 2016. The monthly data were interpolated using review program because the data are available only in annual basis. The interpolation technique is chosen because it has been widely accepted and used in many of the published empirical studies (Tang, 2008). The Method that uses for this research is Two Stage Least Square (2SLS), with the following equation:

\[
\text{FinTech} = \beta_{10} + \beta_{11}\text{Infrastructure} + \beta_{12}\text{Governance Policy} + \beta_{13}\text{Education} + e_1 \ldots (1)
\]

\[
\text{Financial Inclusion (FI)} = \beta_{20} + \beta_{21}\text{Financial Technology} + e_2 \ldots \ldots \ldots \ldots \ldots (2)
\]

To complete the equation, input all the exogenous equations from the first equation into the second equation, then obtained the following equation:

\[
\text{FI} = \beta_{20} + \beta_{21}\text{Infrastructure} + \beta_{22}\text{Governance Policy}
+ \beta_{23}\text{Education} + e_2 \ldots \ldots (3)
\]
From the equation obtained the instrument specifications, namely the infrastructure, governance policy, and education. The proxies that used in this research are as follows:

**Table 1: Summary of the research concerning the determinants**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Proxy</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Technology</td>
<td>The number of investors startup financing</td>
<td><a href="http://www.techinasia.com">www.techinasia.com</a></td>
</tr>
<tr>
<td>Infrastructure</td>
<td><em>Fixed broadband subscriptions</em>: high speed internet subscription access (256 kbit / sec) for <em>public internet</em> (TCP / IP connection), including cable modems, DSL, fiber-to-the-home / building, satellite broadband and wireless broadband.</td>
<td><a href="http://data.worldbank.org/indicator/IT.NET.BBND.P2?view=chart">data.worldbank.org/indicator/IT.NET.BBND.P2?view=chart</a></td>
</tr>
<tr>
<td>Education</td>
<td><em>Tertiary education</em>: Further education from the secondary level that requires research qualifications as a condition for registering at tertiary level.</td>
<td><a href="http://data.worldbank.org/indicator/SE.TER.ENRR?view=chart">data.worldbank.org/indicator/SE.TER.ENRR?view=chart</a></td>
</tr>
<tr>
<td>Financial Inclusion</td>
<td>SMEs credit for the banking sector</td>
<td><a href="http://www.bi.go.id">www.bi.go.id</a></td>
</tr>
</tbody>
</table>

**Findings and Discussion**

By using the 2SLS method, obtained the following result:

**Table 2: Output 2SLS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fintech</th>
<th>Financial Inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>27.926*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>46.276*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-39.209*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Fintech</strong></td>
<td><strong>22.150</strong></td>
<td><strong>(0.000)</strong></td>
</tr>
<tr>
<td>Cons</td>
<td>21.866</td>
<td>94.529</td>
</tr>
<tr>
<td>Observation</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.993</td>
<td>0.872</td>
</tr>
<tr>
<td>F-Statistic</td>
<td>3837.031</td>
<td>490.636</td>
</tr>
</tbody>
</table>

* Significant at level 1%, 5%, and 10%

It’s presented in Table 2, it explains that the variables of governance, infrastructure, and education influence financial technology with a p-value <0.05. That are, improvements in the quality of infrastructure, government policies and levels of education are factors that can help improve the development of Fintech in a country, especially in Indonesia. In addition, Fintech turned out to influence financial inclusion, as evidenced by a p-value <0.05. The output above is in line with the existing reality, can be explained as follows:

a) Current Fintech Regulations in Indonesia

The rapid climate of technological innovation in the world has pushed the evolution of financial regulation to run fast ahead. By looking at the high growth potential of the Fintech industry in Indonesia, the effectiveness of financial regulation is essential in supporting future Fintech businesses.

The business scope of the Fintech company combines technology and financial services business. Thus, in running its business, it is supervised and regulated by two policy authorities, namely the Ministry of Communication and Information (Kominfo) and the Financial Services Authority (OJK). Kominfo and OJK have cooperated in making regulations related to Fintech and have been issued at the end of 2016. The regulation regulates the procedures for information technology-based lending and borrowing services or peer-to-peer (P2P) lending, contained in POJK Number 77 / POJK01 / 2016.

Another effort that has been carried out by OJK is the Sandbox Regulatory. The Sandbox Regulatory is a safe, limited trial space for testing Fintech providers along with products, services, technologies and / or other business models. The aim is to make room for Fintech organizers to ensure that products, services, technology and / or business models have met the Fintech criteria.

The rules that will be issued by the OJK include the guiding principles for providers of digital financial services that will include registration and licensing mechanisms and the application of sandbox regulatory and crowd-funding policies. In addition to protecting consumers who use fintech services, the rules that will be issued by OJK also to avoid irresponsible fintech companies. OJK urges P2P schemes to be transparent regarding the management of customer
funds. This is done to ensure consumers who want to take advantage of fintech services without worrying about issues when making transactions (Investor Daily, 2018).

b) Infrastructure Readiness

Internet infrastructure is a factor that needs to be prepared in Fintech growth. When compared with other ASEAN countries, internet tariffs in Indonesia are relatively cheap. However, these cheap rates, the quality is extremely low, seen from the usage of bandwidth and average connection speed. This is shown in the following figure:

![Figure 3: Comparison Rates and Connection Speeds in several Asian Countries](image)

Data usage in 2020 is estimated to increase six-fold (McKinsey & Company, 2016). While the current infrastructure conditions for fixed broadband are only 2.5%. The usage of fixed broadband can be low, because currently internet access using cellular phones is easier. But in reality, the fast 4G access range is only 23%. To be able to achieve the economic potential of this digital economy, it is important for the government to expand its reach, especially for the eastern region. To strengthen the Roadmap for the establishment of the e-commerce industry, the Ministry of Information has established the 2014-2019 Indonesia Broadband Plan. In the plan, fixed broadband development is targeted to reach 71% of urban households with a speed of 20 Mbps. Then, mobile broadband access to all urban populations with a speed of 1 Mbps. For rural areas, fixed broadband access is set to be able to reach 49% of households with a speed of 10 Mbps, and 52% of rural residents get mobile broadband access at 1 Mbps (Validnews, 2017).

c) Level of Education

Based on a survey conducted by the Indonesian Internet Service Providers Association (APJII), the most internet users are people who have a S2 / S3 education. Therefore, most of them are S2 / S3 graduates, seen from the following graph:
d) Fintech Supports Financial Inclusion

Financial Inclusion is a necessity for the entire world society. However, in practice it often experiences obstacles, including:
1. Products offered by banks target the upper and middle class
2. The unbanked segment looks unprofitable
3. High barriers in entering financial institutions

Therefore, alternative financing is needed that provides new channels through open physical (network agent) and virtual (mobile) infrastructure with P2P lending and micro retail market funding (Fintech Indonesia, 2018). This is called financial technology (fintech).

Fintech began to be in the spotlight in 2015 with the establishment of the Indonesian Fintech Association. Fintech is the most important part in fulfilling the needs of the society, one of which is financing services for businesses. Although the government has created a People's Business Credit (KUR) program, SMEs in Indonesia still have difficulties in accessing them. This is due to the intense competition among business actors. It is noted that SMEs credit needs per year reach Rp.1700 trillion, while existing financial institutions can only meet Rp. 700 trillion per year from these needs. That way, Fintech can be the answer to the problem of the need for access to business capital loans. In addition to the ease of applying for loans, security issues have also been guaranteed by the government. Today, companies that provide online business capital loans are guaranteed security, with the establishment of Fintech Office by Bank Indonesia. Bank Indonesia can oversee and regulate regulations regarding Fintech in Indonesia. (goukm.id, 2018). So fast is the Fintech development that the total transaction reaches USD 14.5 in 2016 (Kominfo 2016 in Prawirasastra, 2018), shown in the following figure:
Conclusions

Digitalization has changed the entire life of the world society. Now, various activities can be done only with the help of a mobile phone, ranging from primary to tertiary needs. Financial Technology (Fintech) is one option in meeting the needs of the society. Fintech is a new sector in the industry that combines technology and finance functions. The factors that determine the success of fintech are government policy, infrastructure, and education level. In this research, government policies are proxied by regulatory quality, infrastructure with fixed broadband subscriptions, and education levels with tertiary education (higher education equivalent to S2/S3). Using the monthly data in 2011 to 2016 and Two Stage Least Square methods, it was found that these three variables had influence on fintech.

Fintech is the most important part in fulfilling the needs of the society, one of which is financing services for SME perpetrators. This is in line with the results of research that fintech influences financial inclusion. The hope is that "non-bankable" SMEs can easily expand their business through loans provided by Fintech, and expected to collaborate with banks as an effort to realize financial inclusion. In addition, there needs to be a government policy that can cover all parties, as well as the need for training/coaching for SMEs in using fintech, so that users are not only highly educated people.

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validnews.co
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. (BKPMR). 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

Introduction

Economic development is a series of businesses and policies aimed at improving people's living standards, expanding employment, improving the distribution of people's income, enhancing regional economic relations and shifting through economic activity from the primary to the secondary and tertiary sectors. In other words, the direction of economic development is to
see to it that people's incomes rise, accompanied by the best possible level of equity (Central Bureau of Statistics, 2014)

Economic growth is one of the most important indicators in analyzing the economic development that occurs in a country. Economic growth will result in additional income for a given period of time because basically economic activity is a process of using production factors to produce output. This process will in turn produce a flow of remuneration to factors of production owned by society (Susanti, Et al., 2000).

The importance of investment in development support began with the discovery of a growth model after the Second World War, which was in 1950 - 1960s by some development experts such as Rostow and Harrod-Domar. According Rostow, one of the most basic tactics of development to take off is the mobilization of savings funds, both in domestic and foreign currencies, to create sufficient investment and to accelerate economic growth (Todaro, 2000).

Economic growth in Central Kalimantan Province showed the distribution of sectors that make up the GRDP. The Agriculture, Forestry, and Fishery Sectors play an important role in economic growth in Central Kalimantan Province. This is because the agricultural, forestry and fishery sectors are the largest livelihoods of the population and the largest provider of employment in the province of Central Kalimantan. Economic growth of Central Kalimantan Province which is formed from the result of sectoral role in GRDP, as can be seen in Figure 1.

![Figure 1. Economic Growth in Central Kalimantan Province 2011-2015](image)

The picture above shows about economic growth in Central Kalimantan Province as one indicator of development success measured by Product Domestic Regional Bruto (PDRB) in five year (2011-2015) experienced fluctuation, where the highest economic growth occurred in the year 2013 of 7.38 percent and the lowest in 2014 by 6.21 percent. This fluctuation occurred due to the slowing economic condition caused by several business fields experienced negative growth and most of the regencies / cities were unable to achieve the same growth rate compared to the previous year. Just as the mining and quarrying categories experienced negative growth of 2.87 percent in 2014, a very deep decline in this category brings a domino effect on the structure and
economic growth rate of Central Kalimantan Province. The level of private investment in central Kalimantan province in natural resources, has a great potential for the sectors of agriculture, plantation and mining. Private investment in both foreign investment (PMA) and domestic investment during 2011 - 2015 is presented in Figure 2 below:

![Figure 2. Private Investment (PMDN and PMA) in Central Kalimantan Province 2011-2015](image)

As a result of the implementation of Law no. 4 year 2009, PP No.1 year 2014 and ministerial regulation No. ESDM. 7/2012 on banned to export raw goods, became one of the causes of declining realization of private investment in Central Kalimantan. In addition to the turmoil and declining prices of extractive commodities such as mines, CPO and rubber in the global market, also contributed to the low interest of private parties to invest in Central Kalimantan. Government Expenditures through Direct Expenditure (development) of Central Kalimantan Province as outlined in Central Kalimantan Provincial Budgets are changing with increasing trend from year to year. Economic growth is expected to spur such as economic infrastructure development. Thus, government spending in the form of development spending is expected to have a positive impact on economic growth in Central Kalimantan. The development of direct spending of Central Kalimantan Province in 2010-2014 can be seen in Figure 3.
Figure 3. Government Investment (Direct Expenditure) in Central Kalimantan Province 2011-2015

Figure 3 show, for the last 3 (three) years, the government expenditure budget in direct expenditure from the research period taken from 2010-2014 has increased. This indicates an increasing trend of investment value every year and one way to stimulate economic growth is the increase of investment value, both private and government investments. Investment is one aspect that needs to be empowered in the region because one of the core of regional autonomy and regional expansion is regional empowerment which is a learning process and strengthening for the region to be able to manage the interests and aspirations of its own community.

The high economic growth will certainly affect the employment opportunities because it will increase productivity and produce high output as well, so that high economic growth will open opportunities for job seekers to get a job. In this case, it is assumed that there is a relationship between economic growth and employment. If economic growth increases, employment opportunities increase. Conversely, economic growth decreased then employment opportunities will decrease. The development of the number of working and unemployed workers in Central Kalimantan Province can be seen in Figure 4.
Figure 4 shows number of working people has increased every year although not significantly this is due to the absence of unemployed workers. The number of people working in Central Kalimantan Province in 2015 amounted to 1,214,681 people increased by about 60,192 or 5.21 percent compared to the situation in 2014 with 1,154,489 people. The open unemployment rate in Central Kalimantan Province in 2015 reached 4.54 percent, an increase compared to the open unemployment rate of 2014 which was only 3.24 percent.

Central Kalimantan Province has to increase the role to encourage infrastructure development through increased direct expenditure or capital expenditure, so that it can synergize with private investment in order to spur high economic growth rate. It is time for Central Kalimantan Province to compete as much as possible with private investment as a driver of regional development so that the potential of the region can be utilized optimally for the community. The presence of private investment is very important in supporting regional development and the decline can have serious consequences. This is because if investments fall, then the production activities will also go down. If production activity goes down, the output itself declines, and if this decline happens continuously then in turn the overall economic growth rate will decline, which of course will also affect the amount of labor absorbed.

**Literature Review**

**Relationship of Private Investment and Government Investment to Economic Growth**

Economic theory defines investment as "expenditures to buy capital goods and production equipment for the purpose of replacing and especially adding to capital goods in the economy that will be used to produce goods and services in the future". According to Boediono (1992), investments are expenditures by the producer (private) sector for the purchase of goods
and services to supplement the stock used or for plant expansion. Dornbusch & Fischer argue that investment is the demand for goods and services to create or increase production capacity or income in the future. The general requirements of a country's economic development according to Todaro (2003) are: (1) capital accumulation, including new accumulation in the form of land, physical equipment and human resources; (2) Population development coupled with the growth of manpower and expertise; (3) Technological advances.

The capital accumulation will succeed if some parts or the proportion of existing income is saved and invested to enlarge the product (output) and income in the future. To construct, it should divert the sources of the consumption flows and then divert it for investment in capital formation to achieve greater production levels. Investment in the field of human resource development will improve the ability of human resources, thus becoming skilled experts who can facilitate productive activities. According to Kusreni (2009) that each effort of economic growth and economic development have the main goal to increase the amount and the type of job opportunities in the effort to improve the people welfare. Todaro (2004) says, there are 3 (three) main factors related to economic growth in a certain country, namely the capital accumulation covering the whole new investment, population growth enlarging the manpower, and technological advancement in the forms of improvement of the goods and in handling the work. Adam Smith declares that the occurrence of capital and manpower accumulation take very important role for the economic growth.

Empirical studies on the relationship between public and private investments and economic growth are quite extensive. Much of the research was stimulated by the empirical studies of Makuyana (2016) finds while both public and private investment is generally found to be important to the economies’ growth process on balance. There is greater empirical support for a private investmental economy. Makuya’s review differs fundamentally from the previous studies in that it disentangles investment into public and private components and focuses on their relative impacts on economic growth. The previous reviews have not been made such a distinction and have been focusing on the effect of only public investment on economic growth. Mburu (2013) said government investment in infrastructure development had a positive and significant effect on economic growth in Kenya for the period of this study. The study recommends that adequate funding should direct to infrastructure projects preparation, implementation and maintenance. The study suggests that proper reform policy should be complemented with the availability of necessary infrastructures that are important for the economic development in the country. Aminah (2016) finds that private investment and local government were spending on a positive impact on economic growth in Jambi Province.

**Relationship of Private Investment, Government Investment to Employment Opportunities**

Private Investment Relations, Government Investment on Employment Opportunities Investment is the first step in production activities. With such a position, investment is basically the first step in economic development activities. The dynamics of capital investment affects low economic growth, reflecting the slowness of development. In an effort to grow the economy, every region is always trying to create a climate that can stimulate investment. The goal is not just the
public or private sector in the country, but also foreign investors. Most of the investment by private parties is embedded in the secondary or manufacturing sectors, both domestically and internationally, both based on the number of projects and the value of their investments. In this case as measured by the value of investment approval, the chemical industry subsector occupies the top position, both for Domestic Investment and Foreign Investment, the textile subsector is mostly enjoyed by domestic investors. Private investment directly affects labor absorption and economic growth in the sense that employment is increasing with capital inflows from foreign investors (Alam, et al., 2013).

On the other hand, foreign investors are more interested in hospitality subsectors and restaurants. The bottom sequence is occupied by the trade sector (Domestic Investment) and the food crop sub-sector (Foreign Investment). The same sub-sector is unattractive to domestic investors and foreign investors turn out to be a pharmaceutical industry (Dumairy, 1996). With government and private investments, Foreign Direct Investment and Domestic Investment will be able to create jobs for the community and increase income for the community. Finally we can say that investment essentially is a means to be carried out either by government or nongovernment (private) in the scheme of increasing the economic growth and in the long run it can improve the living standard of its communities (Mankiw, 2003).

Research Methodology

The scope of this study is limited to discussions on issues of economic growth and employment. The approach used in this research is a quantitative approach because in this study hypothesis testing based on existing theories and numerical scientific data obtained from library research (Library Research) on the document or statistical record of annual reports that have been published by the relevant official institutions. The independent variables used in this study are private investment and government investment, while the dependent variables in this research are employment opportunity and economic growth as intervening variables in this research.

The type of research is quantitative research that aims to explain the causal relationship between the variables through hypothesis testing (Sugiyono, 2014). Sources of data in this study are secondary data obtained from library studies and documents obtained from the Central Bureau of Statistics of Central Kalimantan Province, Bappeda and other related institutions. The analysis technique used in this research is by using Path Analysis. Path Analysis Model reveals the purpose of research, and reduces equation of variables described as follows:
Figure 4. The Model of Research Variables

The equations can be described from the path analysis above are as follows:
Model I : \( Y_1 = \beta Y_1 X_1 + \beta Y_1 X_2 + \epsilon \)
Model II : \( Y_2 = \beta Y_2 X_1 + \beta Y_2 X_2 + \beta Y_2 X_1 + \epsilon \)

Information:
\( \beta \) = Path Coefficient
\( Y_1 \) = Economic Growth
\( X_1 \) = Private Investment
\( Y_2 \) = Employment Opportunities
\( X_2 \) = Government Investment
\( \epsilon \) = Standard Error

Result and Discussion

The result of the research shows that the direct and indirect effect between the realization of private investment value and the government investment on economic growth and employment in Central Kalimantan Province is as follows:

Table 1. Hypothesis Testing Results on each Path

<table>
<thead>
<tr>
<th>Relationship Variable</th>
<th>( \beta )</th>
<th>( t_{\text{tabel}} )</th>
<th>( P )</th>
<th>Ket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Investment ( \rightarrow ) Economic Growth</td>
<td>0,374</td>
<td>3,197</td>
<td>0,002</td>
<td>Sig</td>
</tr>
<tr>
<td>Government Investment ( \rightarrow ) Economic Growth</td>
<td>0,200</td>
<td>1,712</td>
<td>0,091</td>
<td>Tdk Sig</td>
</tr>
<tr>
<td>Private Investment ( \rightarrow ) Employment Opportunities</td>
<td>0,178</td>
<td>2,126</td>
<td>0,037</td>
<td>Sig</td>
</tr>
<tr>
<td>Government Investment ( \rightarrow ) Employment Opportunities</td>
<td>0,325</td>
<td>4,072</td>
<td>0,000</td>
<td>Sig</td>
</tr>
<tr>
<td>Economic Growth ( \rightarrow ) Employment Opportunities</td>
<td>0,524</td>
<td>6,419</td>
<td>0,000</td>
<td>Sig</td>
</tr>
</tbody>
</table>

Source: Primary Data 2017, processed
Table 2. Coefficient of Direct and Indirect Effect Line

<table>
<thead>
<tr>
<th>Relationship Variable</th>
<th>Causal Influence</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Directly</td>
<td>Direct Indirect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Through Economic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>growth</td>
</tr>
<tr>
<td>Private Investment → Economic Growth</td>
<td>0.374</td>
<td>(0.374) x (0.524) = 0.2027</td>
</tr>
<tr>
<td>Government Investment → Economic Growth</td>
<td>0.200</td>
<td>(0.200) x (0.524) = 0.1084</td>
</tr>
<tr>
<td>Private Investment → Employment Opportunities</td>
<td>0.178</td>
<td></td>
</tr>
<tr>
<td>Government Investment → Employment Opportunities</td>
<td>0.325</td>
<td></td>
</tr>
<tr>
<td>Economic Growth → Employment Opportunities</td>
<td>0.524</td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data 2017, processed

Considering the value of the direct and indirect effect lines as presented in Table 2, the relationship between private investment and government investment on economic growth and employment in Central Kalimantan Province is illustrated in terms of path analysis below:

Figure 5 The Result of Path Analysis Model
The result of direct path analysis of private investment shows the significant value indicated from the value of Prob (t-Statistic) is 0.002 smaller than alpha 0.05 with positive parameter equal to 0.374, this indicate that every increase of realization of value of private investment equals to 1% hence will impact to the increase in economic growth in Central Kalimantan Province by 0.374% with the assumption that other variables are constant. Conversely, with the decline of private investment, will have a decreasing impact on economic growth. The empirical fact of the relationship between investment and economic growth can be seen in the structure of Product Domestic Regional Bruto (PDRB) from the expenditure side of the Regency / City in Central Kalimantan Province. Gross Fixed Capital Formation has the largest contribution to the formation of GDP expenditure in Central Kalimantan Province seen from 2011 to 2015 Gross Fixed Capital Formation on average accounted for 45.20% per year. This gives consequence that the economy of Central Kalimantan Province is strongly influenced by Gross Fixed Capital Formation. The results of this study are in line with the results of Yuliarmi (2008) and Rustiono Deddy (2008) study which stated that private investment has a positive and significant impact on economic growth.

The results of direct path analysis of government investment variables show that the significant value seen from the value of Prob (t-Statistic) is 0.091 greater than alpha 0.05 which means that during the year 2010-2014 government investment did not provide significant contribution to the increase of economic growth in Kalimantan Central. It is possible that government investments are directed against improper targets in implementing program activities in the field. The direct spending of Central Kalimantan Provincial Government for 2010-2014 is mostly allocated to direct expenditure of transportation infrastructure. On the other hand, Gross Regional Domestic Product growth is greater in the agricultural sector but has no significant relationship with direct government spending. The results of this study reinforce the results of previous research, ie research conducted by Hendarmin (2012) and Tandiawan, E., Naukoko, A. and Wauran, P. (2013) in the can that government spending does not cause a significant increase in economic growth in the area.

This result is similar with Nazmi and Ramirez (1997) analyzed the impact on economic growth of public and private investment spending. They concluded that public investment expenditures had a positive and significant effect on output growth. At the same time, public investment's impact on economic growth was statistically identical to the impact of private capital spending. The contribution of public investment to output expansion however came at the expense of private investment as indicating a significant crowding out effect. And then Badawi (2005) by using the same methodology as Ghali (1998) for Sudan found a positive contribution of private and public investment to economic growth. The impact of private investment was found to be more pronounced than that of public sector investment.

The Influence of Private Investment, Government Investment and Economic Growth on Employment Opportunities in Central Kalimantan Province

The results of direct testing of private investment variables showed a positive and significant value of employment seen from the value Prob (t-Statistic) is 0.037 smaller than alpha 0.05. The results of this statistical test is supported by the fact that the increase of labor absorption
every year, the empirical evidence of the influence of private investment on labor absorbed is seen in labor absorption data released by BPS where from 2011-2015 the largest number of workers is in the primary sector. In 2015, the labor absorbed in the primary sector reached 51.82%, greater than the secondary and tertiary sectors that only took the role of 9.68% and 38.5%, indicating that greater private sector investment in the primary sector affected largely and directly with the amount of labor absorbed in the sector.

The result of direct test of government investment variable has positive and significant effect to employment which is seen from Prob value (t-Statistic) is 0.000 less than alpha 0.05. The results of this statistical test is supported by the fact that the increase of labor absorption every year, the increase of government investment directly and significantly affect the absorption of manpower that is with the expenditure incurred takes the workforce to realize such investments, such as increased spending in infrastructure will be required labor for the implementation of work in the field. The results of this study support the results of research Laila Safina and Sri Endang Rahayu (2011) which states Government Investment has a positive and significant effect on employment.

The result of direct test of economic growth variable positive and significant effect to employment which is seen from Prob value (t-Statistic) of 0.000 less than alpha 0.05. This indicates that the higher the economic growth the more labor is absorbed in various sectors / field of business. This is supported by the data of economic growth experienced positive growth every year where in 2015 the economic growth rate of Central Kalimantan Province of 7.01 percent rose by 12.88 percent from economic growth in 2014 by 6.21 percent, in line with the increase of economic growth then impact also with the increase in the number of workers absorbed by 2015 of 1,215,681 people rose by 5.30 Percent of labor absorption in 2014 of 1,154,489 people. Other facts are seen from empirical data released by BPS where the increase of economic growth during 2011-2015 is influenced by the primary sector which is also in the same period absorb the largest labor force almost every year. By 2015, the number of workers absorbed in main employment in Central Kalimantan Province is 1,215,958 people or an increase of 9.97 percent from the year 2011 which amounted to 1,105,701 people.

The findings of this study support the results of previous research conducted by Hadi Sasana (2009) which states that economic growth has a significant effect and has a positive relationship to absorbed workers. Studies of Khan (1996), Deravan (1996) shows a clear theoretical relationship between public investment and economic growth, the issue is essentially an empirical one.
growth seen from data of PMA or PMDN exist in primary sector that is agriculture and mining where during period of study 2010-2014 grows average equal to 98.82 percent. The high private investment in the primary sector is also a big influence in increasing economic growth, seen from the data role of sectors in the formation of Gross Regional Domestic Product at Current Market Prices in Central Kalimantan where the primary sector seen from agriculture and mining sector averaged 38.55 percent. Each year is greater than 15 other sectors that enter the secondary and tertiary sectors. The positive impact of private investment relationship and economic growth indirectly affects the amount of labor absorbed in Central Kalimantan, this can be seen from the data released by the BPS where the most labor absorption from 2011-2015 is in the primary sector that is absorbing an average workforce of 58.74 percent per year.

The effect of government investment to employment through economic growth from the calculation results is known that the value of direct influence of 0.325 and indirect influence of 0.1048 which means that the value of direct influence is greater than the value of indirect influence, this result indicates that indirectly government investment has no significant effect on employment in Central Kalimantan Province through economic growth.

The results of this statistical test are supported by the fact that expenditures issued by local government such as for infrastructure / public facilities and services are not able to influence the growth of economy growth significantly and certainly impacts on employment opportunities for local workers who need jobs to meet the needs of his life and raise level of living to a better level. This is due to the fact that several autonomous districts separated from the parent regencies in Central Kalimantan Province are still in the early stages of development, which initially absorb a high labor force but over time government investment spending is more on capital intensive sectors than work. Intensive development certainly has implications on quite significant the absorption of labor. In line with the review of Tawiri (2010), that domestic investment is the driver for economic growth and gives rise to elasticity of elastic towards labor absorption.

According Priyarsono (2011), theoretically, the increased economic growth will increase employment by assuming an increase in investment. However, Indonesia’s effort to reduce the amount of open unemployment through the increased economic growth has not brought a significant result. This is because economic growth in recent years tends to be driven by increased consumption, while investment does not increase but decreased. Thus, even though the economy has improved, job creation is very slow. As the others show that growth is largely driven by private investment and that no strong inference can be drawn from the effect of public investment and public consumption on economic growth (Ejaz et; al. 2006).

**Conclusion and Suggestion**

Based on the results of research on the effect of realization of Private Investment and Government Investment on Economic Growth and Employment Opportunities in Central Kalimantan Province in 2011-2015 can draw the following conclusion:

1. The results of private investment research into economic growth show significant value while government investment shows insignificant value. For increased investment in Central Kalimantan, it is advisable to: a) facilitate principal and business permits through one-day integrated one-door service, b) clear legal supremacy and business certainty c)
create safe and comfortable conditions for investors, d) allocated government expenditure in particularly on infrastructure development that underpins economic growth such as road construction to areas of pockets of production such as primary sectors, especially agriculture and concentrated in labor-intensive sectors of the economy.

2. With respect to employment opportunities, the direct effects of private investment, government investment and economic growth have positive and significant impacts. Therefore, things that need to be done: 1) improve the quality of local manpower resources by conducting trainings so as to compete with outside workers, 2) raise the minimum wage so as to improve workers' welfare and 3) provide commercial rights to the population local people living in plantation / forest areas.

3. The results show that private investment has a significant effect on employment indirectly through economic growth in Central Kalimantan Province while government investment has no significant effect on employment through economic growth in Central Kalimantan Province.

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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
Introduction

The Republic of Indonesia Law No. 12 of 2012 concerning Higher Education states that in order to improve the nation's competitiveness in the face of globalization in all fields, higher education is needed that is able to develop science and technology and produce cultured intellectuals, scientists, and / or professionals and creative, tolerant, democratic, characterized, strong, and brave to defend the truth for the benefit of the nation. Article 1 paragraphs 6.7 and 8 state that Higher Education is an education unit that carries out Higher Education. State Universities are universities that are established and / or organized by the government. While Private Universities are Universities that are established and / or organized by the community. But even though it is different from the organizer, state universities and private universities have the same obligations in participating in educating the life of the nation and are required to always improve its quality.

The quality of education in Indonesia is still very low when compared to the quality of education in other countries. The quality of education in the country ranks 5th after Singapore, Brunei Darussalam, Malaysia and Thailand or is in the 108th position in the world. As stated by the Minister of Technology Research and Higher Education, Prof. Dr. Mohammad Nasir, PhD that the quality of education and the competitiveness of tertiary graduates higher education in Indonesia are still far behind at the international level, especially at the ASEAN level such as Thailand, Malaysia and Singapore. One indicator of the quality of universities that is still lagging behind is scientific publications in International journals which are still low.

The demands of free competition in the era of the Asian Economic Community (AEC) according to the Director of the Development of Higher Education Institutions, the Minister of Research and Technology of Higher Education is preparing the legal basis for the establishment of foreign universities in Indonesia. It is estimated that in 2017 foreign universities has begun to stand in Indonesia even though the government provides certain requirements for language use, name of foundation, minimum number of lecturers and ownership of the land. Because all this time our country has started many foreign universities including Singapore, Malaysia and Thailand. The Government has given permission to enter foreign universities to Indonesia, but of course by considering the impact on the development of state university and private universities in the country.

The position of private universities has a role in the community to educate the nation's children amidst the limitations of the government to reach all lines of education. However, the image of the public who consider that private universities are second-class universities, becomes a negative image that influences the interest of prospective students studying at private universities (Handayani, 2004). Whether we realize it or not, the number of private universities has increased quite high in the last five years.

The phenomenon of several private universities that received non-active status or in the guidance of the Minister of Technology Research and Higher Education in 2015 which further exacerbated the image of private universities in the eyes of society because of poor management and seemingly not qualified campus. Another phenomenon states that there are 400 private universities which are included in the black list of the Directorate General of Higher Education because they allegedly falsified documents or data on the number of lecturers and the number of
students in order to meet the ratio requirements of lecturers and students. In addition, the number of individuals who use private universities to get lecturer certification benefits that are detrimental to the state is also the reason for delaying lecturer certification, scholarship and promotion benefits at private universities.

Private universities are a status or brand that has not yet gained a place in the hearts of the public and the industrial world. This can be seen from the differences in community ratings about private university graduates which require a higher achievement index than State universities as well as in terms of accreditation assessment. Supported also by the government policy that did not favor the private universities further exacerbated the image of private universities in the eyes of the public. But from year to year, the growth and development of private universities in Indonesia is very rapid, especially in the East Java region which has reached 330 private universities. The highest percentage was private universities with high schools, which reached 43.3%, while those college universities amounted to 25.2% and 23.6% academy and the remaining 7.9% for polytechnics and academies, as shown in Figure 1 below.

![Figure 1. The number of private universities in East Java](image)

Kim (2001) in his research entitled The Influence of Brand Equity and Company Reputation on Income: Testing the Integrated Marketing Communication Evaluation Model explains that brand equity and company reputation have significant effect on income. There is a positive relationship between brand equity and company reputation in the integrated marketing communication model. The relationship between variables in integrated marketing communication, especially between advertising and public relations, is interrelated. That brand equity and company reputation affect integrated marketing communications.

Lai et al (2010) in their research concluded that the company's reputation has a positive effect on industrial brand equity and brand performance. Empirical evidence increasingly shows that when consumers make purchasing decisions, it does not only influenced by tangible attributes such as price and quality but with intangible features such as trust, reputation and brand associations. Therefore intangible characteristics such as brand equity are important sources of sustainable competitive advantage. Strong brand equity contributes to creating strong expectations in the customer's mind.
The results of Esmaeilpour and Barjoei's (2016) research corroborate previous research that corporate image has a positive and meaningful impact on brand equity. Brand equity is a good mediator in building customer satisfaction. Strong brand equity contributes to the customer's mind that can gradually improve the company's image in the minds of customers so that they not only succeed in attracting new customers but also build stronger brand equity. Additional benefits of brand equity, is its ability to reduce costs especially advertising costs. In other words, brand equity highly increases brand awareness and better customer reaction.

Saydan (2013) states that strong brands with positive brand equity have several advantages such as higher margins, brand expansion opportunities, stronger communication effectiveness and higher consumer preferences and intensity of purchase. A strong brand helps companies build its identity in the market. Brand equity is very important in helping consumers’ process information, especially if information is overloaded. For companies, building brand equity is the main key to achieving more profitable goals (Farjan, 2015).

Based on theoretical and empirical studies and supported by the phenomenon of the existence of private universities that has not gained a place in the hearts of the community, the objectives to be achieved in this study are: (1) to examine the effect of marketing communication on brand equity; (2) to examine the effect of marketing communication on the interest of prospective students choosing private universities; (3) to examine the effect of brand equity on the interest of prospective students choosing private universities; (4) to examine the role of brand equity as a mediating variable in influencing marketing communication to the interest of prospective students choosing private universities. So the formulation of the problem in this study is whether brand equity plays a role in mediating the influence of marketing communication on the interest of prospective students choosing private universities in Besuki Raya.

Method

To analyze data used Smart Partial Least Square (Smart PLS) is used. which is considered appropriate for estimating the path of a model that uses a latent construct with multiple indicators. Smart PLS can help get latent variable values for predictive purposes. Evaluation in Smart PLS consists of evaluating the outer model (measurement model) and inner model (structural model). The use of the program Smart PLS does not need to assume the existence of a particular distribution for parameter estimation, so that the parameter significance test is not needed.
Conceptual Framework and Hypothesis

Based on the previous theoretical and research studies, a conceptual framework and several hypotheses can be formulated as follows:

![Figure 2. Conceptual framework of research]

a. Hypothesis 1: Marketing communication affects brand equity

Research conducted by Mubushar (2013) and also Kim's (2001) research, give the same results that marketing communication has a strong and significant influence on brand equity. Likewise the results of Kurniawan (2014) study which states that effective marketing communication will increase brand equity. More specifically the forming variables of marketing communication such as advertising, sales promotion, product, price and distribution are proven to be effective variables to increase brand equity. Rahmani (2012) concluded that advertising and sales promotion are factors that effectively influence brand equity. In theory, it is reinforced by Kotler's thought, Philip (2010) that marketing communication affects brand equity. Thus the research hypothesis can be formulated as follows:

H1: Marketing Communication has an effect on Brand equity

b. Hypothesis 2: Marketing Communication affects the interest in choosing private universities.

Setyawati Nuralamy, Farida Jasfar (2010), in their research linking advertising and buying interest stated that consumers' buying interest was strongly influenced by the quality of advertising. Likewise the results of Muhammad Ehsan-Malik's research, Muhammad Mudasar Ghafoor, Hafiz Kashif Iqbal (2014), and Alice Z. Zinyemba, Irvine Manase (2015), support the results of research which states that consumer behavior is influenced by marketing communication variables. So the hypothesis in this study reads:

H2: Marketing communication affects the interest of prospective students choosing private universities.

c. Hypothesis 3: Brand equity affects the interest in choosing private universities.

Eva Rizka Amalia (2014) in her research concluded that brand equity has a positive effect on brand preferences and consumer buying interest. The same research was carried out by Abbas Monavarian, Naser Asgari (2013), Pedro Marcelo Torres (2015). Syed Mehmood Shah,
Muhammad Adeel, Faisal Hanif, Mohsin Khan (2016), supported the results of a study which stated that brand equity had a positive and significant effect on buying interest. While Gokhan Aydin's research, Ulceng Burc (2015) gave the same results that Brand equity customer-based affect consumer buying interest. Based on the previous research, the research hypothesis was formulated as follows:

H3: Brand equity affects the interest of prospective students in choosing private universities.

d. Hypothesis 4: Marketing communication affects the interest in choosing private universities by mediating brand equity.

Brand equity according to Aaker (1991) has a role that can be seen from the side of consumers and companies. In general, when viewed from the consumer side, brand equity can increase or reduce the value perceived by consumers. Brand equity can provide more value so as to increase consumer confidence in making purchasing decisions. This value is obtained from experience after using the product or service and consumer knowledge of the characteristics of the product and service.

In the context of higher education, the brand equity can increase or decrease the value felt by students which can increase the confidence of students, especially new students in making the decision to enroll in private universities. Based on the results of theoretical and empirical studies, the research hypothesis is formulated as follows:

H4: Marketing communication influences the interest of prospective students choosing private universities by mediating brand equity

**Population, sample and sampling technique.**

Population in this study were all third grade high school students or high school graduates in the Besuki Raya Region. There are 276 high schools in the area of Jember Regency, Bondowoso, Situbondo, Lumajang, Banyuwangi and Probolinggo with a total of 82,765 students as shown in Table 1.

<table>
<thead>
<tr>
<th>No.</th>
<th>Regency / City</th>
<th>Number of High Schools</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Jember</td>
<td>60</td>
<td>24,480</td>
</tr>
<tr>
<td>2.</td>
<td>Bondowoso</td>
<td>30</td>
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</tr>
<tr>
<td>3.</td>
<td>Situbondo</td>
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<td>4,628</td>
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<td>4.</td>
<td>Lumajang</td>
<td>30</td>
<td>10,142</td>
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<td>5.</td>
<td>Banyuwangi</td>
<td>51</td>
<td>21,572</td>
</tr>
<tr>
<td>6.</td>
<td>Probolinggo</td>
<td>88</td>
<td>14,914</td>
</tr>
<tr>
<td></td>
<td>Total number</td>
<td>276</td>
<td>82,765</td>
</tr>
</tbody>
</table>

*Source: Data from the Central Java Provincial Bureau of Statistics, September 22, 2017*
The research sample was taken using *nonprobability sampling*, namely by using *purposive sampling technique*. The sample is not randomly selected because only grade 3 students or those who have graduated from high school can be selected as samples. According to Ferdinand (2014), the larger the sample, the more likely it is to make the right decisions in rejecting the null hypothesis or known as *statistical powers*. The larger the sample, the greater the statistical power, even though a large sample requires large costs and sacrifices. The criteria for respondents can be used as research samples are as follows:

1. Students are in grade 3 high school or have graduated,
2. The students plan to continue to the higher education level after graduating from high school.

The reason underlying the selection of the sample is because grade 3 students are prospective students for universities and are focused on those who have the desire to study further to the level of higher education.

**Characteristics of respondents**

Respondents in this study were high school graduates who live in the Besuki Ray area with a very large population of 82,765 students. According to Ferdinand (2014), a sample size greater than 30 and less than 500 is sufficient for most research. If the sample is divided into several sub-samples, then a minimum of 30 for each sub-sample is sufficient. Taking into account the sampling method, questionnaires were distributed in the 6 regencies, each of which was 80 questionnaires so that the total questionnaires distributed were 480 copies. But the number of questionnaires collected was 380 sheets.

Most respondents are women. Temporary observations in the field show that women are more concerned and willing to spend time filling out questionnaires. Respondents who are female who are interested in continuing their studies to Higher Education are larger than men, which is 62.8% while the number of male respondents is 37.2%.

The majority of respondents came from science majors which amounted to 59.7%, meaning that the interest in continuing their studies to universities was dominated by students majoring in Natural Sciences, while respondents from Social Sciences were 34% and the rest from the language majors were 6.3%.

By knowing the distribution of respondents' answers, it can be used to support the results of data analysis. The results of the identification of respondents' answers can be known by examining each research instrument based on the respondent's answer.

The tabulation results show that the respondent's answer to the Marketing Communication Variable shows that most respondents agree even though there are some questions with neutral answers. Whereas for the brand equity variable, most respondents agreed and only one statement was answered neutral. Unlike the interest variable, which shows neutral results, meaning that almost all respondents are hesitant to choose private universities and look for safe answers.
Findings and Discussion

Using data from 380 samples of students studied in six districts (Jember, Bondowoso, Situbondo, Banyuwangi, Lumajang, and Probolinggo District) and processing and analyzing using Smart PLS version 2.0 with algorithm calculation (missing value: -0.1, data metric: mean 0 and variance 1, Weighting score: Path, Max number iteration: 400 stop criterion accuracy: 0.0010) obtained values as shown in figure 3.

Caption:

X : Marketing communication
X1 : Advertising
X2 : Sales promotion
X3 : Public relation
X4 : Personal selling
X5 : Direct marketing
X6 : Word of Mouth (WOM)

y1 : Brand Equity
y11 : Brand awareness
y12 : Brand association
y13 : Perceived quality
y14 : Brand loyalty

y2 : Interest in choosing private universities
y21 : Transactional interest
y22 : Referential interest
y23 : Preferential interest
y24 : Explorative interest

Figure 3: Output Measurement Model (PLS Algorithm)
Evaluation Measurement Model (Outer Model)

Evaluation Measurement models are used to evaluate the relationship between constructs and indicators, which are measured from two indicators, namely convergent validity and discriminant validity. Convergent validity can be evaluated through three stages, namely: indicator of validity, construct reliability, and average variance extracted (AVE) value. While discriminant validity is done through two stages, namely seeing the cross loading value and then comparing the correlation between the construct and the root AVE.

a. Convergent Validity

Convergent validity measures the validity of a reflexive indicator as a visible variable gauge from the outer loading of each variable indicator. To test for convergent validity, the conditions used for the initial examination of the loading score are meeting the level 0.5 which is considered significant.

Based on data processing with Smart PLS, it can be seen that the outer loading between indicators with their construct is above 0.50. But according to Ghozali (2015), the value of outer loading 0.5 can still be tolerated to be included in the model that is still in the process of floating. This means that reflexive indicators in this study are declared valid as a measure of latent variables.

In this study there are three constructs with a number of indicators between 4 to 6 indicators with a sub indicator measurement scale 1 to 5. Based on the test results of the measurement model seen in Table 4, average variance extracted (AVE) only marketing communication is below 0.50 i.e. amounting to 0.472575. Two other constructs above 0.50. That is, the research measuring instrument can accurately measure the research constructs are properly.

b. Discriminant Validity

Discriminant Validity of the reflexive measurement model is determined based on the cross loading value of the indicator for each latent variable. If the correlation between latent variables with each indicator is greater than the correlation with other latent variables, then the latent variable can be concluded that predicting the indicator is better than other latent variables.

The result shows that the construct correlation between brand equity and the indicator is higher than the correlation of marketing communication indicators and private universities choices. Likewise for the construct of marketing communication and interest in choosing private universities. This shows that the latent construct predicts indicators better than other indicators.

The root result of AVE shows that the root of AVE is greater than the correlation between the constructs. AVE root for brand equity 0.784959 is greater than brand equity correlation marketing communication of 0.489014, brand equity correlation ↔ interest in choosing private universities at 0.710812. Root AVE for marketing communication is 0.687441 greater than the correlation of marketing communication interest in choosing private universities 0.314505. That is, discriminant validity is declared good.
c. *Construct Reliability*

In addition to the validity test, the construct also carried out a construct reliability test measured by two criteria, namely Cronbach's Alpha and Composite Reliability. Cronbach's Alpha and Composite Reliability values reflect the reliability of all indicators in the model. The minimum value is 0.7 and ideally 0.8 or 0.9. Likewise, Composite Reliability is interpreted the same as the Cronbach's Alpha value.

The Cronbachs Alpha results show that all constructs have Cronbachs Alpha values and Composite Reliability above 0.7. This shows the accuracy, consistency and determination of a measuring instrument in making a measurement. That is, the measuring instrument (questionnaire) is declared reliable and feasible to measure the construct.

**Structural Model Testing (Inner Model)**

The structural model in the PLS is evaluated using the determination (R2) of the dependent variable and the path coefficient value for the independent variable and then assessed for its significance based on the t-statistical value of each path. The structural model output of this research can be seen in the following figure:

![Output of structural models (PLS Algorithm), 2018](image)

*R-squared (R2) testing is a technique to measure the level of Goodness of Fit (GOF) of a structural model. R2 value is used to assess how much influence certain independent latent variables have on the dependent latent variable.*
### Table 2. Structural Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>R Square (R²)</th>
<th>Redundancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Equity</td>
<td>0.239135</td>
<td>0.147930</td>
</tr>
<tr>
<td>Marketing Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest choose</td>
<td>0.506693</td>
<td>0.371449</td>
</tr>
</tbody>
</table>

Based on Table 2, it explains that brand equity can be explained by marketing communications of 0.239135 or 23.9 percent. Most (76.1%) are explained by constructs outside research. The interest in choosing private universities is explained by brand equity and marketing communication of 0.506693 or 50.7 percent, the rest (49.3%) is explained by the construct outside the research.

The value of the original sample estimate of brand equity is 0.732080 with a significance below 5% as indicated by the t-statistic value of 10.208848 greater than the t-table value of 1.966327183. The original value of a positive sample estimate indicates that brand equity has a positive effect on students’ interest in choosing private universities. Based on the regression results, it can be concluded that the hypothesis that states brand equity affects the interest of students choosing private universities is accepted. Likewise the value of the original sample estimate of marketing communication is 0.489014 with the same significance value showing the t-statistics value of 5.993487 which is greater than the t-table value of 1.966327183. Based on the regression results, it can be concluded that the hypothesis that states marketing communication affects brand equity is accepted. While marketing communication shows no effect on students choosing private universities as indicated by the t-statistic value of 0.430768 which is smaller than the t-table value of 1.966327183.

**Hypothesis testing**

Hypothesis testing is done to test the direct and indirect effects. Marketing communication is hypothesized to have a direct effect on brand equity, and also will indirectly analyze the influence of students on choosing private universities through brand equity.

A). Direct influence analysis

1. The influence of brand equity on the choice of private universities to students

   Based on the results of data analysis using Smart PLS 2.0 (Path Coefficients) the value of Original Sample (O) is the brand equity path coefficient → the interest of students choosing private university, which is equal to 0.732080 and T Statistics (| O / STERR |) shows significance the effect of 10.208848 is greater than the t-table of 1.966327183, so the hypothesis which states brand equity has a positive effect on the choice of "proven" private universities students. The higher the brand equity, the higher the interest of students to choose their chosen private universities.
2. The influence of marketing communication on brand equity

The coefficient of marketing communication lines → brand equity as shown in table 14, the Original Sample (O) value is 0.489014 and the T Statistics (| O / STERR |) value is 5.993487 which is greater than the 1.966327183 t-table, thus hypothesis which states that marketing communication has an effect on "proven" brand equity. Marketing communication has a positive effect on brand equity. That is, the more intensive marketing communication will result to increase brand equity.

3. The influence of marketing communication on students' interest in choosing private universities.

The coefficient of marketing communication lines → the interest of students choosing private universities, the value of Original Sample (O) is -0.043493 and T Statistics (| O / STERR |) is 0.430768 which is smaller than t table 1.966327183. Conclusion marketing communication has no effect on students' interest in choosing private universities.

B). Analysis of indirect effects

Based on the results of direct hypothesis testing, marketing communication has a significant effect on brand equity, and brand equity has a significant effect on students' interest in choosing private universities. While marketing communication has no significant effect on students’ interest in choosing private universities, marketing communication has an indirect effect on students through brand equity.

The marketing communication path coefficient to brand equity is 0.489014, the path coefficient of brand equity to the interest of students choosing private universities is 0.732080. The marketing communication path coefficient to students choosing private universities of -0.043493. Thus the "indirect" effect of marketing communication on students' interest in choosing private universities through brand equity is 0.357997369 (0.489014 x 0.732080) which is greater than the marketing communication path coefficient on students' interest in choosing private universities. The path coefficient proves that marketing communication has no direct effect on students’ interest in choosing private universities, but indirectly influences students' interest in choosing private universities through brand equity. Brand equity has the role of mediating marketing communication with students' interest in choosing private universities.

Conclusions

Based on the respondents’ description, validity test, reliability and tabulation of respondents' answer, it can be concluded that the research respondents consisting of high school students who have graduated and come from the Besuki Raya region mostly have a neutral choice on private universities. Based on the results of data analysis, it can be concluded as follows:

The tabulation of respondents' answers shows that the frequency of answers of high school students to the marketing communication variables that have been done by private universities in Besuki Raya, has received a good response, meaning that prospective students agree with the private universities ads on TV, radio and newspapers and promotions sales, public relations, personal sales, direct marketing and word of mouth marketing (WOM). Likewise for private
universities brand equity variables, most prospective students agree and are familiar with private universities both from the dimensions of brand awareness, brand association, brand perception and brand loyalty. From the variable interest in choosing private universities, with dimensions of transactional interest, referential, preferential and explorative, the results show that prospective students choosing neutral for private universities. The results of respondents' choices on several private universities supports that prospective students will choose private universities after they are declared not accepted. Likewise at the selection of private universities, they tend to choose private universities in their area with the closest location and accessible.

The results of data analysis and hypothesis testing, indicate that marketing communication directly 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 marketing communication with the interest of prospective students choosing private universities.

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INDONESIA IN THE INDUSTRIAL REVOLUTION ERA 4.0: CHALLENGES OR THREATS?

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Abstract

Artificial Intelligence internet of things, human-machine interfaces, robotic technology and sensors, and three-dimensional (3D) printing technology. The technology is a sign that in this era industry 4.0 will enter the virtual world and the use of automation machines integrated with the internet network, Making Indonesia 4.0 contains 10 cross-sectoral national initiatives to accelerate the development of the manufacturing industry in Indonesia, is Indonesia’s preparedness to answer the challenges and threats of the industrial revolution 4.0.

Keywords: Indonesia, era of industrial revolution 4.0, challenges, threats.

Introduction

Globalization and the transformation of information technology towards more progressive ones like today give us an idea of two things. First, we certainly know that the current information that we can easily access without regard to the boundaries of a country, we can even have direct discussions by meeting people from various parts of the world in this world because of technological sophistication. Second, like the two sides of money, besides positive things, the transformation of information technology can also have negative effects on humans, such as the mode of crime that also changes in a digital direction, the pathway or means for making losses for others is also very open wide. Globalization encourages people to keep moving forward, and the transformation of information technology is one of the means to support the changing era towards globalization in various sectors as we feel today.

Borrowing the results of a study from McKinsey in 2016 that the impact of digital technology towards the industrial revolution 4.0 in the next five years there will be 52.6 million types of jobs will experience a shift or disappear from the face of the earth. The results of this study give the message that every self who still wants to have a self-existence in global competition must prepare mentally and skills that have competitive advantage from others. The main way to prepare the easiest skills to take is to have good behaviour (behavioural attitude), increase self-
competence and have a literacy spirit. Provision of self-preparation can be passed through the education path (long life education) and self-concept through the experience of working across generations/across disciplines (experience is the best teacher).\textsuperscript{3} The research also hints to each country in order to improve the human resources they have because the 4.0 industrial revolution is the era of competition.

Access to the internet has been made into several countries, such as Finland, as a basic right to follow the UN resolution in 2016. We have witnessed the positive impact of the development of information technology such as the spring of Arab revolution, world solidarity over the tsunami in Aceh and Japan. Advances in health technology reduce the costs of heart surgery, organ transplantation, and treatment using stem cells. On the other hand, the negative effects of technological progress occur in almost all the world regardless of who is the culprit. The United States as a single superpower has used drone technology to carry out bombings in Afghanistan, Libya, Iraq and Syria, which have resulted in a number of civilian casualties. In its own country, with its super computer system, the state enters into the private space of its people which is then leaked by Edward Snowden to the public. In addition to the state, radical organizations such as Al-Qaeda and ISIS use information technology to conduct recruitment, planning, and propaganda such as execution without humanitarian reasons.\textsuperscript{4} It should also be emphasized here that information technology that is not utilized for humanitarian purposes will become a deadly weapon for those who can control it, because the parties (countries) who control the industry will play an important role in seizing the influence of countries in the world.

The world is currently facing the 4\textsuperscript{th} industry change known as Industry 4.0. Based on the Mckinsey Global Institute analysis, Industry 4.0 has a very large and broad impact, especially in the employment sector, where robots and machinery will eliminate many jobs in the world. For this reason the industrial revolution era must be addressed by industry players wisely and carefully.\textsuperscript{5} We see there is competition between humans and robots, but on the other hand, individuals who have qualified resources will not be replaced by any machine (robot), because no matter how sophisticated a robot is, the work will remain monotonous and work accordingly with what is programmed, and about initiative, attitude of sympathy, and others remain irreplaceable in the human body.

The fourth revolution as a continuation of the invention of computers and digital technology which began in the era of the 50s did not make solving world problems easier. With computerized systems, artificial intelligence, faster information flow, better data analysis aided by advanced algorithms, it does not make us free from classic problems such as hunger, exploitation of developed countries against developing countries, low access to health, and refugees, especially making the world a safe place for all humanity. In the midst of technological advancements, we

\textsuperscript{3} Hendra Suwardana, \textit{Revolusi Industri 4.0 Berbasis Revolusi Mental} (4.0 Industrial Revolution Based on Mental Revolution), Jati Unik, Vol. 1, No. 2 (2017), p. 103

\textsuperscript{4} \textit{Revolusi Industri 4.0 dan Arah Perkembangan Dunia} (Industrial Revolution 4.0 and Direction of World Development), see \url{http://www.berdikarionline.com/revolusi-industri-4-0-dan-arah-perkembangan-dunia/}

\textsuperscript{5} Venti Eka Satya, \textit{Strategi Indonesia Menghadapi Industri 4.0} (Indonesia’s Strategy for Facing Industry 4.0), Info Singkat, Kajian Terhadap Isu Aktual dan Strategis Bidang Ekonomi dan Kebijakan Publik, Vol. X, No. 09/I/Puslit/May/2018, p. 20
see that countries are ignorant, paralyzed, and lose their sense of humanity. Americans who started the war in Afghanistan, Libya, or Syria which became the source of the most refugees felt the benefits of their geographical location. Not taking part in this crisis. Through technological advancements we see that world leaders’ debate but are not solutions. Technology should be used to solve to the most basic problems such as the availability of clean water, sanitation facilities, calculating the needs of food and clothing and finding sources of staple goods from regions that are surplus to their needs. Therefore, the readiness of infrastructure and supporting aspects in facing the era of Industrial Revolution 4.0 at the regional level in Indonesia needs to be well prepared.

The Fourth Industrial Revolution ("4IR") or the Industrial Revolution 4.0 is not only potentially extraordinary in overhauling the industry, but also changing various aspects of human life. We have seen many countries, both developed and developing countries that have incorporated this movement into their national agenda as a way to increase competitiveness in the global market arena. 4IR is sure to go to Indonesia and we are ready to implement it. For Indonesia, the 4IR phenomenon provides an opportunity to revitalize the Indonesian manufacturing sector and become a way to accelerate the achievement of Indonesia's vision to become the 10 largest economies in the world. The productive age population is expected to increase by 30 million by 2030, so it will be important for the government to open up jobs for them. The application of 4IR opens opportunities to revitalize our manufacturing industry, increase worker productivity, encourage net exports, and open around 10 million additional jobs that will become the foundation of Indonesia's economic growth towards the 10 largest economies in the world. Based on the explanation, the problem that will be discussed in this paper is what is the description of the Industrial Revolution 4.0 and its influence on the world? How does Indonesia face the challenges and threats of the Industrial Revolution 4.0?

**Research Method**

In this study, the authors used the normative research type and the qualitative research method, which (in general) generates words rather than numbers as data for analysis and seeks

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6 Revolusi Industri 4.0 dan Arah Perkembangan Dunia (Industrial Revolution 4.0 and Direction of World Development), Loc.Cit.
7 Airlangga Hartanto, Making Indonesia 4.0, Jakarta: Ministry of Industry of the Republic of Indonesia, p. 2
answers to a question.\textsuperscript{10} The approach used is observation and interpretation,\textsuperscript{11} which makes these phenomena observable,\textsuperscript{12} equipped with in-depth interviews\textsuperscript{13} of the relevant parties to this study. This paper provides information on the latest trend in research.\textsuperscript{14}

Results and Discussion

A. Industrial Revolution 4.0 and Its Impact on the World

This fourth generation industrial revolution is characterized by the emergence of supercomputers, smart robots, vehicles without drivers, genetic editing and the development of neuro-technology that allows humans to further optimize brain function. This was conveyed by Klaus Schwab, Founder and Executive Chairman of the World Economic Forum in his book The Fourth Industrial Revolution. The development of science and technology has changed the world as the first generation revolution gave birth to history when human and animal power was replaced by the appearance of the engine. One of them was the emergence of a steam engine in the 18th century. This revolution was recorded by history successfully raised up the economy dramatically where for two centuries after the Industrial Revolution there was an increase in the average per capita income of countries in the world to six times.\textsuperscript{15} This history indirectly gives us an understanding that the indications for competing or competitiveness are absolutely carried out by countries in order to survive in every changing era in the world.

The second industrial revolution was marked when the general fort automotive made its production line in the Indies at that time. At that time the automotive industry was growing rapidly and received a response from the Dutch East Indies government. The third revolution began in the 90s with automation leading up to globalization. Globalization that is feared is the birth of digitalization. At the APEC meeting in the 90s it was stated that globalization for ASEAN would begin in 2020.\textsuperscript{16} In the second generation industrial revolution was marked by the emergence of electric power plants and combustion chambers. This discovery triggered the emergence of telephones, cars, airplanes, and others that changed the face of the world significantly. Then, the third generation industrial revolution was marked by the emergence of digital technology and the

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\end{itemize}
internet. Furthermore, in the fourth generation industrial revolution, as stated at the opening of this paper, it has found a new pattern when disruptive technology is present so quickly and threatens the existence of incumbent companies. History has noted that the industrial revolution has claimed many lives with the death of giant companies. Moreover, in this fourth generation industrial era, the size of the company is not a guarantee, but the company’s agility is the key to success in achieving achievements quickly.\(^{17}\) The large number of large companies that fail to face the changing era make business people have to be ready as early as possible to find ways to innovate in all divisions so that the company does not suffer the same, because the era changes will continue to be unstoppable because of the technological and information sophistication progressive.

Various technologies that signaled the start of the 4.0 industrial revolution, have begun to be applied in various lines. One of them is Artificial Intelligence (AI) or artificial intelligence that is increasingly developing today. Not only for industry, AI is also developed to facilitate human life in other aspects. The largest telecommunications company in Korea, KT, complements a hotel with artificial intelligence earlier this year. They installed smart speakers in the Novotel Ambassador Hotel and Residences room in Dongdaemun, Seoul. This smart speaker can be used by guests to turn on lights, change television channels, and order towels in room service. In addition to AI, there are four other technologies that support the 4.0 industry, namely internet of things, human-machine interfaces, robotic technology and sensors, and three-dimensional printing technology (3D). The five technologies are a sign that in this era the industry will enter the virtual world and the use of automation machines that are integrated with the internet network. The effect of applying these five technologies is to increase production efficiency and increase productivity and competitiveness.\(^{18}\)

\(^{17}\) Andreas Hassim, *Loc. Cit.*  
\(^{18}\) Dea Widiarini, “*Milenial, Siap-siap Sambut Revolusi Industri 4.0*” (Millenial, Get Ready to Welcome the Industrial Revolution 4.0), see https://edukasi.kompas.com/read/2018/10/03/17521731/milenial-siap-siap-sambut-revolusi-industri-40.
There are four design principles in Industry 4.0. These principles help companies identify and implement Industry 4.0 scenarios, namely:

- **Interoperability (compatibility):** The ability of machines, devices, sensors, and humans to connect and communicate with one another through the Internet of Things (IoT) or the Internet of Public (IoP).
- **Transparency of information:** The ability of information systems to create copies of the physical world virtually by enriching digital factory models with sensor data. This principle requires collecting raw sensor data to produce high value context information.
- **Technical assistance:** First, the ability of the assistance system to help humans by gathering and visualizing information in a comprehensive manner so that they can make wise decisions and solve sudden, critical problems. Second, the ability of the cyber-physical system to physically assist humans by carrying out a series of tasks that are unpleasant, too heavy, or unsafe for humans.
- **Independent decisions:** The ability of a cyber-physical system to make their own decisions and perform tasks as independently as possible. If there are exceptions, disruptions, or there are conflicting goals, the task is delegated to the boss.

**B. Making Indonesia 4.0: Challenges and Threats**

The Ministry of Industry has compiled the initiative "Making Indonesia 4.0" to implement the strategy and 4IR Roadmap in Indonesia. This Road Map involves various stakeholders, ranging from government institutions, industry associations, business actors, technology providers, as well as research and education institutions. The Roadmap of Making Indonesia 4.0 provides clear direction and strategies for the Indonesian industrial movement in the

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19 Industrial Revolution 4.0 and Direction of World Development, *Loc.Cit.*

20 Hermann, Pentek, Otto, 2016: Design Principles for Industrie 4.0 Scenarios, see https://ieeexplore.ieee.org/document/7427673/?arnumber=7427673&newsearch=true&queryText=industrie%204.0%20design%20principles
future, including in the five sectors that are the focus and 10 national priorities in an effort to strengthen Indonesia’s industrial structure. Through commitment and active participation from various stakeholders, including ministries and other government institutions, partnerships with private parties and leading industry actors, investors, educational institutions, research institutions.\textsuperscript{21}

Almost all Indonesian manufacturing sectors face similar challenges, ranging from the availability of domestic raw materials to industrial policies. Several factors that hamper Indonesian industry are often cross-sectoral. Therefore, Making Indonesia 4.0 contains 10 national cross-sectoral initiatives to accelerate the development of the manufacturing industry in Indonesia. The 10 national initiatives are as follows:\textsuperscript{22}

1. Improved flow of goods and materials

   Indonesia relies on imports of high value raw materials and components, especially in the chemical, basic metals, automotive and electronic sectors. Indonesia will strengthen local production in the upstream and middle sectors through increasing production capacity and accelerating technology adoption. Indonesia will develop a long-term plan to improve the flow of goods and material nationally and develop a material source strategy.

2. Redesign of industrial zones

   Indonesia has built several industrial zones throughout the country. Indonesia will optimize the policies of these industrial zones including aligning the sector sector road map which is the focus of Making Indonesia 4.0 geographically, as well as road maps for transportation and infrastructure. To optimize land use, Indonesia will evaluate existing industrial zones and will build a comprehensive and cross-industry industrial zone roadmap.

3. Accommodate sustainability standards

   The global community has voiced concerns related to sustainability in various sectors. Indonesia sees the challenges of sustainability as an opportunity to build sustainability capabilities based on clean technology, EV, biochemistry and renewable energy. Therefore, Indonesia will strive to meet sustainability requirements in the future, identify the application of technology and opportunities for environmentally friendly growth, and promote a conducive environment (including regulations, taxes and subsidies) for environmentally friendly investments.

4. Empowering Micro, Small and Medium Enterprises

   Nearly 70 percent of Indonesia’s workforce works for micro, small and medium enterprises (UMKM). The Indonesian government is committed to supporting UMKM business

\begin{itemize}
\item \textsuperscript{21} Airlangga Hartanto, Making Indonesia 4.0, Jakarta: Ministry of Industry of the Republic of Indonesia, p. 2
\item \textsuperscript{22} Ibid., p. 7-8
\end{itemize}
actors by building e-commerce platforms for UMKM, farmers and craftsmen, building a center for technology centers (bank technology) in order to increase UMKM access to technology acquisition, and providing mentoring support to encourage innovation.

5. Building national digital infrastructure

To support the Making Indonesia 4.0 Roadmap, Indonesia will accelerate the development of digital infrastructure, including high-speed internet and digital capabilities with the collaboration of government, public and private sectors to be able to invest in digital technologies such as cloud, data center, security management and broadband infrastructure. Indonesia will also align digital standards, in accordance with global norms, to encourage collaboration between industry players so that digital transformation can be accelerated.

6. Attract foreign investment

Indonesia needs to involve more leading manufacturing industries to close the technology gap and encourage technology transfer to local companies. To increase FDI, Indonesia will actively involve global manufacturing companies, choose the world's top 100 manufacturing companies as prime candidates and offer attractive incentives, and dialogue with foreign governments for national level collaboration.

7. Improving the quality of human resources

Human Resources is important for achieving success in Making Indonesia 4.0. Indonesia plans to overhaul the education curriculum by emphasizing more on STEAM (Science, Technology, Engineering, the Arts, and Mathematics), aligning the national education curriculum with the needs of the industry in the future. Indonesia will work with industry players and foreign governments to improve the quality of vocational schools, while improving the global labor mobility program to utilize the availability of human resources in accelerating transfer of capabilities.

8. Development of an innovation ecosystem

Innovation ecosystems are important to ensure the success of Making Indonesia 4.0. The Indonesian government will develop a blueprint for the national innovation center, prepare a pilot innovation center and optimize related regulations, including among others the protection of intellectual property rights and fiscal incentives to accelerate cross-sector collaboration among private business actors/BUMNs with universities.

9. Incentives for technology investment

Incentives have the potential to drive innovation and technology adoption. Therefore, the Indonesian government will redesign the technology adoption incentive plan, such as subsidies, corporate tax deductions, and excise duty on import taxes for companies committed to implementing 4IR technology. In addition, Indonesia will launch a state investment fund for
additional funding support for investment activities and innovation in the field of advanced technology.

10. 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 government.

Because of technological sophistication, everyone can now participate in debates about disruption, become venture capitalists, or initiators of start-up companies. By technology we are increasingly able to see economic inequality, the rise of neo-conservatism, and how China slowly wakes up from its long sleep transformed into a superpower. A variety of alternating topics appear to dominate the public space so that we are familiar with trending topic terms (for social media users).\(^{23}\) The sophistication of this technology not only changes the pattern of behavior of adults, millennials are also transformed as the generation that is the fastest in mastering information technology, this can be seen from the reality in the community that school children prefer to use smartphones than participating in community activities.

For developed countries, Industry 4.0 can be a way to regain infrastructure competitiveness. For developing countries, Industry 4.0 can help simplify the production supply chain, which in this case is urgently needed to deal with increasingly increasing labor costs. For this reason, in the face of the fourth industrial revolution era, the national industrial sector needs to improve a lot, especially in the aspect of mastering technology which is the key determinant of competitiveness. There are at least five main technologies that support the development of the Industrial 4.0 system, namely the Internet of Things, Artificial Intelligence, Human-Machine Interface, robotic and sensor technology, and 3D Printing technology. The five elements must be able to be controlled by Indonesian manufacturing companies in order to compete.\(^{24}\) Competition is a definite process, the readiness of every business actor in carrying out his business, the readiness of the government to create and regulate regulations as much as possible to accommodate every need related to what is community needs, while the next generation of young people must prepare themselves to compete by improving human resources.

The government must also anticipate the negative impacts of Industry 4.0 such as technology disruptive. The presence of this technology disruptive will make major changes and will gradually turn off traditional business. The role of Industry 4.0 is also still questionable when viewed from the symptoms of global deindustrialization that have occurred lately. This is due to the increasing role of the service sector. The combination of projections of rapid economic growth and a decline in the role of the manufacturing sector have raised doubts about the greatness of Industry 4.0. In addition, Industry 4.0 also has a negative impact on job creation. In the ASEAN region, only Singapore is ready to face this new industrial era. The government adapts to the Industrial 4.0 system, so the government must also consider its sustainability. Do not let the

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\(^{23}\) Industrial Revolution 4.0 and Direction of World Development, *Loc. Cit.*

implementation of this digital industry system only become a burden because it cannot be utilized optimally. Many things need to be prepared such as: the role of decision makers, governance, implementation of risk management systems, public access to technology, and system security factors that are implemented. In addition, the government must also prepare a data collection system with integrity, determine the total price / cost of ownership of the system, prepare a legal umbrella and a mechanism for protecting personal data, establish service level standards, develop strategic and applicative road maps, and have design thinking to guarantee industry sustainability. These innovations are absolutely carried out by Indonesia in response to challenges and solutions to the threat of an era change that could be able to tighten competition among the future countries especially in the fields of economy, defense and security.

To deal with changes brought by industry 4.0, Indonesia is already preparing to anticipate it. One of them is by increasing the competence of Human Resources (HR) through a program of link and match between education and industry. This link and match policy is implemented to ensure that the competencies of Indonesian HR are in line with the needs of industry based on digital technology, as well as the industrial revolution 4.0. As one of Indonesia’s human resources, the millennial generation did not escape the changes brought by the industrial revolution 4.0. The generation born in the mid-1980-1999 must be prepared for these conditions because the future of Indonesian industries and manufacturing is in their hands. Not only smart and master the theory, they should have high learning abilities to keep up with rapid changes. Especially for those who want to work in engineering and become engineers. To be able to have a high level of learning ability they must train it early on when they enter college. In this case, it is the educational institution that plays an important role in making the millennial generation have high learning abilities. This means that education institutions must be able to hone their students' learning skills to be able to follow changes that occur quickly. Thus they are able to answer the challenges that come with industry 4.0. Educational institutions are the key answer to the challenges and threats that result from the Industrial Revolution 4.0, Progressive education, prioritizing innovation and human resources, and the creation of innovations are things that must be done by Educational Institutions, the first thing to realize is change a curriculum that is tailored to the needs of this era of the Industrial Revolution 4.0.

Conclusion

In closing, the authors can conclude two important things, namely: First, various technologies that mark the start of the industrial revolution 4.0, have begun to be applied in various lines, such as Artificial Intelligence internet of things, human-machine interfaces, robotic technology and sensors, and technology three-dimensional printing (3D). The technology is a sign that in this era the industry will enter the virtual world and the use of automation machines integrated with the internet network. The effect of applying these five technologies is to increase production efficiency and increase productivity and competitiveness. Second, Making Indonesia 4.0 contains 10 national initiatives that are cross-sectoral in order to accelerate the development of


the manufacturing industry in Indonesia, is an effort to prepare Indonesia to answer the challenges and threats of the industrial revolution 4.0. The 10 national initiatives are (1) Improving the flow of goods and materials, (2) Redesigning industrial zones, (3) Accommodating sustainability standards, (4) Empowering UMKN, (5) Building national digital infrastructure, (6) Attracting interest in foreign investment, (7) Improving the quality of human resources, (8) Development of innovation ecosystems, (9) Incentives for technology investment, and (10) Harmonization of rules and policies.

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The Implementation of Dynamic Marketing Engagement Strategy for the Development of Beginner Entrepreneur at Digital Market

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Abstract

This research aims to develop the marketing system of Beginner Entrepreneur (BE) at digital market with hope that it can be a reference to the development strategy for BE to compete at digital market in Indonesia. It also can be a dynamic marketing development strategy at digital market following the development and the condition of market constantly changing. This research is based on the phenomenon that usually faced by BE in developing their business toward its productivity and performance to keep it running, surviving and continuing. Explorative research method is used to observe the basic of BE at Operation Marketing factor of BE and TI-BE. The solution given to the issue is an information system and technology called Information and Communication System in Marketing Strategy Domain through the concept of Dynamic Marketing Engagement (DME) as a strategy of BE at digital market.

Introduction

Beginner entrepreneurs in Labuhan Batu are still constrained by their lack of understanding, skill and expertise to manage marketing strategy to enter digital market. The obstacles become a constraint for beginner entrepreneurs to raise the productivity as a sustainable competitive advantage in facing globalization and free market (Slamet et al., 2016). The condition faced by them needs solution of the knowledge and technology in order to make beginner entrepreneurs contribute at the development of digital entrepreneur in Indonesia for the context of Small and Medium Enterprises Go Online in line with the government program (“GO DIGITAL! Gerakan Nasional UMKM Go Online,” 2017). The aim of this research is to give solution of the obstacles faced by beginner entrepreneurs in entering and facing the competition at digital market to increase and to develop productivity as a sustainable competitive advantage. Based on the
phenomenon, a novelty through the implementation of Dynamic Marketing Engagement (DME) strategy at two systems, offline and online, for the beginner entrepreneurs in Labuhan Batu.

2. Theoretical Foundation

2.1 Beginner Entrepreneur (BE) Go to Online

The development of Beginner Entrepreneur (BE) in Indonesia has been done for long time and by so many efforts. One of the efforts done by the government is through the Ministry of Cooperatives and Small and Medium Enterprises by a program for helping BE in developing their business to raise BE growth in order to support the creation of new jobs and poverty alleviation, the reduction in income gap, and the increase in sustainable livelihood (“Wirausaha Pemula (WP),” 2017). On the general terms in information service as the government help for new cooperatives and BE state that Beginner Entrepreneur is an individual who has an entrepreneur and/or business pioneering that has a potential to develop its capacity. For the year 2017, the target of this program is to increase and raise beginner entrepreneurs to support the development of the lagging regions, Special Economic Zones, and Among Income Groups. At the beginning of 2018, Revolving Fund Management Agency for Cooperatives and Micro Small and Medium Enterprises (known in Indonesia as LPDB-KUMKM) has just targeted BE and start-up businesses (“2018, Wirausaha Pemula dan Bisnis Start Up Digelontor Kredit Rp100 M,” 2017). Meanwhile for 2019, the target is increased to 16,292 BEs, with value of money 325.84 billions rupiahs (Walfajri & Cicilia, 2018).

The research Purwinarti (2012) about business development model for BE shows a result that although BE is not only bad enough for financial aspects, but also lacks understanding in running business development. Yohana (2015) also small entrepreneurs need sustainable knowledge and continuity practise. Amilia, Fatimatuzzahro, & Choiron (2018) it concludes that perspectives and behaviors in running a business, in creating marketing network and in continuing cooperation existed and have become the obstacles in developing a business. On the side of business development, Adiwihardja (2016) it concludes that on virtual market there is a chance or an opportunity for entrepreneurship for BE with sufficient capital. It does not mean that BEs have no obstacles. Rahman & Mawardi (2017) obstacles of Micro Small and Medium Enterprises in building a brand are the lack of marketplace services, the existence of official store, the difficulties in choosing the product and supplier, over expectation of the consumers, and manpower. Hence, it is needs a sustainable effort to develop BEs in order to exist and be innovative.

Based on Valecha (2016), there are four shortcut ways for BE to succeed; 1) bring the unique business concepts by competitive approaches, 2) Do not only compete, create new approaches for better responses, 3) do not operate under market influence, just follow the flow, and 4) suggest to study starting from how to choose appropriate web platform, the basic of internet marketing, email marketing, how to make blog especially for business goals and marketing strategy as basic technique of knowledge.
2.2 Digital Market

According to Wikipedia “Digital Marketing” (2012), digital marketing is a product or service marketing using digital technology, primarily in Internet, but also including mobile phone, display advertising, and other digital media. Meanwhile, digital economics refers to the economics with digital computing technology-based. Digital economics sometimes is called as internet economics, new economics, or web economics. Based on the report, Ika (2018) states that the contribution of digital market to the Gross Domestic Product (GDP) of Indonesia based on the Central Bureau of Statistics continuously increase since 2016. The increases are because Indonesia is a potential market for digital economics. Based on the research of Center for Indonesian Policy Studies (CIPS), in 2018, the contribution of digital market reaches 10% for its estimation.

The empowerment of SMEs itself is based on Undang-Undang Republik Indonesia Nomor 7 Tahun 2014 Tentang Perdagangan (2014) Chapter X Article 73 paragraph (2) which states that the empowerment of Micro, Small and Medium Enterprises done by the government and/or Local Government can be one of the promotion and marketing assistance. A study Sudaryanto, Ragimun, & Wijayanti (2013) states that the other obstacles faced by Small and Medium Enterprises are the relationship to the unclear business prospects and the unstable scheming on the vision and mission. The provision of information and market network, ease of access on fund and accompaniment and also the increase of information technology capacity are some strategies to improve competitiveness of SMEs in Indonesia. Consequently, synergy of all parties primarily between government and micro finance institutions are needed. A study of successful entrepreneurs on health in Indonesia done by Djojo (2013) concludes that successful entrepreneurs are not only based on the capital only but also based on how they innovate through committing, processing, monitoring, aiming and keeping good performance.

2.3 Dynamic Marketing Engagement

Dynamic Marketing Engagement is dynamic marketing ability and the involvement of a relation of multi actors engagement who are customer, worker, and supply chain engagements as the competitive advantage of a company in entering and facing the changing market at offline and online marketing systems. Empirical study done by Sarkum, Pramuka, & Suroso (2017) of 300 SMEs in Indonesia and 300 SMEs in Banyumas District which applied the marketing system states that gap phenomenon in increasing business performance of SMEs at both offline and online marketing systems still exists. However, the concept of DME positively increases the business performance of SMEs.

In the other study done by Sarkum, Pramuka, & Suroso (2017b), market knowledge about SMEs in online business needs good relation with the workers, customers and supply chain. Hence, it becomes important to run the role of marketing functions in marketing strategy in gaining competitive advantage. It is in line with a research done by Sarkum, Pramuka, Suroso, Suliyanto, & Sutarmin (2017) which states that the ability of company market knowledge in relation with the involvement of workers and of customers is important in marketing strategy.
3. Theoretical Model

3.1 Base Theory

The existence of information technology carries out a significant enough change in the transformation process toward digitalization, financial mobility and liberalization (Kosasi, 2014). The interaction becomes easier because of physically present need, more alternative choices, cheaper, and the opportunity to expand market share (H. Q. Li, 2013). This article tests the implementation of DME Strategy toward BE Development at digital market with three components; 1) operational marketing, 2) information technology and communication, and 3) Information and Communication Systems in Marketing Strategy Domain. It is based on the idea in expanding the beginning implementation, presenting the beginning system to the users to give comment, and fixing version to meet the requirements needed. There is no specific activity, development, and partial validation in the method used. The activities are done at the same time with fast feedback for every activity. Theoretical model used in this research is Evolutionary System Development Model Fatta (2007) as follows.

![Evolutionary System Development Model](image)

**Figure 1. Evolutionary System Development Model (Fatta, 2007)**

Fatta (2007) evolutionary system development itself has two variations. The first is exploratory development. The aims of this process are to work with the customers to investigate their requirements and to sendlasting system. It must begin with the needs that have been understood. This approach usually is used to expand the order-based system from the client (custom product). The second is throw-away-prototype. This method concentrates on the experiments with the requirements of the customer that has not been understood well. Theoretical model of this research is illustrated below.
Operational marketing is the implementation of DME and Communication System in Marketing System Domain as virtual resource distributed through web service. Research Darvita & Syamsuri (2016) states that a system consists of some features called subsystems which relate among others in order to make the system running effectively and efficiently. The relation among the subsystems is a relevant information communication to reach the system goal together. Information technology and communication are portrayed as information service strategy needed by the entrepreneurs. The core of the strategy on information technology and communication resources is the goal gained by offline and online systems from the operational marketing needed to achieve the goal.

A study or SWOT analysis is needed to see the opportunities, challenges, strengths, and threats of operational marketing and the development of BE in Labuhan Batu District. SWOT analysis as the identification of many factors systematically needed to formulate strategy based on logic which can maximize the strength and the opportunities, and also together can minimalize the weaknesses and the threats. Basically, all the alternatives taken are directed as the efforts in using strength and fixing the weaknesses, utilizing business opportunities and anticipating threats.

3.2 Road Map

The development of information communication system in the marketing strategy domain begins from BE who has run the marketing system out of the network or has had offline outlet. For the strategic step, detection on the involvement of workers, customers, and supply chain is needed. The elements relate each other to create an engagement which can share information about the product of BE’s performance. Moreover, the activity of operational marketing involve
the workers, customers and supply chain is related to the tool marketing strategy (information technology and communication) in the marketing strategy domain which can be used by BE in analysing operational marketing, information technology and communication in online marketing to achieve the sustainable competitive advantage.

![Road Map of Strategy](image)

**Figure 3. Road Map of Strategy**

The leverage in this research is in line with the government programs in onlining SMEs especially for BE as an effort to strength national economics, to decrease jobless and to create new jobs, and also to anticipate globalization of industrial business competitiveness. Meanwhile, the advantages and utilization given are knowledge, skills, and expertise of BE in entering online market. Moreover, the program will be continued next year by implementing information system program in strategy marketing domain for every entrepreneur. In the implementation process, SWOT analysis is applied to know the effectiveness of the program at the online marketing system for BE. Then, the formulation process of SWOT analysis result is done to generate the program as the proof of Communication in System Marketing Domain program.
Discussion

System analysis is a term collectively describes phase by phase of the beginning of system development. System analysis is a solving problem technique that elaborates component parts by learning how great the component parts running and interacting to achieve their goals. System analysis is the initial phase of the system development which becomes the foundation to determine the success of information system produced. This phase is very important because of determining system form to be built [24]. In this research, evolutionary system of BE has been a solution to produce a system that fulfill direct necessity of BE from offline marketing system to online as the sustainable competitive advantage.

Data is collected by questionnaire created based on SWOT analysis distributed to all BE workers and also the customers. Data analyzed using Evolutionary System Development Model consists of exploratory development and throw-away-prototype. The analysis results a new proposal of an integrated information system, strategic plans, and roadmap implementation for the beginner entrepreneurs through DME strategy.

Conclusion

This research discusses about the Implementation of DME Strategy for The Development of BE at Digital Market and how the framework of Evolutionary System Development proposed. Evolutionary System Development allows BE implementing an easy and effective business process. It is in line with the current business process development that is constantly changing and increasing due to changing business conditions. By combining Evolutionary System Development Model with SWOT analysis is a promised approach to allow BE stay competitive and focused on their core business. The model is supported by Information Technology and Communication to create a flexible business process from offline marketing system to online as a sustainable competitive advantage, and also gives better service for the key stakeholders. Evolutionary System Development proposed is a new paradigm that allows to advance a better architecture to manage business process complexity. This involves an easy data or information collecting and processing, a guaranteed data availability, fast and more flexible information.

References


Knowledge and Understanding in e-Taxation of Accounting Students in Digital 4.0 Era

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ICUTK Accounting Students

Abstract

The purpose of this study was to examine the knowledge and understanding in e-Taxation of Accounting students in digital 4.0 era and to come up with suggestions for improving the teaching and learning process as well as in developing the accounting curriculum. This is an empirical research with questionnaire being used as the tool for collecting data from 314 sample accounting students in both Thai and International programs of Rajamangala University of Technology Krungthep. The collected data were analyzed in terms of frequency, percentage, mean, and Analysis of Variance (ANOVA).

The research finds that the knowledge and understanding in e-Taxation which are divided into three categories namely, e-Withholding Tax, e-Invoice/e-Receipt, and e-Filing are mostly in low level. The students with different status (year of studying) had significant difference in the level of knowledge and understanding in e-Taxation at the significant level of 0.01. In addition, the difference of gender had significant difference in their knowledge and understanding in e-Withholding tax which male are higher than female students.

The suggestion of improving knowledge and understanding in e-Taxation and development in teaching and learning are updating all e-Taxation laws, rules, and regulation. In addition, accounting students must be active and diligent by self-studying, searching and updating all new taxation law, and also pay more attention in participating in seminar and training in e-taxation from Revenue department to increase their knowledge and prepare themselves to work in the real business in digital era.

Keywords: E-Taxation; Accounting Students; E-Withholding Tax; E-Invoice; E-Filing
Introduction

Background and Important of Research

Thailand is in the digital era 4.0. All business firms’ operation whether small, medium, or large firm sizes must use the information technology to communicate and operate through internet. Therefore, private and government sectors involve in many fields digital to adapt with the digital era. Revenue Department has started national e-payment in response to Thai government’s 4.0 policies. Revenue Department has announced and enforced electronic tax system and electronic transaction documents. It can be divided into 3 systems; (1) e-withholding tax changed from old withholding tax, where in commercial banks are responsible for tax deduction and submission of tax information to the revenue department. It has already been enforced from January 1st, 2018 to large size firm with revenue of more than 500 million Baht; (2) e-tax invoice changed from paper to be tax invoice in electronic form and saving data online through the revenue department system. It is already enforced with large firm entrepreneur, corporate or public charity and all government agencies from January 1st, 2018, small entrepreneur from January 1st, 2020, micro firm entrepreneur from January 1st, 2022, and (3) e-filing system, submission of tax filing in electronic form and has already been enforced since January 1st, 2018 for large business. Enforcement of electronic tax and electronic transaction documents has direct impact not only on entrepreneurs and accountants, but also on accounting students and faculty members. The changes incur from the old system (the manual system) by using paper as evidence to become electronic or digital system for all accounting and business information. Technology and innovation are emerging and affect the accounting profession. Current accounting students need to be educated and understanding to earn more knowledge and skill which will be useful in their future career (Revenue Department, 2016).

Objective of Research

This research aims to study from perception of accounting students of Rajamangala University of Technology Krungthep as follows:

1.1.2 Evaluate the level of knowledge and understanding in E-Taxation
1.1.3 Test differences among groups of students with personal qualities in term of gender, program, year and GPA will affect to the knowledge and understanding of the E-taxation significantly different or not?

Contribution of Research

These research findings are expected to contribute to the following stakeholders:

1.2.1 Benefits to the students in preparing them to improve and develop their knowledge and understanding in e-taxation and enhancing ability and skills to use the E-Taxation system in practice.
1.2.2 Benefits to faculty and educational personnel in accounting. In the development of teaching and curriculum development to keep up with changes in the digital era.
Limitation of Research

The scope of this research was limited only to data collected from accounting students who are studying in all years, both in Thai and international programs, at Rajamangala University of Technology Krungthep, during the academic year of 2018, between August to October 2018.

Principle, Theory, and Literature Reviews

Principle of Taxation

According to Adam Smith (1776) attempted to systematize the rules that should govern a rational system of taxation. They comprise of 7 main principles. (1) Equality: every person should pay to the government according to his ability to pay. That is in proportion of the income or revenue. Therefore, under the tax system based on equality principle, the richer people in the society will pay more than the poor people. (2) Certainty: the time of payment, the manner of payment, the quantity to be paid ought all to be clear and plain to the contributor and to every other person. (3) Convenience: the time and manner of its payment should be convenient to the contributor. (4) Economy: Revenue Department should minimize the cost as much as possible. If the collection cost of a tax are more than the total revenue, it is not worthwhile to collect tax. (5) Flexibility: it should be possible to change the tax if economic activity changes or government purpose change. (6) Efficiency: taxes should improve the performance of markets or at least, not significantly reduce the efficiency of markets. (7) Simplicity: tax assessment and determination should be easy to understand by an average taxpayer.

Theory related to e-Taxation

E-Tax system and Electronic transaction plan under National e-Payment is a strategy of Thai’ government to motivate tax systems toward Thailand 4.0 and digital economy.

This e-Tax system comprises as follows:

1. e-Withholding Tax is where a bank acts as an agent in deducting withholding tax and submitting the withholding taxes to the Revenue Department )Revenue Department, 2560).

2. e-Tax Invoice is the exchange of the invoice document between a supplier and a buyer in an integrated electronic format. It needs to have Digital Signature or Time Stamp before sending the invoice to both supplier and customer )Revenue Department, 2560).

Method 1 e-Tax Invoice & e-Receipt systems

The electronic documents can be exchanged in a number of ways including PDF, PDF/A-3, and XML File together with digital signature to both supplier and customer, and submitting the electronic format in XML file to the Revenue Department within the 15th of the following month.
Method 2 e-Tax Invoice by Email
This method applied for entrepreneurs who have incomes not more than 30 million baht per year. The file has to be attached and send email to suppliers or customers. Moreover, the entrepreneurs need to CC mail to e-Tax Invoice by Email system for time stamp and they will receive an invoice with time stamp by the system.

3. e-Filing is electronic submission of tax documents. This system serves services on website. The processing time is real time and can be freely accessed and used anywhere via Internet. Instead of submitting the tax documents at the Revenue Department, you only require one username log in similar to signing into an e-filing system (Revenue Department, 2560).

Literature Review
Previous researches related to e-Taxation can be summarizing in Table 1.

Table 1 Summary of researches related to e-Taxation

<table>
<thead>
<tr>
<th>Researcher (Year)</th>
<th>Research findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emorn Phonlawattanakul &amp; Sonkeaw</td>
<td>Personal factors affect in not using e-filing are as follows:</td>
</tr>
<tr>
<td>Runglertkiangkai (2007)</td>
<td>• Lack of knowledge and understanding</td>
</tr>
<tr>
<td></td>
<td>• Lack of trust in the system</td>
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<td></td>
<td>• Complex registration processes</td>
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<tr>
<td>Sirirat Mookdara (2016)</td>
<td>Factors affect in using e-filing are as follows:</td>
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<tr>
<td></td>
<td>• Website</td>
</tr>
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<td></td>
<td>• Public Relations</td>
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<tr>
<td></td>
<td>• Services</td>
</tr>
<tr>
<td></td>
<td>• Cost of services</td>
</tr>
<tr>
<td>Wattanee Mongkolsubsakul &amp; team (2016)</td>
<td>The acceptance of e-service comprises of 3 main causes:</td>
</tr>
<tr>
<td></td>
<td>• Perceived Ease of Use</td>
</tr>
<tr>
<td></td>
<td>• Perceived Usefulness</td>
</tr>
<tr>
<td></td>
<td>• Quality</td>
</tr>
<tr>
<td></td>
<td>• Trust</td>
</tr>
<tr>
<td>Pimlapat Suksawut (2017)</td>
<td>e-Filing makes it convenient to submit the tax documents and increase the number of submission.</td>
</tr>
<tr>
<td>Anchana Hemwongkul &amp; Budsaba Korbkhong (2017)</td>
<td>Entrepreneurs in Lampang province, Thailand have low level of knowledge and understanding in e-taxation and e-filing.</td>
</tr>
<tr>
<td>Tania Potapenko (2010)</td>
<td>e-Invoice controls over company invoicing, allows better management of payables, and increase labor productivity in invoice handling units. Other benefits such as processing time and cost savings, reduce interest on overdue payments, decrease paper waste, etc.</td>
</tr>
<tr>
<td>Faith Yilmaz &amp; Jacqueline Coolidge (2013)</td>
<td>e-Filing can reduce tax compliance costs in some developing countries because tax payers do not believe in the system.</td>
</tr>
</tbody>
</table>
Gayathri P & Dr.Kavitha Jayaumar (2016)  | The tax payer’s perception towards e-filing of income tax returns. One of the main challenges in e-filing is the risk of security.
Hyung Chul Lee (2016)  | e-Tax Invoice has been credited with lowering tax compliance costs and raising the transparency of business transactions in Korea.
Nazish Ali (2016)  | Factors that influence the use of e-Invoice and e-Receipt are cost saving and the processing time.

Research Methodology

The research methodology of studying knowledge and understanding in E-taxation of accounting students, Rajamangala University of Technology Krungthep are as follows:

Types and forms of research methods

This research is a survey research by collecting personal data, perceives of major accounting major students of their knowledge, and understanding related to E-taxation.

Population and Sampling

The data was collected from accounting major students who are studying in both Thai and International programs, Rajamangala University of Technology Krungthep. The sample is 100% of the total accounting student population of 436 people.

Questionnaire have 4 parts as follow:

Part 1: Personal data of accounting students major at Rajamangala University of Technology Krungthep. Personal data are including gender, program, year of studies and cumulative GPA.

Part 2: The opinion level about knowledge and understanding on e-Withholding tax, e-Tax invoice or e-receipt and e-Filing by using 5 Likert-Scale, 5 is the highest level of knowledge and understanding, and 1 is the lowest level of knowledge and understanding. To measure the level of knowledge and understanding averaging was calculated and translated into the score range as follows:
<table>
<thead>
<tr>
<th>Range of Scores</th>
<th>Interpretation of Knowledge and Understanding</th>
</tr>
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<tbody>
<tr>
<td>4.21 – 5.00</td>
<td>Most</td>
</tr>
<tr>
<td>3.41 – 4.20</td>
<td>Much</td>
</tr>
<tr>
<td>2.61 – 3.40</td>
<td>Moderate</td>
</tr>
<tr>
<td>1.81 – 2.60</td>
<td>Low</td>
</tr>
<tr>
<td>1.00 – 1.80</td>
<td>Lowest</td>
</tr>
</tbody>
</table>

**Part 3:** Knowledge and Understanding of E-Taxation of Accounting student by using 5 Likert-Scale like Part 2.

**Data Analysis Methods**

The collected data was calculated in terms of frequency, percentage, mean, standard deviation and analysis of variance.

**Research Result**

**Profile of respondents**

Collected data for knowledge and understanding in e-Taxation of accounting students at Rajamangala University of Technology Krungthep, are divided into 2 parts: Part 1 Profile of accounting student, Part 2 Level of knowledge and understanding in e-Taxation.

**Part 1 Profile of accounting student**

<table>
<thead>
<tr>
<th>Personal Information</th>
<th>Explanation</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>58</td>
<td>18.47</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>256</td>
<td>81.52</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>314</td>
<td>100.00</td>
</tr>
<tr>
<td>Program</td>
<td>Thai</td>
<td>293</td>
<td>93.31</td>
</tr>
<tr>
<td></td>
<td>International</td>
<td>21</td>
<td>6.69</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>314</td>
<td>100.00</td>
</tr>
<tr>
<td>Year of Study</td>
<td>1</td>
<td>113</td>
<td>35.99</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>33</td>
<td>10.51</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>57</td>
<td>18.15</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>111</td>
<td>35.35</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>314</td>
<td>100.00</td>
</tr>
<tr>
<td>GPA</td>
<td>&lt; 2.00</td>
<td>8</td>
<td>2.55</td>
</tr>
</tbody>
</table>
Most of the respondent students are female, represented 81.52%; they are studying in Thai program, represented 93.31%; Accounting students who are studying in first year 35.99%, second year 10.51%, third year 18.15% and fourth year 35.35%; Most of them had GPA more than 3.00, represented 40.45%.

**Part 2 Level of knowledge and understanding in e-Taxation**

4.2 Mean, Standard Deviation and meaning the knowledge and understanding of E-Taxation.

It is based on the data of the mean scores of the measurement of knowledge and understanding of e-withholding tax as the detail in Table 2, e-invoice in table 3, e-filing in table 4, and e-taxation principle respectively.

**Table 2 Mean and Standard Deviation of Knowledge and Understanding in e-Withholding Tax**

<table>
<thead>
<tr>
<th>Knowledge and Understanding in E- Withholding Tax</th>
<th>Level of knowledge and understanding</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>You understand how to register for e-Withholding tax service</td>
<td>2.52</td>
<td>Low</td>
</tr>
<tr>
<td>You know that the new registrar will receive three emails from the system: Accepted email, the results of the examination e-mail and notification of approval e-mail.</td>
<td>2.50</td>
<td>Low</td>
</tr>
<tr>
<td>You know the process of installing an electronic certificate into a computer for use in creating a media file and encrypting it.</td>
<td>2.54</td>
<td>Low</td>
</tr>
<tr>
<td>You know WHT Services System (SVS¹) or Online Income Tax Withholding Program</td>
<td>2.55</td>
<td>Low</td>
</tr>
<tr>
<td>You understand e-Withholding tax simplify the preparation of tax filing documents.</td>
<td>2.57</td>
<td>Low</td>
</tr>
</tbody>
</table>
You understand the detail about e-\-Withholding tax clearly \quad 2.42 \quad \text{Low} \quad 1.03

How much you ready to use e-\-Withholding tax system according to the Revenue Department's declaration correctly. \quad 2.57 \quad \text{Low} \quad 1.20

1 \textit{WHT Services System (SVS) is withholding tax programs provided by Revenue Department}

Table 2 shows the average score of accounting students at Rajamangala University of Technology Krungthep have knowledge and understanding in E-\-Withholding Tax at a low level.

\textit{Table 3 Mean and Standard Deviation of Knowledge and Understanding in e-Invoice}

<table>
<thead>
<tr>
<th>Knowledge and Understanding in E-Invoice</th>
<th>Level of knowledge and understanding</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge in e-Tax Invoice system that started on 1\textsuperscript{st} March 2017</td>
<td>(\overline{X} = 2.47) Low</td>
<td>1.08</td>
</tr>
<tr>
<td>Knowledge on how to login e-Tax Invoice system effective January 1\textsuperscript{st}, 2018 for Large business\textsuperscript{2}, Medium business\textsuperscript{3}, Government agencies and charity organizations or institutions</td>
<td>(\overline{X} = 2.49) Low</td>
<td>1.07</td>
</tr>
<tr>
<td>Knowledge on how to login at e-Tax Invoice system, effective January 1\textsuperscript{st}, 2020 for Small Business Entrepreneurs\textsuperscript{4}, and Micro business\textsuperscript{5}</td>
<td>(\overline{X} = 2.43) Low</td>
<td>1.05</td>
</tr>
<tr>
<td>Knowledge on e-Tax Invoice can create by using digital signature format and sent by e-mail.</td>
<td>(\overline{X} = 2.50) Low</td>
<td>1.06</td>
</tr>
<tr>
<td>Knowledge on e-Tax Invoice by Email system for VAT registered entrepreneurs with incomes not exceeding 30 million baht per year.</td>
<td>(\overline{X} = 2.46) Low</td>
<td>1.09</td>
</tr>
<tr>
<td>Knowledge on procedure for screening and applying for approval to access e-Tax Invoice by Email.</td>
<td>(\overline{X} = 2.46) Low</td>
<td>1.05</td>
</tr>
<tr>
<td>Knowledge on electronic tax invoices must be in PDF format, Excel or Word.</td>
<td>(\overline{X} = 2.53) Low</td>
<td>1.13</td>
</tr>
<tr>
<td>Knowledge on electronic tax invoice must be within 3 Million Baht.</td>
<td>(\overline{X} = 2.45) Low</td>
<td>1.08</td>
</tr>
<tr>
<td>Knowledge on e-mail can send electronic tax invoice only in one paper</td>
<td>(\overline{X} = 2.58) Low</td>
<td>1.10</td>
</tr>
<tr>
<td>Knowledge from 1\textsuperscript{st} July 2018 onwards. Electronic tax invoices made by e-Tax Invoice by Email must only be in PDF / A-3 format.</td>
<td>(\overline{X} = 2.45) Low</td>
<td>1.05</td>
</tr>
</tbody>
</table>

\textsuperscript{2} Large businesses have income more than 500 Million Baht
You think that e-invoice / paperless tax invoices are good for reducing costs. 2.69 Moderate 1.16

Thought that collecting electronic tax invoices is safer than using paper. 2.62 Moderate 1.14

Thought the e-Tax Invoice system can reduce the issue of counterfeit invoices 2.61 Moderate 1.15

Understand on the content of e-Tax Invoice by digital signature format and sent by e-mail clearly 2.51 Low 1.06

Readiness to use e-Tax Invoice system according to the Revenue Department's declaration correctly. 2.60 Low 1.08

Table 3 shows the average score of accounting students have knowledge and understanding in e-taxation are mostly in low level, except knowledge and understanding in tax invoices can be converted from paper into electronic data as good for reducing costs. (X̅=2.69), electronic tax invoices are more secure than paper. (X̅=2.62) and e-Tax Invoice system can reduce the issue of counterfeit invoices (X̅=2.61) in moderate level.

Table 4 Mean and Standard Deviation of Knowledge and Understanding in e-Filing

<table>
<thead>
<tr>
<th>Knowledge and Understanding in E-Filing</th>
<th>Level of knowledge and understanding</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge that e-Filing will be effective from January 1st, 2019 for Large, Medium, government and charitable organizations.</td>
<td>2.60 Low</td>
<td>1.11</td>
</tr>
<tr>
<td>Knowledge that e-Filing system will be effective from January 1st, 2022 for Small businesses and Micro businesses.</td>
<td>2.57 Low</td>
<td>1.07</td>
</tr>
<tr>
<td>Understanding on how to register to pay tax file through the Internet.</td>
<td>2.63 Moderate</td>
<td>1.13</td>
</tr>
<tr>
<td>Knowledge on the form must be printed with proof of identity and submitted to the Revenue Department within 15 days after the registration is completed</td>
<td>2.67 Moderate</td>
<td>1.14</td>
</tr>
<tr>
<td>Knowledge that e-Filing system can save money on the document and send.</td>
<td>2.79 Moderate</td>
<td>1.25</td>
</tr>
<tr>
<td>Convenience of being able to submit e-Filing 24 hours a day.</td>
<td>2.70 Moderate</td>
<td>1.19</td>
</tr>
<tr>
<td>Understand on the content of in e-Filing clearly</td>
<td>2.44 Low</td>
<td>1.08</td>
</tr>
</tbody>
</table>
Readiness to use e-Filing system according to the Revenue Department's declaration correctly. | 2.52 | Low | 1.12

Table 4 shows the average score of accounting students having knowledge and understanding in E-Filing are in low level, while in moderate levels are: e-Filing system can save money on the document and sent. ($\bar{X}=2.79$), more convenience due to E-Filing is available 24 hours a day. ($\bar{X}=2.70$), form must be printed with proof of identity and submitted to the Revenue Department within 15 days after the registration is completed. ($\bar{X}=2.67$) and how to register to pay tax file through the Internet. ($\bar{X}=2.63$).

Table 5 Mean and Standard Deviation of Knowledge and Understanding in E-Taxation Principle

<table>
<thead>
<tr>
<th>Knowledge and Understanding in E-Taxation</th>
<th>Level of knowledge and understanding</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The E-Taxation service is convenient. Does not have to go to a tax office.</td>
<td>3.19</td>
<td>Moderate</td>
</tr>
<tr>
<td>E-Taxation services can save ours money over paper-based filing.</td>
<td>3.16</td>
<td>Moderate</td>
</tr>
<tr>
<td>E-Taxation service is easy to learn.</td>
<td>3.18</td>
<td>Moderate</td>
</tr>
<tr>
<td>E-Taxation service practices are easier than filing by paper.</td>
<td>3.05</td>
<td>Moderate</td>
</tr>
<tr>
<td>The E-Taxation service can help the Revenue Department collect taxes in full.</td>
<td>3.20</td>
<td>Moderate</td>
</tr>
<tr>
<td>The E-Taxation service is reasonable. High income earners should pay a lot of taxes. Low income people should pay less tax.</td>
<td>3.05</td>
<td>Moderate</td>
</tr>
<tr>
<td>E-Taxation services can help entrepreneurs reduce the problem of incomplete tax payment.</td>
<td>3.08</td>
<td>Moderate</td>
</tr>
<tr>
<td>Understanding on e-Withholding tax rules</td>
<td>2.89</td>
<td>Moderate</td>
</tr>
<tr>
<td>Loyal of understanding the rules of E-Tax Invoice users</td>
<td>2.83</td>
<td>Moderate</td>
</tr>
<tr>
<td>Understanding on e-filing rules</td>
<td>2.84</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Table 5 shows the average score of accounting students have knowledge and understanding in e-Taxation Principle are all in moderate level.
**Analysis of Variance**

Test the differences between students’ personal data does it affect the level of knowledge and understanding in e-taxation or not: different gender as shown in Table 6; different program as shown in Table 7; different year of studies as shown in Table 8; and different GPA as shown in Table 9;

**Table 6 Statistic data testing ANOVA for the effect of students’ gender on the level of knowledge and understanding in e-taxation**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between group of gender; Male and Female</td>
<td>1</td>
<td>3.449</td>
<td>3.449</td>
<td>4.150*</td>
<td>.042</td>
</tr>
<tr>
<td>Variance within group of gender; Male and Female</td>
<td>312</td>
<td>259.306</td>
<td>.831</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Variance between group of gender; Male and Female | 1  | 1.572       | 1.572 | 1.957   | .163  |
| Variance within group of gender; Male and Female | 312| 250.591     | .803  |         |       |

| Variance between group of gender; Male and Female | 1  | 1.414       | 1.414 | 1.509   | .220  |
| Variance within group of gender; Male and Female | 312| 292.360     | .937  |         |       |

| Variance between group of gender; Male and Female | 1  | 3.661       | 3.661 | 3.266   | .072  |
From Table 6, the differences of students’ gender did not affect the level of knowledge and understanding in e-taxation, except knowledge and understanding in e-withholding tax at significant different level of 0.05.

**Table 7 Statistic data testing ANOVA for the effect of students’ program on the level of knowledge and understanding in e-taxation**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between group of Program; Thai and International</td>
<td>1</td>
<td>7.528</td>
<td>7.528</td>
<td>9.202**</td>
<td>0.003</td>
</tr>
<tr>
<td>Variance within group of Program; Thai and International</td>
<td>312</td>
<td>255.227</td>
<td>.818</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E- Invoice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance between group of Program; Thai and International</td>
<td>1</td>
<td>13.215</td>
<td>13.215</td>
<td>17.255**</td>
<td>0.000</td>
</tr>
<tr>
<td>Variance within group of Program; Thai and International</td>
<td>312</td>
<td>238.948</td>
<td>.766</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E-Filing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance between group of Program; Thai and International</td>
<td>1</td>
<td>12.724</td>
<td>12.724</td>
<td>14.125**</td>
<td>0.000</td>
</tr>
<tr>
<td>Variance within group of Program; Thai and International</td>
<td>312</td>
<td>281.050</td>
<td>.901</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E-Taxation Principle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance between group of Program; Thai and International</td>
<td>1</td>
<td>27.304</td>
<td>27.304</td>
<td>26.123**</td>
<td>.000</td>
</tr>
<tr>
<td>Variance within group of Program; Thai and International</td>
<td>312</td>
<td>326.113</td>
<td>1.045</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P<0.05 at significant level of 0.05

**P<0.01 at significant level of 0.01

From Table 7, the differences of students’ program of studying affected the level of knowledge and understanding in e-taxation differently at significant level of 0.01 for all knowledge and understanding in e-withholding tax, e-invoice, and e-filing. It shows that students who study in international program have higher knowledge and understanding than those in Thai program.
Table 8 Statistic data testing ANOVA for the effect of students’ year of study on the level of knowledge and understanding in e-taxation

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Withholding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance between</td>
<td>3</td>
<td>22.404</td>
<td>7.468</td>
<td>9.632**</td>
<td>.000</td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance within</td>
<td>310</td>
<td>240.350</td>
<td>.775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Invoice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance between</td>
<td>3</td>
<td>23.365</td>
<td>8.455</td>
<td>11.557**</td>
<td>.000</td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance within</td>
<td>310</td>
<td>226.797</td>
<td>.732</td>
<td></td>
<td></td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Filing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance between</td>
<td>3</td>
<td>37.665</td>
<td>12.555</td>
<td>15.197**</td>
<td>.000</td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance within</td>
<td>310</td>
<td>256.108</td>
<td>.826</td>
<td></td>
<td></td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Taxation Principle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance between</td>
<td>3</td>
<td>92.881</td>
<td>30.960</td>
<td>36.838**</td>
<td>.000</td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance within</td>
<td>310</td>
<td>260.536</td>
<td>.840</td>
<td></td>
<td></td>
</tr>
<tr>
<td>group of Year; 1,2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P<0.05 at significant level of 0.05

**P<0.01 at significant level of 0.01

From Table 8, the differences of students’ year of study affected the level of knowledge and understanding in e-taxation differently at significant level of 0.05 and 0.01 for all knowledge and understanding in e- withholding tax, e-invoice, and e-filing. Testing is for the difference in the pair of which year differ by using Scheffe testing.
Table 9 Statistic data for Scheffe testing comparing differences of year studying in level of knowledge and understanding of e-Taxation

<table>
<thead>
<tr>
<th>Year</th>
<th>X</th>
<th>Year 1 X</th>
<th>Year 1 2.2491</th>
<th>Year 2 2.9351</th>
<th>Year 3 2.3534</th>
<th>Year 4 2.7684</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.2491</td>
<td>0.6860**</td>
<td>0.1043</td>
<td>0.5193**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.9351</td>
<td>-</td>
<td>0.5817*</td>
<td>0.1667</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.3534</td>
<td>-</td>
<td>-</td>
<td>0.41*49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.7684</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>X</th>
<th>Year 1 X</th>
<th>Year 1 2.2278</th>
<th>Year 2 2.8626</th>
<th>Year 3 2.3345</th>
<th>Year 4 2.8184</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.2278</td>
<td>0.6348**</td>
<td>0.1067</td>
<td>0.5906**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.8626</td>
<td>-</td>
<td>0.5281*</td>
<td>0.0442*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.3345</td>
<td>-</td>
<td>-</td>
<td>0.4839**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.8184</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>X</th>
<th>Year 1 X</th>
<th>Year 1 2.2334</th>
<th>Year 2 2.9822</th>
<th>Year 3 2.4276</th>
<th>Year 4 2.9797</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.2334</td>
<td>0.7487**</td>
<td>0.1942</td>
<td>0.7463**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.9822</td>
<td>-</td>
<td>0.5545</td>
<td>0.0024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.4276</td>
<td>-</td>
<td>-</td>
<td>0.5521**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.9797</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>X</th>
<th>Year 1 X</th>
<th>Year 1 2.3903</th>
<th>Year 2 3.1704</th>
<th>Year 3 2.8842</th>
<th>Year 4 3.6658</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.3903</td>
<td>0.7801**</td>
<td>0.4939*</td>
<td>1.2755**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.1704</td>
<td>-</td>
<td>0.2862</td>
<td>0.4954</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.8842</td>
<td>-</td>
<td>-</td>
<td>0.7816**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.6658</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* At Significant level of 0.05  
** At Significant level of 0.01

From table 9 the comparative averages according to the Sheffe test, found that students have different knowledge and understanding in E-Withholding tax at a significant level of .05 between year1,2; year1,4; year2,3; and year 3,4. Students have different knowledge and understanding in E-invoice at a significant level of .05 between year1, 2; year1, 4; year 2,3; year 2.4 and year 3,4. Students have different knowledge and understanding in E-filing at a significant level of .05 between year1,2; year1,4; and year 3,4. Students have different knowledge and understanding in E-Taxation principle filing at a significant level of .05 between year1,2; year1,3; year1,4; and year 3,4.
Table 10 Statistic data testing ANOVA for the differences of students’ GPA affected the level of knowledge and understanding in e-taxation

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between group of GPA</td>
<td>3</td>
<td>4.831</td>
<td>1.610</td>
<td>1.947</td>
<td>.122</td>
</tr>
<tr>
<td>Variance within group of GPA</td>
<td>285</td>
<td>235.780</td>
<td>.827</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-Invoice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between group of GPA</td>
</tr>
<tr>
<td>Variance within group of GPA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-Filing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between group of GPA</td>
</tr>
<tr>
<td>Variance within group of GPA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-Taxation Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between group of GPA</td>
</tr>
<tr>
<td>Variance within group of GPA</td>
</tr>
</tbody>
</table>

From Table 10, the differences of students’ GPA did not affect the level of knowledge and understanding in e-taxation.

Recommendations

The results of this study shown that the level of knowledge and understanding in e-Taxation of accounting students are still low and researchers recognize the importance and necessity of accounting students to should have knowledge of e-taxation and issues related to Digital Accounting. As well as the use of electronics tools, equipment and technology to improve their knowledge and capabilities in e-taxation and digital accounting in order to applying in practical Accounting Profession after graduate effectively. Furthermore, the ability of using electronic hardware and software also affects the performance of graduates, which is expected to
impact on the reputation of the accounting program and educational institutions like UTK. Therefore, we would like to recommend to adding e-taxation and other related taxation law in order to prepare the readiness of accounting majors toward working in digital era. In addition, accounting students should learn more to increase knowledge such as a study from the online system or update more knowledge, participate in training about e-taxation, more information from the Department of Revenue. Suggestions to lecturers and program faculty members in developing the accounting curriculum to include the e-taxation, digital accounting, finance and economy in accounting program and update all the changes in information and technology in digital era.

References


ANALYSIS OF CAMEL METHOD ON BANK HEALTH LEVEL IN PT. INDONESIA STATE BANK (PERSERO) TBK.

R. SRI HANANDAYANI

ABSTRACT

Purpose of this study was to determine how CAMEL method is an effective analytical tool to assess the soundness of the bank at PT. Bank Negara Indonesia (Persero) Tbk on Jalan Jendral Sudirman KAV 1 Jakarta 10220. The type of data in this study is quantitative, while the data sources used in this study are secondary data, namely data obtained indirectly through the website of PT. Bank Negara Indonesia (Persero) Tbk. The population in this study is the financial statements of PT. Bank Negara Indonesia (Persero) Tbk, namely the balance sheet, profit / loss, report on the calculation of minimum capital provision and quality of productive assets, while the sample examined in this study is the financial statements of PT. Bank Negara Indonesia (Persero) Tbk for five years, namely from 2009-2013.

The analytical tool used to measure the soundness of this bank is using the CAMEL method, where this method has five aspects, namely the capital aspect using a CAR (Capital Adequacy ratio), aspects of productive asset quality using the ratio of KAP (Earning Asset Quality) and PPAP (Allowance Earning Assets Removal), management aspects using the NPM ratio (Net Profit Margin), profitability aspects using the ratio of ROA (Return On Assets) and BOPO (Operating Expenses to Operating Income), and liquidity aspects using the NCM-CA ratio (Net Call Money to Current Assets) and LDR (Loan to Deposit Ratio).

In accordance with BI Circular Number: 6/23 / DPNP dated 31 May 2004 for HEALTH criteria is kriteria81%, the results of the research conducted at PT. Bank Negara Indonesia (Persero) Tbk, CAMEL value in 2009 amounted to 100% declared HEALTHY, in 2010 amounting to 100% was declared HEALTHY, in 2011 amounted to 94.54% stated HEALTHY, in 2012 amounted to 93.60% declared HEALTHY, and in 2013 amounted to 93.65% was declared HEALTHY.

Keywords: Capital, Earning Asset Quality, Management, Profitability, and Liquidity
INTRODUCTION
A. Background of the Problem

In the era of modernization today, banking institutions are very prevalent, both private banks, the government, and banks whose shares are owned by foreign parties. Banks are financial institutions that are places for companies, governments, and individuals to save funds or otherwise place to borrow funds. Through credit activities and various services provided, banks serve financing needs and launch a payment system mechanism for all sectors of the economy. Therefore, one of the elements that is very concerned by banks is the performance of the bank, in other words, the problems related to the level of health. Rating of bank soundness can be assessed from several indicators. One of the main indicators used as the basis of the assessment is the financial statements of the bank concerned.

Explained in the banking regulations in Indonesia No.13 / 1 / PBI / 2011 concerning the level of health assessment of commercial banks, which is contained in Law Number 7 of 1992 concerning banking as amended by Law Number 10 of 1998, banks must maintain his health. Bank health which is a reflection of the condition and performance of the bank is a means for the supervisory authority to determine the strategy and focus of supervision on the bank. In addition, the health of the bank is also in the interest of all parties involved, both the owner, manager (management), and the public who use the bank's services.

Bank Indonesia issued a bank soundness rating system with 5 aspects called CAMEL, which includes capital, asset quality, management, earnings, and liquidity. This is in accordance with the procedure for evaluating the bank soundness level stipulated in Indonesian banking regulations No.6 / 10 / PBI / 2004 concerning the Rating System for Commercial Banks which is strengthened by Bank Indonesia Circular Letter No.6 / 23 / DPNP dated 31 May 2004 about analysis of CAMEL factors. Other sources are explained in the Decree of the Board of Managing Directors of Bank Indonesia No.30 / 12 / KEP / DIR dated 30 April 1997 stipulating that the procedures used in assessing the soundness of banks are using the CAMEL method (capital, assets, management, earnings and liquidity).

In the opinion of Karya Utama (2012: 139), this regulation states that the assessment of bank soundness is carried out through qualitative assessment and quantitative assessment of various factors that influence the condition or performance of a bank. These factors include capital (capital), asset quality (asset quality), management (management), profitability (earnings), and liquidity (liquidity).

In the opinion of Budisantoso and Triandaru (2005: 51), bank health is the ability of a bank to carry out banking operations normally and is able to fulfill all its obligations properly in ways that are in accordance with applicable banking regulations.

In this study the authors set PT. Bank Negara Indonesia (Persero) Tbk as the object of research. Based on government regulations in lieu of Law No.2 dated July 5, 1946, PT. Bank Negara Indonesia (Persero) Tbk was originally established in Indonesia as a central bank with the name "Bank Negara Indonesia", then based on Law No. 17 of 1968, BNI was designated as "Bank Negara Indonesia 1946" and its status is now a State-Owned Commercial Bank. Based on
Government Regulation No. 19 dated April 29, 1992, adjustments to the legal form of Bank Negara Indonesia have been made into a limited liability company (Persero). Adjustment of the legal form to Persero, stated in Deed No.131 of July 31, 1992 made before Muhani Salim, SH, was announced in the Official Gazette of the Republic of Indonesia No. 73 dated September 11, 1992 Supplement No. 1A.

In the banking world, Bank Negara Indonesia is one of the financial institutions that plays a major role in the economy of a country (especially in the funding sector). Bank Negara Indonesia is a tool that facilitates community activities to save money, in terms of commerce, as well as for future investments. Funds which are vital means for the process of economic growth will be more productive through banking. The bank becomes a service industry that is trusted as an intermediary between parties who have excess funds with those who lack and need funds.

Bank Negara Indonesia is known as a financial institution whose main activities are receiving deposits, current accounts, savings, deposits, etc. State Bank Indonesia also known as a place to borrow money (credit) for the underfunded (deficit units) and also storage of money for the party that excess funds (surplus units).

Based on the information above, it shows that it is important to evaluate the level of bank health that must be done by PT. Bank Negara Indonesia (Persero) Tbk, because thus the PT. Bank Negara Indonesia (Persero) Tbk is able to predict its financial performance well, so if this is done then the assessment will also have a significant effect in terms of making good decisions from the bank itself and the investors.

Therefore, here the author intends to investigate further about the case by setting the title of the research, “Analysis of the CAMEL Method Against the Soundness of the Bank at PT Bank Negara Indonesia (Persero) Tbk”.

B. Formulation of the Problem

Based on the background explanation stated above, then the writer will identify the problem that is the source of research as follows:

"What is the level of health of the Bank with the CAMEL method on PT. Bank Negara Indonesia (Persero) Tbk? “.

LITERATURE STUDY

A. Financial Management

According to Eugene F. Brigham and Joel F. Houston (2001) in the expert by Robinson Tarigan regarding the definition of financial management, they argue that: financial management can be explained based on the functions and responsibilities of financial managers. The main function of financial managers is to plan, find and utilize funds with various ways to maximize efficiency (usability) of company operations.
B. CAMEL Method

In the opinion of Tarmidzi and Wilyanto (2010: 23), CAMEL is the aspect that most influences the financial condition of the bank, which also affects the soundness of the bank. CAMEL is a benchmark that is the object of bank checks conducted by bank supervisors. CAMEL consists of five criteria, namely capital, assets, management, income and quality.

The elements of CAMEL analysis according to Kasmir (2012: 11), namely:

a. **Capital** (capital), which is an assessment based on capital owned by one bank. One of the assessments is the CAR (capital adequacy ratio) method, which is by comparing capital to risk-weighted assets (RWA).

b. **Asset** (asset quality), which is an assessment based on the quality of assets owned by the bank. The measured ratios are of two kinds, namely:
   1) Ratio of earning assets classified to earning assets. This ratio is used to measure the level of possibility of receiving back the invested funds.
   2) The ratio of Allowance for Earning Assets Losses (PPAP) used to show the ability of banks to maintain collectability or loans that are channeled is getting better.

C. Bank Soundness

According to Taswan (2006) quoted by Novi (2009), it is explained that the bank's soundness is the result of a qualitative assessment of various aspects that affect the condition or performance of a bank through assessment of capital, asset quality, management, profitability, and liquidity. Assessment of these factors is carried out through quantitative and / or qualitative assessments after considering the element of judgment based on the materiality and significance of the assessment factors and the influence of other factors such as the condition of the banking industry and the national economy.

Budisantoso and Triandaru (2005: 51), interpret the health of banks as the ability of a bank to carry out banking operations normally and be able to fulfill all of its obligations properly in ways that comply with applicable banking regulations. The definition of the health of the bank above is a very broad limitation, because the health of the bank does cover the health of a bank to carry out all its banking business activities. These activities include the ability to raise funds from the community, from other institutions, and from their own capital, the ability to manage funds,
the ability to channel funds to the community, fulfill obligations to the community, employees, capital owners & other parties, and fulfill applicable banking regulations.

According to the Bank of Settlement, banks can be said to be healthy if the bank can implement control over aspects of capital, assets, profitability, management and its liquidity aspects. Understanding of bank health according to Bank Indonesia in accordance with Republic of Indonesia Law No.7 Year 1992 concerning banking Article 29 is said to be healthy if the bank fulfills bank health requirements by taking into account capital aspects, asset quality, management quality, profitability, liquidity, solvency, and other aspects related to the bank's business. An assessment of the level of financial health of a bank is important for the establishment of trust in the banking world and for implementing the principle of prudential banking in the banking world.

The assessment of the bank's financial soundness level is expected to be in a healthy condition so that it does not carry out activities that are detrimental to the public associated with the banking world. In the classification of health levels based on the "reward system" which is the giving of values from 0 to 100. Values 0-51 are considered unhealthy, 51-66 are considered unhealthy, 66-81 is considered healthy, and 81-100 is considered healthy.

D. Understanding Banks

The word bank comes from Italian banca means money changer. The definition of a bank according to Republic of Indonesia Law Number 10 of 1998 is a business entity that collects funds from the public in the form of deposits and distributes them to the public in the form of loans and / or other forms in order to improve the lives of many people. Meanwhile according to Law No. 7 of 1992 article 1 concerning banking "Banks are business entities that collect funds from the public in the form of deposits and channel to the public in the form of loans and or other forms in order to improve the lives of the general public".

According to Kuncoro in his book Banking Management, Theory and Application (2002: 68), the definition of a bank is a financial institution whose main business is raising funds and redistributing these funds to the public in the form of loans and providing services in the payment and circulation of money.

Whereas according to Hasibuan (2005: 2), banks are business entities whose wealth is mainly in the form of financial assets and also patterned socially, so it is not just seeking profit. In another source, it was also explained that banks are financial institutions whose activities collect funds from the public in the form of deposits and then channel back to the community, and provide other bank services, Kasmir (2008: 2).

Based on some understanding of the above it can be concluded that the bank is a business that shaped financial institutions which collect funds from the people who have excess funds (surplus of funds) and channeled back to the community that lack of funds (lack of funds), as well as providing bank services more for profit motives also social in order to improve the lives of many people.
E. Banking Function

According to Budisantoso (2006: 9), more specifically the bank can function as an *agent of trust*, *agent of development*, and *agent of services*, and the information is as follows:

a. *Agent of trust*

The main basis of banking activities is *trust*, both in terms of raising funds and channeling funds. People want to deposit their funds in the bank if they are based on the element of trust. The community believes that the money will not be misused by the bank, the money will be managed properly, the bank will not go bankrupt, and at the time that has been promised the deposit can be withdrawn from the bank. The bank itself will want to place or channel funds to debtors or the community if it is based on an element of trust. The bank believes that the debtor will not abuse his loan, the debtor will manage the loan funds at maturity, and the debtor has good intentions to repay the loan along with other obligations at maturity.

b. *Agent of Development*

Community economic activities in the monetary sector and in the real sector cannot be separated. Both sectors always interact and influence each other. The real sector will not be able to perform well if the monetary sector does not work well. Bank activities in the form of raising and channeling funds are very necessary for the smooth running of economic activity in the real sector. The bank's activities allow the community to carry out investment activities, distribution activities, and activities for the consumption of goods and services, given that investment-distribution-consumption activities cannot be separated from the use of money. The smoothness of investment, distribution and consumption activities is nothing but the economic development activities of a society.

c. *Agent of Service*

In addition to conducting fund raising and distribution activities, banks also offer other banking services to the public. This service offered by banks is closely related to broad economic activity. These services can include money transfer services, safekeeping of valuables, bank guarantees, and settlement of bills.

And from the definitions written above, we can underline that what is meant by a bank is a business entity that has the authority and function to collect public funds to be distributed to those who need the funds.

F. Framework research

Framework in this study is the first variable which is the CAMEL method as a variable (X). In the opinion of the Principal Work (2012: 139), in the regulations specified that the rating of the bank through various factors affecting the condition or performance of a bank, such as the capital factor (*capital*), asset quality (*asset quality*), management (*management*), earnings (*earnings*), and liquidity (*liquidity*).

Whereas for the second variable is the bank soundness as a variable (Y). According to the opinion of Budisantoso and Triandaru (2005: 51), the soundness of the bank can be interpreted
as the ability of a bank to carry out banking operations normally and be able to fulfill all its obligations properly in ways that comply with applicable banking regulations. The following is a picture of a frame of mind that is in harmony with the previous description:

Figure 1. Scheme of Thinking Framework

![Diagram](image)


I. Hypotheses

From the problems that have been stated above, then hypotheses are also presented as follows:

"It is assumed that the CAMEL method is an analytical tool used to assess the soundness of banks at PT. Bank Negara Indonesia (Persero) Tbk "

J. Operational Variable

This study involves the existence of two variables, including the independent variable in this study is the CAMEL method. While the dependent variable in this study is the level of health of PT. Bank Negara Indonesia (Persero) Tbk.

Table 1: Operational Devotion Variable

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Concept Variable</th>
<th>Indicator</th>
<th>Scale</th>
</tr>
</thead>
</table>
| 1. | Camel (X) | Tarmidzi and Wilyanto (2010), CAMEL is the aspect that most influences the financial condition of the bank. While the elements of CAMEL analysis according to Kasmir (2012: 11), namely: Capital, Assets, Management, Earning, and Liquidity. | a. Capital:
1) CAR = (Bank Capital: RWA) x100%
b. Asset:
  P = (KAPYD: AP) x100%
2) PPAP = (PPAPYD: PPAPYWD) x100%
c. Management:
  M = (Profit Clean: Operating Income) x100%
d. Earning:
  PO = (BO: PO) x100%
2) ROA = (Profit Before Tax: Total Assets) x100%
e. Liquidity:
  1) NCM-CA = (Net Obligation: Current Assets) x100%
2) LDR = (Credit Provided: Third Party Funds) x100% | Ratio |
2. **Bank Health Level (Y)**

Budisantoso and Triandaru (2005: 51) defines bank health as the ability of a bank to carry out banking operations normally and is able to fulfill all its obligations with both in accordance with applicable banking regulations.

In the classification of the bank's health level based on the "reward system" which is a system of granting values from 0 to 100. The information is as follows:

- Values 0-51 are declared not healthy.
- Values 51-66 were declared unhealthy.
- Values of 66-81 were declared healthy.
- The value of 81-100 is declared healthy.

### RESEARCH METHODOLOGY

**A. Location and Time Research**

The location of this research is PT. Bank Negara Indonesia (Persero) Tbk, which is located on Jalan Jendral Sudirman KAV 1 Jakarta 10220. Meanwhile, for the time needed in this study, it is conducted in September 2014 until June 2015.

**B. Types and Sources of Research**

Data Quantitative data in this study are financial data at PT. Bank Negara Indonesia (Persero) Tbk. While the qualitative data in this study are the history of the company, organizational structure, bank products and the vision and mission contained in PT. Bank Negara Indonesia (Persero) Tbk.

The source of this research data is secondary data, namely the source of indirect data obtained through data collection that supports primary data needs. Secondary data needed in this research is in the form of financial data, bank products and bank history obtained through the website of PT. Bank Negara Indonesia (Persero) Tbk 10220@www.bni.co.id.

**C. Population and Samples**

The population in this study is the financial statements of PT. Bank Negara Indonesia (Persero) Tbk that includes balance sheet reports, profit / loss reports, minimum capital supply calculation reports, and productive quality reports.

While the sample in this study is the financial report of PT. Bank Negara Indonesia (Persero) Tbk which was taken for 5 (five) periods, namely financial statements from 2009 to 2013.

**D. Data Analysis Techniques**

The analytical tool used in analyzing the soundness of the bank is by using CAMEL analysis. This is confirmed in the Decree .DIR.BI No.30 / 11 / KEP / DIR dated 30 April 1997, the following explanation:
Table 2: Weight Assessment System on Each CAMEL Component

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>Ratio of capital to risk-weighted assets (RWA)</td>
<td>25%</td>
</tr>
<tr>
<td>earning of assets</td>
<td>a. ratio of earning assets to total earning assets</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>b. ratio of reserves for earning assets to total assets are classified</td>
<td>5%</td>
</tr>
<tr>
<td>Management</td>
<td>a. General Management</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>b. Risk Management</td>
<td>15%</td>
</tr>
<tr>
<td>profitability</td>
<td>a. ratio of profit to the average business volume</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>b. ratio of operating expenses to operating income</td>
<td>5%</td>
</tr>
<tr>
<td>Liquidity</td>
<td>a. Our net debt call money against liquid assets</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>b. ratio of loan to deposit</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: Hasibuan (2005)

Total weight for these five factors is 100%. If upon examination of all the factors considered good or positive it will receive "credit score factors CAMEL" system 100. The maximum rewards based on credit scores to determine a bank's health predicate is defined as follows:

Table 3: Reward System Soundness in Bank

<table>
<thead>
<tr>
<th>No.</th>
<th>Credit Value</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>81 – 100</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>66 - &lt;81</td>
<td>Fairly Healthy</td>
</tr>
<tr>
<td>3</td>
<td>51 - &lt;66</td>
<td>Unhealthy</td>
</tr>
<tr>
<td>4</td>
<td>0 - &lt;51</td>
<td>Unhealthy</td>
</tr>
</tbody>
</table>


From the above information, the components what is in the CAMEL method can be described as follows:

1. Capital
   
   According to Taswan (2006), capital here is a comparison between bank capital to Risk Weighted Assets (RWA), with the following formula:
   
   a. RWA calculation is RWA = balance sheet assets x risk weighting
   
   b. Fulfillment Minimum capital adequacy obligation (KPMM) is KPMM = 8% x RWA
   
   c. Capital Ratio (CAR) is a CAR is a ratio between bank capital and weighted assets. t RWA risk is as follows:

   1) CAR

   \[
   \text{Ratio} = \frac{\text{Capital}}{\text{Risk Weighted Asset}} \times 100\% 
   \]
2) Credit Value CAR = 1 + \(\frac{\text{Ratio}}{0.1}\) x1
3) Credit Value Factor CAR = Credit Value CAR Ratio x Weight Ratio

How to assess capital factors is calculated based on criteria namely capital ratio of 8% with a credit score of 81 given a healthy predicate and for each increase of 0.1% starting at 8% with a credit value of 81 plus 1 maximum of 100, each decline of 0.1% from 7.9% is given an unhealthy predicate with a credit score of 65 minus 1. Assessment criteria the health level of the bank against the results of the ratio for capital / CAR aspects is as follows:

**Table 4: Assessment Criteria Capital Adequacy Ratio**

<table>
<thead>
<tr>
<th>NO</th>
<th>CAR Value</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 8%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>7.9 - 8%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>6.5 - &lt;7.9 %</td>
<td>KurangSehat</td>
</tr>
<tr>
<td>4</td>
<td>&lt;6.5%</td>
<td>TidakSehat</td>
</tr>
</tbody>
</table>

Source: SK DIR BI No. 30/11 / KEP / DIR dated 30 April 1997

2. Asset (asset)
   a. Asset Quality Earning

   Assets (assets) of the bank will be judged by the quality of productive assets (KAP) classified is active a productive, both those who have and those that contain potential do not provide income or cause losses, the amount of which is set as follows:
   1) 25% of loans classified as Special Mention (DPK).
   2) 50% of loans classified as Substandard (KL)
   3) 75% of loans classified as Doubtful (D)
   4) 100% of loans classified as Loss (M)

   KAP ratio can be formulated as follows:
   1) KAP Ratio

   \[
   KAP = \frac{\text{Earning Assets Classified}}{\text{Total Earning Assets}} \times 100%
   \]

   2) Credit Value KAP Ratio = \(\frac{22.5 \times \text{KAP ratio}}{0.15}\)
   3) Credit Value KAP Factor = KAP Credit Value x KAP Weight

   Next for the criteria for bank soundness rating towards the ratio results for productive asset quality aspects can be seen in the following table:
Table 5: Rating Criteria for Earning Assets Quality

<table>
<thead>
<tr>
<th>No</th>
<th>Value of Firm</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;10.35%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>10.35 - 12.60%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>12.61 - 14.85%</td>
<td>Public Accounting</td>
</tr>
<tr>
<td>4</td>
<td>&gt; 14.86%</td>
<td>Not Healthy</td>
</tr>
</tbody>
</table>

Source: SK DIR BI Number: 30/11 / KEP / DIR dated April 30, 1997

b. Allowance for Earning Assets Removal

Ratio of Allowance for Earning Assets Losses to Allowance for Earning Assets Elimination Must Be Made (ratio of PPAP to PPAPWD).

The PPAP ratio can be formulated as follows:

1) PPAP ratio

\[ PPAP = \frac{PPAP \text{ formed by}}{PPAP \text{ which must be formed}} \times 100\% \]

2) Credit Value PPAP Ratio = PPAP Ratio x 1
3) Credit Value PPAP Factor = Credit Value PPAP x PPAP Weight
4) Next for the bank soundness assessment criteria for results the ratio for aspects of PPAP is as follows:

Table 6: Criteria for Allowance for Earning Assets (PPAP)

<table>
<thead>
<tr>
<th>No</th>
<th>Credit Value</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 81.0%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>66.0 - 81.0%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>51.0 - 66.0%</td>
<td>Unhealthy</td>
</tr>
<tr>
<td>4</td>
<td>&lt;51.0%</td>
<td>Unhealthy</td>
</tr>
</tbody>
</table>

Source: SK DIR BI Number: 30 / 11 / KEP / DIR dated 30 April 1997

3. Management

The quality of management can be assessed from the quality of the human being at work. To assess a bank’s health in management aspects, it is usually done through a questionnaire intended for bank management, but filling is difficult because considering that to be able to assess the soundness of a bank, it is not enough to just base the analysis on published financial statements, but also other supporting data that is internal.

According to Rhomee (2013), Indonesia is only Bank Indonesia and the relevant bank can find out. Therefore the management aspects of the bank’s performance appraisal in this study cannot use a pattern determined by BI but in accordance with the available data projected. Therefore in this study management aspects are projected with a ratio of net profit margin.

According to Merkusiwi (2007), the assessment of management aspects is based on the ratio Net Profit Margin, the reason being that all management activities of a bank that include general management, risk, and bank compliance will ultimately lead to profitability. Net Profit Margin is calculated by dividing Net Income by operating income.
a. The NPM ratio can be formulated as follows:
\[
NPM = \frac{Net Income or Net Income for Operating Income}{100}\%
\]

b. Credit Value NPM Ratio = (100 - Ratio): 0.25

c. Credit Value Factor ROA = NKR NPM x Weight Ratio

**Table 7: Criteria for Assessing Ratio Net Profit Margin**

<table>
<thead>
<tr>
<th>No</th>
<th>Value of Credit</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 81%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>66% - 81%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>51% - 66%</td>
<td>Unhealthy</td>
</tr>
<tr>
<td>4</td>
<td>&lt;51%</td>
<td>Unhealthy</td>
</tr>
</tbody>
</table>

*Source: BI DIR Number: 30/11 / KEP / DIR April 30, 1997*

4. **Earning (Rentability)**

The profitability of a bank in CAMEL analysis includes the ratio of earnings before tax obtained to total assets (ROA), and the ratio of operating expenses to bank operating income (BOPO).

a. **ROA**

1) ratio can be formulated as follows:
\[
ROA = \frac{Profit Before Tax}{Total Assets} x 100\%
\]

2) Credit Value ROA Ratio = \(\frac{Ratio}{0.015}\)

3) Credit Value Factors ROA = NKR ROA x Weight ROA Ratio

**Table 8: Criteria Rating for Asset Return (ROA)**

<table>
<thead>
<tr>
<th>No</th>
<th>ROA Value</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 1.215%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>0.999 - 1.215%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>0.765 - 0.999%</td>
<td>Less Healthy</td>
</tr>
<tr>
<td>4</td>
<td>&lt;0.765% Not</td>
<td>Healthy</td>
</tr>
</tbody>
</table>

*Source: SK BI DIR Number: 30/11 / KEP DIR April 30, 1997.*

b. **BOPO**

According to Dendawijaya (2009), the value of BOPO can be calculated using the following formula:

1) BOPO Ratio
\[
BOPO = \frac{Operating Expenses Operating Income}{x 100}\%
\]

2) Credit Value BOPO Ratio = \(\frac{100 - BOPO Ratio}{0.08}\)

3) Credit Value BOPO Factor = Credit Value x Weight Ratio BOPO
Table 9: Criteria for Assessing Operational Costs for Operating Income (BOPO)

<table>
<thead>
<tr>
<th>No</th>
<th>BOPO Value</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;93.52%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>93.52 - 94.75%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>94.75 - 95.92%</td>
<td>Less Healthy</td>
</tr>
<tr>
<td>4</td>
<td>&gt; 95.92%</td>
<td>Not Healthy</td>
</tr>
</tbody>
</table>

Source: SK BI DIR No.30 / 11 / KEP / DIR dated April 30, 1997

5. Liquidity (Liquidity)
   a. Net Call Money to Current Asset

   *Net Call Money to Current Asset* is a ratio which is a ratio between net liabilities to current assets.

   1) The NCM-CA formula is as follows:
   \[
   \frac{\text{Net Liability}}{\text{Current Assets}} \times 100\%
   \]

   2) Credit Value NCM-CA = \( \frac{100\% - \text{Ratio of } 0.05\%}{0.05\%} \times 100\%
   
   3) Value of Credit Factors NCM-CA = NK NCM-CA x Weight of Ratio

Table 10: Credit Rating Criteria Predicate NCM

<table>
<thead>
<tr>
<th>No.</th>
<th>Credit Score</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 4.05%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>3.30 - 4.049%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>2.55 - 3.29%</td>
<td>Unhealthy</td>
</tr>
<tr>
<td>4</td>
<td>&lt; 2.54%</td>
<td>Unhealthy</td>
</tr>
</tbody>
</table>

Source: SK DIR BI No.30 / 21 / KEP / DIR dated 30 April 1997 concerning procedures for assessing the soundness of banks.

b. LDR is a comparison between total loans given and total third party funds (TPF). This ratio will show the bank's ability to channel third party funds collected by the bank concerned.

   1) The LDR formula is as follows:
   \[
   \frac{\text{Amount of Credit Provided}}{\text{Total Third Party Funds}} \times 100\%
   \]

   2) LDR Credit Value = \( \frac{115 - \text{Ratio}}{1} \)

   3) Credit Value Factor LDR = NK R LDR x Weight LDR Ratio

Table 11: Criteria for Evaluating Loan to Deposit Ratio

<table>
<thead>
<tr>
<th>No</th>
<th>LDR Value</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt; 94.75%</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>94.75 - 98.75%</td>
<td>Healthy Enough</td>
</tr>
<tr>
<td>3</td>
<td>98.75 - 102.5%</td>
<td>Unhealthy</td>
</tr>
<tr>
<td>4</td>
<td>&gt; 102.5%</td>
<td>Unhealthy</td>
</tr>
</tbody>
</table>

Source: Decree of BI DIR Number: 30/11 / KEP / DIR dated 30 April 1991.
RESEARCH RESULTS AND DISCUSSION
A. Research Results

The following are the results of CAMEL’s research on the Financial Statements of PT. Bank Negara Indonesia from 2009 to 2013 was used to analyze the health of the bank.

1. Capital

According to Taswan’s opinion, (2006) The capital ratio is measured by comparing the Capital Ratio to Risk Weighted Assets (RWA), so that Bank Negara Indonesia CARs from 2009 to 2013 are as follows:

Table 12: Calculation of Capital Adequacy Ratio (CAR) (in Millions Rupiah)

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Capital Bank (USD)</th>
<th>RWA (USD)</th>
<th>CAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>19,316,095</td>
<td>140,213,945</td>
<td>13.78</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>29,506,937</td>
<td>158,409,305</td>
<td>18.63</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>32,691,914</td>
<td>185,403,030</td>
<td>17.67</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>39,190,799</td>
<td>235,143,102</td>
<td>16.67</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>43,563,420</td>
<td>288,616,781</td>
<td>15.09</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

From the table above, it can be seen that CAR at PT. Bank Negara Indonesia as of December 31, 2009 amounted to 13.78%, in 2010 amounted to 18.63%, in 2011 amounted to 17.67%, in 2012 amounted to 16.67%, and in 2013 amounted to 15.09%. This shows that from 2009 to 2013 the CAR ratio of PT. Bank Negara Indonesia experienced fluctuations.

After calculating the CAR ratio, then analyze the credit ratio value of *step Capital Adequacy Ratio* (CAR) at PT. Bank Negara Indonesia in 2009 to 2013 is as follows:

Table 13: Value of Credit Capital Adequacy Ratio (CAR)

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>CAR (%)</th>
<th>Value of Credit (%)</th>
<th>Value of Max (%)</th>
<th>Weight Ratio (%)</th>
<th>Value of Credit Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>13.78</td>
<td>138.8</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>18.63</td>
<td>187.3</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>17.67</td>
<td>177.7</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>16.67</td>
<td>167.7</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>15.09</td>
<td>151.9</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

From the table above, it can be seen that the CAR Credit Value of PT. Bank Negara Indonesia as of December 31, 2009 amounted to 138.8%, in 2010 amounted to 187.3%, in 2011 amounted to 177.7%, in 2012 amounted to 167.7%, and in 2013 amounted to 151.9%. Due to credit value limited to a maximum of 100, the value of the CAR ratio from 2009 to 2013, then the maximum value ratio of PT. Bank Negara Indonesia is 100 and for the weighting ratio the ratio has also been set at 25%.
CAR Credit Value PT. Bank Negara Indonesia as of December 31, 2009 amounted to 138.8%, in 2010 amounted to 187.3%, in 2011 amounted to 177.7%, in 2012 amounted to 167.7%, and in 2013 amounted to 151.9%. Because the credit value is limited to a maximum of 100 then the value of the CAR ratio from 2009 to 2013, the maximum ratio of BNI is recognized as 100.

2. Earning Asset

1) Quality Assets

According to Bank Indonesia Directors Decree No.31 / 147 / KEP / DIR November 12, 1998 the soundness of the bank based on the quality of productive assets (KAP) is as follows:

(1) Ratio of 22.5% or more is given a value of 0
(2) For a decrease of 0.15% starting from 22.5% value plus 1 with a maximum of 100.

The following are the results of calculating Quality Earning Assets (KAP) at PT. Bank Negara Indonesia in 2009 to 2013:

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>APYD (Rp)</th>
<th>AP (Rp)</th>
<th>KAP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>8,076,473.3</td>
<td>187,586,506</td>
<td>4.31</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>6,997,214.55</td>
<td>215,165,614</td>
<td>3.25</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>7,557,409</td>
<td>247,534,934</td>
<td>3.05</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>7,068,452.5</td>
<td>293,261,690</td>
<td>2.41</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>7,013,941</td>
<td>354,659,344</td>
<td>1.98</td>
</tr>
</tbody>
</table>

*Source: Processed Data 2014*

Bank Negara Indonesia KAP as of 31 December 2009 was 4.31%, in 2010 amounted to 3.25%, in 2011 was 3.05%, in 2012 was 2.41%, and in 2013 was 1.98%.

Based on the calculation of the KAP ratio in 2009 to 2013, the value of KAP was smaller than the criteria for assessing bank soundness set by Bank Indonesia of 10.35%, so the ratio achieved by Bank Negara Indonesia in that year was categorized as SEHAT.

However, there is a decrease in each year, this shows that, the smaller the ratio shows the better the quality of the productive assets of the bank, the less likely a bank is in a state of financial difficulties.

After calculating the KAP ratio value, then the next step is to analyze the credit value of Productive Quality (KAP) at PT. Bank Negara Indonesia in 2009 to 2013 are as follows:
Bank Negara Indonesia KAP Credit Value as of 31 December 2009 was 135%, in 2010 amounted to 128.33%, in 2011 amounted to 129.67%, in 2012 amounted to 133.93%, and in 2013 amounted to 1.98%. Allowance for Earning Assets (PPAP) is a ratio that compares the allowance for earning assets losses to classified earning assets.

Based on the calculation of the PPAP ratio in 2009 to 2013, the PPAP credit value was greater than the criteria for evaluating bank soundness set by Bank Indonesia at 81.0%, the ratio achieved by Bank Negara Indonesia in that year was categorized in the HEALTH group.

However, the value of PPAP has decreased from year to year. This means, the smaller the value of PPAP, it can be seen that the probability of bad credit faced by banks is getting higher.
Table 17: Calculation of Credit Value Factors PPAP

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>PPAP (%)</th>
<th>Value Credit (%)</th>
<th>Value Max. (%)</th>
<th>Weight Ratio (%)</th>
<th>Credit Factors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>129.38</td>
<td>129.38</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>128.28</td>
<td>128.28</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>111.69</td>
<td>111.69</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>102.02</td>
<td>102.02</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>91.40</td>
<td>91.40</td>
<td>91.40</td>
<td>5</td>
<td>4.57</td>
</tr>
</tbody>
</table>

Source: Processed Data 2014

Credit Value PPAP PT. Bank Negara Indonesia as of December 31, 2009 amounted to 129.38%, in 2010 amounted to 128.28%, in 2011 amounted to 111.69%, in 2012 amounted to 102.02%, and in 2013 amounted to 91.40%.

3. Management

According to Merkusiwati (2007), Net Profit Margin is calculated by dividing Net Income / Operating income with Operating Income.

Table 18: Ratio of Net Profit Margin

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Net Income (Rp)</th>
<th>Operating Profit (USD)</th>
<th>NPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>2,483,995</td>
<td>3,347,581</td>
<td>74.20</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>4,101,706</td>
<td>5,498,871</td>
<td>74.59</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>5,779,209</td>
<td>7,182,546</td>
<td>80.46</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>6,792,071</td>
<td>8,348,312</td>
<td>81.40</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>8,881,963</td>
<td>10,975,763</td>
<td>80.92</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

From the above data, it can be seen that NPM at PT. Bank Negara Indonesia as of December 31, 2009 amounted to 74.20%, in 2010 amounted to 74.59%, in 2011 amounted to 80.46%, in 2012 amounted to 81.40%, and in 2013 amounted to 80.92%. This shows that from 2009 to 2013 Bank Negara Indonesia's NPM ratio fluctuated.

After calculating the NPM ratio value, the next step is to analyze the NPM credit value at PT. Bank Negara Indonesia in 2009 to 2013 are as follows:

Table 19: Value of Credit Net Profit Margin

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>NPM (%)</th>
<th>Value Credit (%)</th>
<th>Value of Mak. (%)</th>
<th>Weight Ratio (%)</th>
<th>Credit Factors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>74.20</td>
<td>103.2</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>74.59</td>
<td>101.64</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>80.46</td>
<td>78.16</td>
<td>78.16</td>
<td>25</td>
<td>19.54</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>81.40</td>
<td>74.40</td>
<td>74.40</td>
<td>25</td>
<td>18.60</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>80.92</td>
<td>76.32</td>
<td>76.32</td>
<td>25</td>
<td>19.08</td>
</tr>
</tbody>
</table>

Source: Processed Data 2014
Credit Value NPM PT. Bank Negara Indonesia as of December 31, 2009 amounted to 355.44%, in 2010 amounted to 330.76%, in 2011 amounted to 311.4%, in 2012 amounted to 304.76%, and in 2013 amounted to 291.04%.

4. Earning

The profitability ratio is done to find out the bank's ability to make a profit. The profitability ratio is divided into 2 and the following is the result of the analysis of the two ratios at Bank Negara Indonesia in 2009 to 2013:

1) According to Hanafi and Mahmud (2002: 27), Return on Assets (ROA) is the company's financial ratio related to measuring profitability the company's ability to generate profits / profits at the level of income, assets and certain share capital.

Table 20: Analysis of ROA

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Total Assets (USD)</th>
<th>Profit Before Tax (RM)</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>225,541,328</td>
<td>3,458,191</td>
<td>1.533</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>240,590,147</td>
<td>5,491,988</td>
<td>2.283</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>288,511,901</td>
<td>7,398,375</td>
<td>2.564</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>321,534,240</td>
<td>8,600,810</td>
<td>2.675</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>370,716,158</td>
<td>11,056,411</td>
<td>2.982</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

Bank Negara Indonesia's ROA as of December 31, 2009 amounted to 1.533%, in 2010 amounted to 2.286%, in 2011 amounted to 2.564%, in 2012 amounted to 2.675 %, and in 2013 amounted to 2.982%. This shows that from 2009 to 2013 Bank Negara Indonesia's ROA ratio increased annually.

This means that the greater the value of ROA (> 1.5%), the greater the level of profit achieved by the bank, and the better the position of the bank in terms of asset use, so the possibility of a bank in a problematic situation leads to smaller financial difficulties.

After calculating the value of the ROA ratio, the next step is to analyze the credit value of Return On Assets (ROA) at PT. Bank Negara Indonesia in 2009 until 2013, as follows:

Table 21: Credit Value ROA Ratio

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>ROA (%)</th>
<th>Credit Value (%)</th>
<th>Max Value (%)</th>
<th>Thickness Ratio (%)</th>
<th>Credit Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>1.533</td>
<td>102.2</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>2.283</td>
<td>152.2</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>2.564</td>
<td>170.9</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>2.675</td>
<td>178.3</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>2.982</td>
<td>198.8</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Processed Data 2014
Credit Value ROA Bank Negara Indonesia as of December 31, 2009 amounted to 102.2%, in 2010 amounted to 152.2%, in 2011 was 170.9%, in 2012 by 178.3%, and in 2013 amounted to 198.8%. Because the credit value is limited to a maximum of 100, the value of the ROA ratio from 2009 to 2013 at Bank Negara Indonesia is 100.

Based on the calculation of credit value the ROA ratio from 2009 to 2013 is greater than the criteria for rating the bank soundness set by Bank Indonesia is 1.215%, so the ratio achieved by Bank Negara Indonesia is categorized in the HEALTH group.

2) In the opinion of Dendawijaya (2009), Operational Costs (BOPO) is a ratio that compares the operating expenses with operating income.

### Table 22: Analysis of BOPO Ratios

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>BO (Rp)</th>
<th>PO (Rp)</th>
<th>BOPO (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>18,948,201</td>
<td>22,295,782</td>
<td>84.99</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>18,196,143</td>
<td>23,695,014</td>
<td>76.79</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>18,907,713</td>
<td>26,090,259</td>
<td>72.47</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>20,183,134</td>
<td>28,526,946</td>
<td>70.75</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>21,625,713</td>
<td>32,600,744</td>
<td>66.34</td>
</tr>
</tbody>
</table>

Source: Processed Data 2014

BOPO PT. Bank Negara Indonesia as of December 31, 2009 amounted to 84.99%, in 2010 amounted to 76.79%, in 2011 amounted to 72.47%, in 2012 amounted to 70.75%, and in 2013 amounted to 66.34%.

Based on the calculation of the value of the BOPO Ratio in 2009 to 2013, it is smaller than the criteria for assessing the bank's soundness set by Bank Indonesia at 93.52%, so the ratio achieved by Bank Negara Indonesia is categorized in the HEALTH group.

Decreasing the BOPO ratio that occurs every year shows that the better the level of efficiency carried out by the bank concerned because the costs incurred are able to get adequate income.

After calculating the value of the BOPO ratio, the next is to analyze the credit value of Operational Expenses on Operating Income (BOPO) of PT. Bank Negara Indonesia in 2009 to 2013:

### Table 23: Credit Value BOPO Ratio

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>BOPO (%)</th>
<th>Value Credit (%)</th>
<th>Value of Mak. (%)</th>
<th>Weight Ratio (%)</th>
<th>Credit Factors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>84.99</td>
<td>187.63</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>76.79</td>
<td>290.13</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>72.47</td>
<td>344.13</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>70.75</td>
<td>365.63</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>66.34</td>
<td>420.75</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data
Credit Value BOPO PT. Bank Negara Indonesia as of December 31, 2009 amounted to 187.63%, in 2010 amounted to 290.13%, in 2011 amounted to 344.13%, in 2012 amounted to 365.63%, and in 2013 amounted to 420.75%. Because the credit value is limited to a maximum of 100, the value of the BOPO ratio in 2009 to 2013 is 100.

5. Liquidity
The liquidity ratio here is 2 that is used, namely:
1) *Net Call Money to Current Assets* (NCM-CA) is the ratio that compares Between Net Liabilities and Current Assets.

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Net Obligation (Rp)</th>
<th>Current Assets (Rp)</th>
<th>NCM-CA (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>206,397,746</td>
<td>218,285,602</td>
<td>94.55</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>207,470,521</td>
<td>232,450,972</td>
<td>89.25</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>25,122,108</td>
<td>280,682,901</td>
<td>89.47</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>278,422,674</td>
<td>313,442,219</td>
<td>88.83</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>323,681,435</td>
<td>364,486,669</td>
<td>88.80</td>
</tr>
</tbody>
</table>

*Source: 2014 Processed Data

As of December 31, 2009, Bank Negara Indonesia amounted to 94.55%, in 2010 amounted to 89.25%, in 2011 amounted to 89.47%, in 2012 amounted to 88.83%, and the last year in 2013 was 88.80%.

Based on the calculation of the credit value of the NCM-CA Ratio in 2009 up to 2013 greater than the criteria for assessing the bank's soundness set by Bank Indonesia of 4.05%, the ratio achieved by Bank Negara Indonesia is categorized in the HEALTH group.

It is assumed that the bank's liability is smaller than the bill, so that the greater the increase that occurs indicates the better the liquidity it has.

After calculating the NCM-CA ratio value, then calculating the credit value ratio of PT. The 2009 BNI to 2013 are as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>NCM-CA (%)</th>
<th>Value Credit (%)</th>
<th>Weight Ratio (%)</th>
<th>Credit Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>94.55</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>89.25</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>89.47</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>88.83</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>88.80</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

*Source: 2014 Processed Data

Credit value of Bank Negara Indonesia NCM-CA as of December 31, 2009 amounted to 5.45%, in 2010 amounted to 10.75%, in 2011 amounted to 10.53%, in 2012 amounted to 11.17%, in 2013 amounted to 11.70%. According to Mulyono (2001: 101), *Loan to Deposit Ratio*
LDR (LDR) is a comparison ratio between the amount of funds channeled to the community (credit) and the amount of public funds and own capital used.

Table 26: Analysis LDR

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Credit (USD)</th>
<th>Community Fund (USD)</th>
<th>LDR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>117,644,695</td>
<td>188,731,057</td>
<td>62.33</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>132,852,979</td>
<td>189,378,393</td>
<td>70.15</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>158,164,743</td>
<td>224,755,289</td>
<td>70.37</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>193,016,854</td>
<td>248,992,835</td>
<td>77.52</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>239,363,451</td>
<td>280,612,823</td>
<td>85.30</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

LDR PT. Bank Negara Indonesia as of December 31, 2009 amounted to 62.33%, in 2010 amounted to 70.15%, in 2011 amounted to 70.37%, in 2012 amounted to 77.52%, and the last year in 2013 was 85.30%.

Based on the calculation of the LDR ratio in 2009 to 2013, it was smaller than the criteria for evaluating the bank soundness level set by Bank Indonesia at 94.75%, the ratio achieved by Bank Negara Indonesia in that year was categorized in the HEALTH group.

However, if seen annually, Bank Negara Indonesia's LDR ratio increases. The occurrence of this LDR ratio indicates an increase between the number of loans channeled by banks and funds received from the public by Bank Negara Indonesia.

After calculating the value of the LDR ratio, the next step is to analyze the LDR credit values at Bank Negara Indonesia in 2009 to 2013 as follows:

Table 27: Analysis of Credit Value Against LDR

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>LDR(%)</th>
<th>Credit Value (%)</th>
<th>Max Value (%)</th>
<th>Thickness Ratio (%)</th>
<th>Credit Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>62.33</td>
<td>210.68</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>70.15</td>
<td>179.4</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>70.37</td>
<td>178.52</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>77.52</td>
<td>149.92</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>85.30</td>
<td>118.8</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

Credit value of Bank Negara Indonesia LDR as of 31 December 2009 was 210.68%, in 2010 amounted to 179.4%, in 2011 amounting to 178.52%, in 2012 amounted to 149.92%, and in 2013 amounted to 118.8%. Because credit value is limited to a maximum of 100, the value of the LDR ratio in 2009 to 2013 is absolute at 100.
B. Discussion

Recapitulation of calculation of CAMEL factor values is the net value of the ratio for each aspect at PT. Bank Negara Indonesia (Persero) Tbk can be seen as follows:

a. Recapitulation of CAMEL factor net value calculation in 2009 as follows:

Table 28: Net Value CAMEL year ratio

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect Rating</th>
<th>Ratio (%)</th>
<th>Gross Value Ratio (%)</th>
<th>Weight Ratio (%)</th>
<th>Value Net Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Capital (CAR)</td>
<td>13.78</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Assets:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. KAP ratio</td>
<td>4.31</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>b. PPAP ratio</td>
<td>129.38</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Management (NPM)</td>
<td>74.20</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Earning:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. ROA ratio</td>
<td>1.533</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. BOPO ratio</td>
<td>84.99</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. NCM-CA ratio</td>
<td>94.55</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. LDR Ratio</td>
<td>62.33</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CAMEL Factors</td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

The CAR Ratio indicates the ability of banks to cover their decline in assets as a result of bank losses caused by risky assets of 13.78%. The KAP ratio shows that earning assets that have problems with the bank are 4.31%. The PPAP ratio shows the ability of banks to anticipate the elimination of bad loans by 129.38%.

The NPM Ratio shows the ability of banks to generate net income before tax (net income) in terms of operating income in the amount of 74.20%. The number of ROA Ratios shows the ability of banks to earn profits and overall efficiency of 1.533%.

The BOPO ratio number shows the level of efficiency and ability of banks to carry out their operations at 84.99%. The NCM-CA Ratio indicates the ability of current assets to meet current liabilities that are immediately due at 94%.

The LDR Ratio indicates the ability of banks to repay funds withdrawals made by depositors by relying on loans given as a source of liquidity of 62.33%.

The net ratio value which is the result of multiplying the gross ratio value with the ratio weight which then the net ratio value of each aspect of CAMEL will be summed. So that the CAMEL Factor value obtained at PT. Bank Negara Indonesia (Persero) Tbk in 2009 amounted to 100%.
b. Recapitulation of CAMEL factor net value calculation in 2010 as follows:

Table 29: Net Value of CAMEL Ratio in 2010

<table>
<thead>
<tr>
<th>No</th>
<th>Assessment Aspect</th>
<th>Ratio (%)</th>
<th>Gross Value Ratio (%)</th>
<th>Weight (%)</th>
<th>Net Value Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Capital (CAR)</td>
<td>18.63</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Active Productive Quality</td>
<td>3.25</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>a. KAP</td>
<td>128.28</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. PPAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Management (NPM)</td>
<td>74.59</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Rentability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. ROA ratio</td>
<td>2.286</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. BOPO ratio</td>
<td>76.79</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. NCM-CA ratio</td>
<td>89.25</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. LDR Ratio</td>
<td>70.15</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CAMEL Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

The CAR Ratio indicates the ability of banks to cover their decline in assets as a result of bank losses caused by risky assets of 18.63%. The KAP ratio shows that earning assets that have problems with the bank are 3.25%.

The PPAP ratio shows the ability of banks to anticipate the elimination of bad loans by 124.84%. The NPM Ratio indicates the ability of banks to generate net income before tax of 74.59%.

The number of ROA Ratios shows the ability of banks to earn profits and overall efficiency of 2.286%. If the BOPO ratio shows the level of efficiency and ability of banks to carry out their operations, 76.79%.

The NCM-CA Ratio indicates the ability of current assets to meet current liabilities that are immediately due at 89.25%. The LDR ratio indicates the ability of banks to repay funds withdrawals made by depositors by relying on loans given as a source of liquidity of 70.15%.

The net ratio value which is the result of multiplying the gross ratio value with the ratio weight which then the net ratio value of each aspect of CAMEL will be summed. So that the CAMEL Factor value obtained at PT. Bank Negara Indonesia (Persero) Tbk in 2010 amounted to 100%.
c. Recapitulation of CAMEL factor value calculation in 2011 as follows:

Table 30: Net Value of 2011 CAMEL Ratio

<table>
<thead>
<tr>
<th>No</th>
<th>Assessment Aspect</th>
<th>Ratio (%)</th>
<th>Gross Value Ratio (%)</th>
<th>Weight (%)</th>
<th>Net Value Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4) = (2) X (3)</td>
</tr>
<tr>
<td>1</td>
<td>Capital (CAR)</td>
<td>17.67</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Active Productive Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. KAP</td>
<td>4.31</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>b. PPAP</td>
<td>111.69</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Management (NPM)</td>
<td>80.46</td>
<td>78.16</td>
<td>25</td>
<td>19.54</td>
</tr>
<tr>
<td>4</td>
<td>Rentability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. ROA ratio</td>
<td>2.564</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. BOPO ratio</td>
<td>72.47</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. NCM-CA ratio</td>
<td>89.47</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. LDR Ratio</td>
<td>70.37</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CAMEL Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

The CAR Ratio indicates the ability of banks to cover their decline in assets as a result of bank losses caused by assets which are at risk of 17.67%. The KAP ratio shows that earning assets with problems at the bank are 3.05%. The PPAP ratio shows the ability of banks to anticipate the elimination of bad loans by 111.69%.

The NPM Ratio indicates the ability of banks to generate net income before tax of 80.46%. The number of ROA Ratios shows the ability of banks to earn profits and overall efficiency of 2.564%. The number of BOPO Ratios shows the level of efficiency and ability of banks to carry out their operations at 72.47%.

The NCM-CA ratio shows the ability of current assets to meet current liabilities that are immediately due at 89.47%. The LDR Ratio indicates the ability of banks to repay funds withdrawals made by depositors by relying on loans given as a source of liquidity of 70.37%.

The net ratio value which is the result of multiplying the gross ratio value with the ratio weight which then the net ratio value of each aspect of CAMEL will be summed. So the CAMEL Factor value of PT. Bank Negara Indonesia (Persero) Tbk in 2011 amounted to 94.54%.

d. Recapitulation of CAMEL factor value calculation for 2012 as follows:

Table 31: Net Value CAMEL 2012 Ratio

<table>
<thead>
<tr>
<th>No</th>
<th>Assessment Aspect</th>
<th>Ratio (%)</th>
<th>Gross Value Ratio (%)</th>
<th>Weight (%)</th>
<th>Net Value Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4) = (2) X (3)</td>
</tr>
<tr>
<td>1</td>
<td>Capital (CAR)</td>
<td>16.67</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Active Productive Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. KAP</td>
<td>2.41</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>b. PPAP</td>
<td>102.02</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Management (NPM)</td>
<td>81.40</td>
<td>74.40</td>
<td>25</td>
<td>18.60</td>
</tr>
<tr>
<td>No</td>
<td>Assessment Aspect</td>
<td>Ratio (%)</td>
<td>Gross Value Ratio (%)</td>
<td>Weight (%)</td>
<td>Net Value Ratio (%)</td>
</tr>
<tr>
<td>----</td>
<td>-------------------</td>
<td>-----------</td>
<td>-----------------------</td>
<td>------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1</td>
<td>Capital (CAR)</td>
<td>15.09</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Active Productive Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. KAP</td>
<td>1.98</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>b. PPAP</td>
<td>91.40</td>
<td>91.40</td>
<td>5</td>
<td>4.57</td>
</tr>
<tr>
<td>3</td>
<td>Management (NPM)</td>
<td>80.92</td>
<td>76.32</td>
<td>25</td>
<td>19.08</td>
</tr>
<tr>
<td>4</td>
<td>Rentability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. ROA ratio</td>
<td>2.982</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. BOPO ratio</td>
<td>66.34</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. NCM-CA ratio</td>
<td>88.83</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. LDR Ratio</td>
<td>85.30</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CAMEL Factors</td>
<td></td>
<td></td>
<td></td>
<td>93.60</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

The CAR Ratio indicates the ability of banks to cover their decline in assets as a result of bank losses caused by risky assets of 15.09%. The KAP ratio shows that earning assets have problems with the bank at 2.41%. The PPAP ratio shows the ability of banks to anticipate the elimination of bad loans by 101.64%.

The NPM Ratio figure shows the ability of banks to generate net income before tax \((\text{net income})\) in terms of operating income in the amount of 81.40%. The number of ROA Ratios shows the ability of banks to earn profits and overall efficiency of 2.675%. The BOPO Ratio indicates the level of efficiency and ability of banks to carry out their operations at 70.75%. The NCM-CA Ratio shows the ability of current assets to meet current liabilities that are immediately due at 88.83%. The LDR Ratio indicates the ability of banks to repay funds withdrawals made by depositors by relying on loans given as a source of liquidity of 77.52%.

The net ratio value which is the result of multiplying the gross ratio value with the ratio weight which then the net ratio value of each aspect of CAMEL will be summed. So that the CAMEL Factor value obtained at PT. Bank Negara Indonesia (Persero) Tbk in 2012 amounted to 93.60%.

e. Recapitulation of CAMEL factor value calculation in 2013 as follows:

Table 32: Net Value of the 2013 CAMEL

<table>
<thead>
<tr>
<th>No</th>
<th>Assessment Aspect</th>
<th>Ratio (%)</th>
<th>Gross Value Ratio (%)</th>
<th>Weight (%)</th>
<th>Net Value Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Capital (CAR)</td>
<td>15.09</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Active Productive Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. KAP</td>
<td>1.98</td>
<td>100</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>b. PPAP</td>
<td>91.40</td>
<td>91.40</td>
<td>5</td>
<td>4.57</td>
</tr>
<tr>
<td>3</td>
<td>Management (NPM)</td>
<td>80.92</td>
<td>76.32</td>
<td>25</td>
<td>19.08</td>
</tr>
<tr>
<td>4</td>
<td>Rentability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. ROA ratio</td>
<td>2.982</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. BOPO ratio</td>
<td>66.34</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. NCM-CA ratio</td>
<td>88.83</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b. LDR Ratio</td>
<td>85.30</td>
<td>100</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CAMEL Factors</td>
<td></td>
<td></td>
<td></td>
<td>93.65</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

Ratio The CAR Ratio indicates the ability of banks to cover their decline in assets as a result of bank losses caused by risky assets of 15.09%. The KAP ratio shows that earning assets
that have problems with the bank are 1.98%. The PPAP ratio shows the ability of banks to anticipate the elimination of bad loans by 90.81%.

The NPM Ratio indicates the ability of banks to generate net income before tax (net income) in terms of operating income by 80.92%. The number of ROA Ratios shows the bank's ability to earn profits and overall efficiency of 2.982%. The BOPO Ratio shows the level of efficiency and ability of banks to carry out their operations at 66.34%. The NCM-CA Ratio indicates the ability of current assets to meet current liabilities that are immediately due at 88.80%. The LDR ratio shows the ability of banks to repay funds withdrawals made by depositors by relying on loans given as a source of liquidity of 85.30%.

The net ratio value which is the result of multiplying the gross ratio value with the ratio weight which then the net ratio value of each aspect of CAMEL will be summed. So that the CAMEL Factor value obtained at PT. Bank Negara Indonesia (Persero) Tbk in 2013 amounted to 93.65%.

f. Determination Based on Predicate Bank Health Level:

Table 33: Predicate Health of PT. Bank Negara Indonesia (Persero) Tbk

<table>
<thead>
<tr>
<th>No</th>
<th>Year Value</th>
<th>CAMEL (%)</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2009</td>
<td>100</td>
<td>Healthy</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>100</td>
<td>Healthy</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>94.54</td>
<td>Healthy</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>93.60</td>
<td>Healthy</td>
</tr>
<tr>
<td>5</td>
<td>2013</td>
<td>93.65</td>
<td>Healthy</td>
</tr>
</tbody>
</table>

Source: 2014 Processed Data

From the table above, it can be seen that the CAMEL value in 2009 was 100%, in 2010 amounted to 100%, in 2011 amounted to 94.54%, in 2012 amounted to 93.60%, and in 2013 amounted to 93.65%. Because of the CAMEL value at PT. Bank Nergara Indonesia (Persero) Tbk from 2009 to 2013 > 81, with this stated the bank is in a HEALTHY condition.

Conclusion

Based on the results of the analysis of financial performance at Bank Negara Indonesia in 2009 until 2013, conclusions can be drawn as follows:

1. The value of Bank Negara Indonesia's CAR Credit as of December 31, 2009 was 13.78%, in 2010 amounted to 18.63%, in 2011 amounting to 17.67%, in 2012 amounting to 16.67%, and in 2013 amounting to 15.09%. This shows that the CAR credit value is greater than the criteria for rating the bank's soundness set by Bank Indonesia at 8%, the ratio achieved by PT. Bank Negara Indonesia is categorized in HEALTH.

2. Bank Negara Indonesia KAP Credit Value as of December 31, 2009 amounted to 4.31%, in 2010 amounted to 3.25%, in 2011 amounted to 3.05%, in 2012 amounted to 2.41%, and in 2013 amounted to 1.98%. This shows that the KAP credit value is smaller than the criteria
for assessing bank soundness set by Bank Indonesia of 10.35%, the ratio achieved by PT. Bank Negara Indonesia is categorized in HEALTH.

3. Bank Negara Indonesia PPAP credit value as of December 31, 2009 amounted to 129.38%, in 2010 amounted to 128.28%, in 2011 amounted to 111.69%, in 2012 amounted to 102.02%, and in 2013 amounted to 91.40%. This shows that the PPAP credit value is greater than the criteria for evaluating bank soundness set by Bank Indonesia at 81.0%, so the ratio achieved by Bank Negara Indonesia is categorized in HEALTH.

4. Bank Negara Indonesia NPM Credit Value as of December 31, 2009 amounted to 74.20%, in 2010 amounted to 74.59%, in 2011 amounted to 80.46%, in 2012 amounted to 81.40%, and in 2013 amounted to 80.92%. This shows that the NPM credit scores in 2009, 2010 and 2013 were declared ENOUGH HEALTHY, while for 2012 it was declared HEALTH because the value of NPM in 2012 was greater than the criteria for assessing bank soundness set by Bank Indonesia at 81.0%.

5. Bank Negara Indonesia's ROA Credit Value as of December 31, 2009 amounted to 1.533%, in 2010 amounted to 2.286%, in 2011 amounted to 2.564%, in 2012 amounted to 2.675%, and in 2013 amounted to 2.982%. This shows that the credit value of ROA is greater than the criteria for assessing the bank's soundness set by Bank Indonesia at 1.215%, then the ratio achieved by PT. Bank Negara Indonesia is categorized in HEALTH.

6. Bank Negara Indonesia BOPO Credit Value as of December 31, 2009 was 84.99%, in 2010 amounted to 76.79%, in 2011 amounted to 72.47%, in 2012 amounted to 70.75%, and in 2013 amounted to 66.34%. This shows that the BOPO credit value is smaller than the criteria for assessing bank soundness set by Bank Indonesia at 93.52%, the ratio achieved by PT. Bank Negara Indonesia is categorized in HEALTH.

7. Bank Negara Indonesia NCM-CA Credit Value as of December 31, 2009 was 94.55%, in 2010 amounted to 89.25%, in 2011 amounted to 89.47%, in 2012 amounted to 88.83%, and in 2013 amounted to 88.80%. This shows that the NCM-CA credit value is greater than the criteria for bank soundness rating set by Bank Indonesia of 4.05%, the ratio achieved by PT. Bank Negara Indonesia is categorized in HEALTH.

8. Bank Negara Indonesia LDR credit value as at 31 December 2009 was 62.33%, in 2010 amounted to 70.15%, in 2011 amounted to 70.37%, in 2012 amounted to 77.55%, and in 2013 amounted to 85.30%. This shows that the LDR credit value is smaller than the criteria for assessing bank soundness set by Bank Indonesia at 94.75%, the ratio achieved by PT. Bank Negara Indonesia is categorized in HEALTH.

Suggestion
Based on the results of the analysis, discussion and conclusions discussed earlier, for PT. Bank Negara Indonesia (Persero) Tbk as a consideration in the future, in order to be better and to get higher trust from the community as prospective customers, so that in the performance of PT.
Bank Negara Indonesia (Persero) Tbk needs to pay attention to several important things in maintaining health and banking performance. These things include the following:

1. In order to improve the level of health, it is recommended for PT. Bank Negara Indonesia (Persero) Tbk continues to strengthen its business activities so that the number of assets owned increases, the amount of funds distributed both in the form of loans and placements in other banks is increasing, and operating income and profits earned for the following years are increasing.

2. Recording of bank financial statements last year in the following year, must be thoroughly scrutinized so that those who need the financial statements can assess how professional the performance of employees, especially employees in the recording section of the bank's financial statements.

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LEGAL CONSIDERATIONS IN DIGITAL MARKETING

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Abstract
The ease of access to the internet today, the magnitude of the benefits obtained, and the low cost needed are the main reasons for marketers to choose online media as the right solution to expand their business reach. The potential for digital marketing to manipulate consumer choices is important to consider for policy makers, and consumers about the dangers lurking in the digital world. The purpose of this study was to find out legal considerations in regulating digital marketing.

This research method is normative legal research. Normative law because this research is based on regulations. Primary legal sources use laws and judge decisions. Secondary legal sources use literature and documents that support research. Data analysis was performed using qualitative analysis.

Legal considerations on the usage of digital marketing are due to the need for consumer protection against fair and healthy business behavior. Therefore the state needs to make regulations to regulate the implementation of digital marketing such as digital marketing regulations using email, including marketing using text, voice, images, such as e-mail, voicemail, SMS and messaging applications. In addition, a Data Protection Act 2018 (DPA) was also made on May 25, 2018. The General Data Protection Regulations (GDPR) apply to all EU member states. The General Data Protection Regulations (GDPR) come into force on May 25th, 2018. However, due to very rapid technological advances some forms of digital marketing carried out through social media are still difficult to reach by law.

Keyword: marketing online, Digital Marketing, business online
**Introduction**

The development of digital technology has transformed marketing that was originally done conventionally into a digital one by utilizing the use of social media and the use of websites to market their products. The use of online media is the right choice to develop their business (Muneeb at all, 2013). The ease of access to the internet, the magnitude of the benefits obtained, and the low cost needed are the main reasons for marketers to choose online media as the right solution to expand their business. Today most people spend a lot of time surfing the internet or reading ad-sponsored content through highly targeted digital marketing (David, 2014). Consumers also spend a lot of money to be able to use the internet. Digital marketing provides new opportunities. Facebook is one of the great platforms for disseminating information to marketers to reach friends and family and customers. Small and medium-sized business owners usually do not have enough capital to invest in developing a marketing strategy (Liis Usin, 2017).

Digital marketing is a solution for small businesses in marketing by optimizing specific websites and keywords (Teresa Pineiro, 2016). Using digital marketing can change marketing strategies quickly without affecting brand value. On the other hand digital marketing can have a bad impact because manipulative ads appear to consumers. One example of digital marketing manipulation in the food industry is manipulation in a number of ways, from compelling languages that are not necessarily true ("tempting" or "flavorful") to sales that create urgency such as offering goods only for a limited time. The picture below shows what kind of product they made in advertising vs. what we actually receive (Kimberly, 2018)

![Figure 1. Food Industry Ads at Digital Marketing](image.png)

In 2016, Duracell (Procter and Gamble) was sued for misleading consumers about Ultra battery life. Batteries marketed have longer durability and longer usage times when in fact batteries prove to be no stronger or more durable than the average Duracell battery. Customers are attracted to packages with "ultra" and "sophisticated" keywords and tend to believe that they buy higher quality products, Digital transformation reaches the pharmaceutical industry, at different speeds. The official information provided by each pharmacy product is impractical and difficult to
understand by ordinary citizens. This causes consumers to trust advertisements that offer products through digital marketing.

It is clear that the advertising industry's mission is to change consumer perspectives and ways of thinking. The potential for digital marketing to manipulate consumer choices is important to consider for policy makers, and consumers about the dangers lurking in the digital world. The legal objective according to Van Apeldoorn is to regulate the association of life peacefully. Law requires peace. Peace among humans is maintained by law by protecting certain human interests, honor, independence, soul, property, against those that harm them (Mandaughas, 2010). Another opinion expressed by Aristotle who said that the purpose of the law is to achieve a good life. To get a good life law is needed. Thus law is a tool used to achieve a good life. Furthermore, Thomas Aquinas argues that the purpose of law is for the well-being and well-being of society as a whole. Thomas Hobbes argues that the purpose of law is for social order (Daniel at all, 2012). This view is often misinterpreted as if it is true that the existence of the law is primarily to regulate community life. Based on the above problems, the purpose of this study is to find out legal considerations for regulating digital marketing.

**Literature Review**

**1.1 Legal Consideration Definition**

In the legal system, the term consideration is the basic reason for a party to make a law. Legal considerations made must be acceptable and beneficial to many parties. Consideration must have a value that can be determined objectively (Burnet, 2005). Some of the legal risks inherent in marketing materials are misleading advertisements, social responsibility and the protection of children. Advertisements on websites can be more controlled than marketing communications in non-paid spaces such as social networking sites like Facebook and Twitter on the digital marketing of the two marketing media that are widely used. Facebook and Twitter have inherent legal risks. The function of legal considerations is to provide guidance on legal requirements when using digital media for marketing purposes (Jones, 2011). The legal consequences if the company does not comply with the law, there will be a large amount of fines and other penalties for the company, therefore the marketing strategy must be in line with legal requirements to avoid problems.

Ethics and legality in running a business are very important especially in digital marketing. Legal position in a business is located under ethics because in solving problems sometimes decisions that are not illegal appear but are not appropriate to solve business problems.
Whereas law has a different focus, namely winning - losing which is different from ethical goals in business, namely win - win. The emergence of the internet in business causes new problems in business ethics such as copyright infringement, cookies, misuse of personal data and direct marketing via email and sms. In e-commerce, as in traditional business, the law requires honesty and justice. But E-commerce has more complex problems such as the emergence of contract, payment, jurisdiction, tax and international trade problems.

2.1 Notion of Digital Marketing

Digital marketing is defined as a marketing strategy using internet media. Technology convergence and multi-application devices have led to opening and changing human thinking. Digital marketing has driven user-centered, more measurable, ubiquitous and interactive marketing activities. The development of digital marketing strategies offers a lot of potential for brands and organizations. Some of them are as follows,

a. Branding. Digital marketing is very useful and is a great opportunity to build a brand image on the Web because of their constant coverage, presence and updates.

b. Completeness. The possibility of disseminating information through links offers consumers the opportunity to approach the organization in a broader and more specific way.

c. Usability - functionality. The web offers a simple and user-friendly platform for all to enhance user experience and allow for their activities.

d. Interactivity. Organizations can establish long-term relationships with their audiences, the Internet offers the possibility to have conversations and therefore generate positive experiences with brands. Such interactivity can be the basis, as a product assessment, or an all-encompassing experience.

e. Visual Communication. In line with visual thinking, digital marketing offers marketers different image and video based tools. This is an interesting way to reach viewers who can lead to greater involvement.

f. Relevant ads. Easy ad segmentation and customization on the Internet maximizes results. In addition, free from other media constraints, this environment allows more attractive advertising.

g. Community connections. The internet is a unique opportunity to connect organizations with audiences and users among them. This connectivity can enhance their experience and improve relationships with products, brands, or organizations.

h. Virality. The essence of the Internet as an interconnected Web node makes exponential expansion of every content possible. By taking the WOM (word of mouth) communication model, viral communication is more relevant because of the connectivity, instant, and online platform sharing capabilities that increase content dissemination.

i. Measuring output. The online platform ranks first in the availability of follow-up options and the possibility to assess output. In each case, to make the best of all these possibilities, organizations must ensure that their Internet presence or their presence on different web channels follows a strategy with concrete goals, in line with their organization's brand or image.
Methodology

a. Types of research

This type of research is normative legal research. It is referred to as normative legal research because this research is carried out or intended only in written regulations. Normative research is a study that discusses the principles of law, legal systematics, the degree of legal synchronization, legal history and legal comparison. The legal principle in this research is the law that lives in society.

b. Data source

1) Primary data uses legal materials that are binding or that make people obey the law such as laws and judge's decisions. The primary legal material in this study is the Law

2) Secondary data uses legal material that provides an explanation of primary legal materials, including draft laws, research results, legal scientific results, books, articles and research reports.

c. The Data Collection Technique uses the literature review method. In this case, a researcher must be observant and appropriate to find data that is found both in the rules and in the literature that has a relationship with the problem under study. Library material can be in the form of primary material or secondary material, where both materials have different characteristics and types.

d. Data analysis

Normative legal research involves the study of the law as an object and removes any non-legal material from the scope of this research. In contrast, empirical legal research focuses on the application of laws in society. This research paper analyses this dichotomy between normative and empirical research and assesses its relevance and usefulness in legal research.

Finding and Results

Legal considerations to regulate people's lives in using digital marketing are done by making regulations including:

Marketing Regulations using email and SMS. Digital marketing regulations using email include marketing using text, voice, images, such as e-mail, voicemail, SMS and messaging applications. Business people can only do marketing via electronic mail if the person sent the message has given approval. There are exceptions to this rule, which are known as 'soft opt-ins' which apply: business people have obtained individual details during previous sales or negotiations for the sale of a previous product or service to that person. Individuals do not opt out of marketing messages. (The opt-out option must allow individuals to reply directly to the message. In the case of a text message, one can opt out by sending a stop message to a short code number, for example, the text 'STOP' to 12345. The only cost is the shipping cost of the message.) Individuals can opt out of receiving marketing at any time and business people must immediately comply with opt-out requests.
Future messages can only market similar products or services. Email marketing to organizations is a bit different from email marketing to individuals. Email marketing sent to organizations does not have to have their approval but must enter a business name in the email and provide a valid address where the opt-out request can be sent. However, if the business person has an email address that is 'personal data', for example name.surname@company.co.uk, individual employees of that organization still have the right to prevent that email address from being used for direct marketing. Phone marketing, cannot make unsolicited telephone calls to someone or organization that tells business people that they do not want a bid call or have been registered with the Telephone Preference Service (TPS). Organizations must filter the list of numbers they want to call against the TPS register. The same rules apply to marketing calls made for businesses. Single traders and partnerships can register their numbers with TPS in the same way as individual consumers, while other companies and legal entities register with the Corporate Telephone Preference Service (CTPS). So organizations that make business-to-business marketing calls need to filter TPS and CTPS registers. Automatic calls have been made rules that business actors cannot make automatic calls (previously recorded telephone messages) without first obtaining special approval from individuals or organizations.

Fax. In marketing using fax, organizations cannot send marketing faxes to individuals (including sole traders and some partnerships) unless they have agreed to accept them and give their specific approval. marketers can send marketing faxes to companies (or other legal entities) without approval, but cannot send faxes to those who have registered their numbers on the Fax Preference Service (FPS). FPS was formed under a Government law which was introduced on May 1, 1999. According to this law, sending or receiving marketing faxes and selling without permission without prior permission is illegal. Anyone has the opportunity to register a fax number that they do not want to receive direct marketing faxes unless they specifically say that they do not object to marketing received by fax.

Data Protection Act 2018 (DPA) The 1998 Data Protection Act has been replaced by the 2018 Data Protection Act (DPA) on 25 May 2018. The General Data Protection Regulations (GDPR) apply to all EU member states. DPA applies the GDPR standard in the UK but also includes rules outside the scope of GDPR. DPA regulates the use and processing of personal data by other businesses and organizations. Marketers need to comply with these rules when using, storing, storing, or processing personal data as part of a business, for example, because marketers keep customer details or employee details. Personal data is broadly defined and is information about living individuals identified or identifiable. This includes information such as name and address, bank details, and opinions expressed about someone. It also includes things like identification numbers, IP addresses, location data, or online identifiers.

Principles of data protection if digital marketing users process personal data information covered by DPA, digital marketing users must comply with the overall DPA and specifically with data protection principles, including: processing personal data must be valid and fair the purpose of collecting personal data must be determined, explicit and legal, and not processed in a way that is not in accordance with the purpose of collecting such personal data. the personal data that is processed must be adequate, relevant and not excessive the personal data that is processed must be accurate and, if necessary, always updated, the processed personal data must be stored no more than what is needed for the process being processed, personal data must be
processed in a way that ensures proper personal data security, using technical or organizational actions that are in accordance with the rules of the General Data Protection (GDPR), namely the new accountability principle that specifically requires digital marketing users to be responsible, adhere to the principles of managing personal data which is processed under 2018 Data Protection (Cost and Information) Regulations. Digital marketing users are required to pay data protection fees to the Information Commissioner's Office if they are processing personal data, unless there are excluded matters.

The General Data Protection Regulations (GDPR) take effect on May 25, 2018. The main legislation of the European Union (EU), gives people more rights to what organizations can do with their personal data. This applies in all EU member countries, including the United Kingdom. Under these regulations, businesses that store and process personal data must do so legally, transparently, for certain purposes and not more than necessary. Small businesses are not excluded - if you process a number of personal data, you must comply with GDPR. Many of these new laws are based on previous data protection rules, so they may not look different. However, part of the regulation introduces greater rights for EU citizens and significant new requirements for organizations that process personal data. This law responds quickly to business needs and consumer protection. This law also contains a summary of new regulations and more details about some of its main features, including legal grounds, subject data rights, approvals, notices of privacy, penalties and violations of reporting obligations. GDPR is a rule that regulates the implementation of digital marketing such as e-mail or telephone. This regulation will also affect the use of cookies on the website or when using a telephone or similar directory.

The main elements of this rule are having to get permission before installing cookies on the user's machine and in some cases digital marketing users must have special customer permission to be able to send them digital marketing content. If someone chooses not to receive marketing information, marketers are not permitted to send it. To comply with the regulations, it must be ensured that digital marketing users have customer approval to market it electronically via telephone, fax or e-mail.

Digital marketing users must identify themselves when doing marketing. Provide appropriate contact details when sending marketing material or messages so individuals or organizations that receive marketing can contact. The identification is in the form of a postal address, e-mail address or free telephone number. Digital marketing users must notify visitors of their website that they are using cookies and get their approval. In addition, it must also tell site users how to use cookies.

Rules using cookies are text files stored on the user's computer when they visit the website that uses them. After that, the cookie sends information back to the website. Marketers can use it to monitor users' search preferences, such as the type of item searched, pages visited, and length of time they stay on each page. However, users must be open to customers about how to use information to comply with the laws regarding cookies. If a marketer uses cookies as part of a website, it must notify potential customers about the cookies there, about explaining what cookies are doing and why, and getting approval to store cookies on their device. Marketers must provide clear and comprehensive information about why to use cookies and the reasons for getting their approval. This information must be easy to understand and must inform website users that
cookies will be used to collect and store information about them. Other than that it must also give users the opportunity to refuse the storage of continuous cookies on their computers or access to them and explain how users can turn off cookies. Marketers can continue marketing to existing customers as long as they can opt out of future messages and marketing messages include similar products and services. Marketers also need to clearly mark e-mail with person contact details and enter a valid return e-mail address. All websites must contain the company's registered address and company registration number.

In its implementation, legal considerations in the use of digital marketing are not optimal due to the lack of digital marketing regulations in other countries. Digital marketing still has a lot of legal emptiness especially marketing using social networks is even more difficult to manage to protect customer privacy, compared to electronic marketing communications. From the point of view of privacy law, the most troublesome is the active individualization and search feature, which allows the collection of large amounts of personal information about consumers. The recent turmoil about Facebook (the largest social network in the world, exceeding 500 million users) the use of personal customer information and the treatment of opting out of such information as not personal raises new risk risks.

Electronic marketing is inherently global, this is because of the variety and ambiguity in regulating electronic marketing communications. Therefore, it is supposed to make some regulations and legal harmonization be improved and future electronic marketing regulations can apply the principles, non-discriminatory Regulations for all forms of electronic marketing. Regulations should not be limited to the basis of a form of electronic marketing. All forms of invasive and socially challenging electronic electronic marketing must be regulated. Electronic marketing regulations are in accordance with the combination of the principle of opt-out and opt-in. The first (opt-out) must apply to disturbed privacy because digital marketing, while (opt-in) must apply to intrusive electronic marketing forms. The state must intervene and ensure the protection of the interests of consumers and provide transparency to business units. Setting a code of ethics is a way of non-state social regulation, which might be successfully applied to electronic marketing. The establishment of a code of ethics regulation for electronic marketing is considered in the rule of law. The code of ethics regulation will provide opportunities for businesses to determine acceptable and reasonable rules. Sanctions for misuse of electronic marketing (a very invasive form of electronic marketing) must be significantly improved. Sanctions must include not only senders from electronic marketers who violate the law, but also sellers of goods and services that are marketed.

Conclusions

Based on explanation above, it can be concluded that legal considerations on the use of digital marketing are due to the need for consumer protection against unfair business behavior. Therefore the state needs to make regulations to control digital marketing such as digital marketing regulations using email, including marketing using text, voice, images, such as e-mail, voicemail, SMS and messaging applications.
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THE IMPACT OF LSLC ON TEACHER MODEL IN THE KWB PILOTING SCHOOL

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Abstract

This study aims to identify the impact of LSLC on model teachers in piloting schools. The data was collected by interviewing and filling out the questionnaires that given to the 17 model teachers that involved in LSLC activities in Batu City. LSLC has been implemented in 5 piloting schools in Batu City since 2016. Schools that are involved including SDN Junrejo1 Batu, SDN Ngaglik 1 Batu, SD Muhammadiyah 04 Batu, SMPN 1 Batu and SMP Muhammadiyah 08 Batu. A total of 17 teachers were involved as model teachers and 50 people were involved as teacher observers during the 2016-2017 LS implementation. During the implementation of Lesson Study, it was noted that each school had implemented two to four times an open lesson.

The results of the interview indicated that all the teachers stated that they had never been involved in Lesson Study activities, so the LS for them was truly the activity that had just been followed. Therefore LS provides a new experience for all the teachers involved. Before the LS, they never discussed learning plans with their friends in one school, after their LS discussed lesson plans with schoolmates and with friends from other schools. Before LS they never review the subject matter in detail, after their LS must discuss the material carefully. Before the LS they never got attention about their teaching practices in class, did not care about the learning process of their students in class. After attending LS, they were cared for and observed regarding their learning practices and the learning process of students in the class. Before their LS was never discussed after the lesson was completed, after participating in the LS they reflected to obtain best practice from the new learning practices.

In conclusion, with LSLC the teacher becomes more responsible for the learning plan, implementation of learning and follow-up.

Keywords: Lesson study for learning community, model teacher, piloting school, Batu Wisata City
Teacher development is an important part of achieving education goals at all levels and domains. Therefore, teacher coaching is our shared duty and responsibility both personally and institutionally (the organization) that manages it. Personally the teacher needs an increase in career path. To be able to increase, certain requirements are certainly needed, which requirements can be met through the professional development path. So administratively the teacher needs guidance for increasing career paths. However, the increase in career paths is certainly not just merely fulfilling administrative needs. It is important to emphasize the meaning and function of coaching in the framework of improving the quality of professional services. Teachers are professions, and every profession is required to provide the best service.

In order to achieve the objectives of the management of education personnel, it is required to carry out clear activities as an integral unitary function. This means that these objectives are basically implemented through the implementation of dimensions of activities that are in line with the functions of human resource management, one of which is coaching. Coaching is basically an effort to provide direction in general, coaching is defined as an effort to give direction and guidance to achieve a certain goal. Coaching is a common thing that is used to improve knowledge, attitudes, skills, in the fields of education, economics, social, community and others.

Within this framework, one of the teaching profession development is directed at improving the quality of learning. Learning is the main task of the teacher, so that teacher coaching to improve the quality of learning will touch directly on the core of improving personal performance and improving the quality of education in general. Learning is a routine task of a teacher. In psychology, a person who carries out routine tasks will experience a saturation. To avoid the saturation, it is necessary to improve quality. Quality improvement This routine task will undergo changes.

For the guidance of teachers in that learning, the Lesson Study program is seen as very appropriate so therefore this lesson study needs to be socialized, reviewed its principles and procedures to be implemented properly in the field.

*Lesson Study derived from Japanese word Jugyokenkyuu, the term 'study lesson was coined by Makoto Yoshida ... it can also be used as' research lesson' [coined by Catherine Lewis], which indicates the level of scrutiny applied to individual lessons. "(RBS Currents, Spring / Summer 2002).* Lesson study was indeed born in Japan, but has now spread throughout the world. Its strength lies in the commitment of teachers, principals and local governments to the central government to provide the best for education, and the lives of future generations of humans throughout the world.

Lesson Study (LS) is a form of professional development carried out collaboratively and sustainably that aims to improve the quality of the process and learning outcomes (Widodo, Sumarno, and Nurjhani, 2007). LS is carried out with humanist values with a collective-collegial approach. In its implementation, learning is carried out based on the substances that become obstacles and begins with planning (plan), implementation (do), and evaluation (see) on an ongoing basis. So that LS can act as a comprehensive approach to professional learning and support students to become lifelong learners in an effort to develop and improve the quality of learning in the classroom.

The LSLC program by the Education and Culture Office of the City of Batu began with LS Socialization activities by the UMM-Benese team on December 15, 2015 in the AL Izzah High School
Hall which was attended by 400 elementary school teachers up to SMA Batu City. The event was officially opened by the Head of the Department of Education and Culture KWB, Mrs. Dra. Mistin, M.Pd was followed by a briefing by the Head of PTK, Mr. Drs. Abdul Rais, M.Pd. and material presentations by Nurwidodo, Eko Susetyarini, Sri Wahyuni and Aditya Sarif. Scheduled material includes LS philosophy, LS Procedure, LS Implementation Experience and LS Development in Scientific Writing.

The next activity was the LS Workshop on January 15, 2016 which presented Ryo Suzuki from Benese Japan and was held at the Block Office KWB Hall followed by a follow-up workshop while determining 4 piloting schools namely SDN Junrejo 1, Ngaglik 1 Elementary School, SMP 1 and SMP PGRI 1 Kota Batu. After the workshop continued with open classes in four piloting schools with each cycle twice during the Odd semester of 2016/2017. In several piloting schools, LS implementation was observed directly by Ms. Mistin and Mr. Abdul Rais, a genuine concern from the Head of the Department of Education and Culture and the Head of the PTK for LS implementation. He both received authentic best practices about the implementation of LS in schools and even appreciated the benefits gained for fostering teaching staff in order to improve the quality of education in the true Batu City.

Taking into account the best practices formed from the implementation of the LS, Mr. Abdul Rais took the initiative to consolidate the LS implementation for the even semester 2016/2017. The consolidated meeting was held at the beginning of 2017 in Block Office. An interesting issue was revealed related to the implementation of the 2016 odd semester LS, including understanding the concepts, principles and mechanisms of the LS in the field which are still confusing among teachers in schools. This confusion causes a lack of proper understanding of the real LSLC. Therefore, more intensive workshops are needed to understand the correct concepts and mechanisms for LSLC. The next workshop was planned to involve the supervisors of education as participants so that LSLC's understanding became more widespread.

Supported financially by JICA and UMM, the LSLC Workshop was held again in the UMM Campus III Senate Meeting Room on August 5, 2017. The workshop was chaired by DR. Rr. Eko Susetyarini, M.Sc, was presented to strengthen the principles (philosophy), mechanism and practice of LSLC for model teachers, observer teachers, principals and supervisors. One of the results of this workshop was the signing of the MoU between the UMM FKIP and the KWB Cultural Education Service for all the two collaborative cooperation activities, including Lesson Study. Another result is the stipulation of changes in piloting school participation. There were 5 piloting schools that were new to LS implementation in 2017/2018, namely SDN Junrejo 1, Ngaglik 1 Elementary School, SD Muhammadiyah 04, SMP 1 and Muhammadiyah Middle School 08, Batu City. This workshop was immediately followed by the preparation of an implementation plan in the piloting school that took place at UM.

**RESEARCH METHODS**

This research was conducted by using descriptive design. The subjects involved were model teachers from piloting LSLC KWB schools who participated in the Lesson Study for Learning Community program. At the planning stage, the model teachers compile a chapter plan that is continuously developed and adapted to the next class. At the time of implementation in class, GM got the freedom to control the course of learning. The innovations carried out by GM experts can be seen from how they are able to translate learning indicators, identify problems in a classical and personal
manner in an active, practical, effective and enjoyable learning activity. Evaluation activities are carried out as soon as the learning process is complete. Collaboratively the GM and Observer identify obstacles encountered during learning, identify student learning processes and record good practices that are formed. The research respondents are 17 model teachers. This research was conducted in the odd semester of the 2017/2018 academic year. Data was collected by interview method and questionnaire filling. The focus of LSLC activities that are considered includes open plan activities, open lessons and reflection.

RESEARCH RESULT

The implementation of LSLC for the odd semester is immediately starting from September to November 2017. It is recorded that the frequency of LS implementation varies in each piloting school starting from 1 time (SMPN 1 Batu) to 4 times (SD Muhammadiyah 04 Batu). In each implementation cycle always consists of a plan, do and see. All of these steps are lived out by the process and its meaning by all the teachers involved. The role of learning planning as a key to quality learning is very well understood by the teacher. The role of do to examine the process and student learning outcomes as planned lesson design is very much considered. The role of see in reflecting on the processes and results of learning and the strengthening of learning that has taken place is very beneficial. During the implementation of the Odd Semester in 2017, significant progress was achieved. Among others, the benefits of lesson study were greatly felt by the school, ranging from management, model teachers, observers to students at school.

The following is a BENEFIT report drawn from the results of the LSLC implementation based on written statements by model teachers and observers from the piloting school and collected by the UMM FKLC LSLC Team.

Benefits of LS for Schools:
Respondent 1 stated "that in LS learning students become more active. In addition, LS learning pleases children, making it easier for children to understand the material being studied "

While Respondent 2 stated as follows: "With Lesson Study which has been carried out so far
\> Students learn more actively and fun.
\> Students more easily understand the material.
\> Students learn by experiencing themselves and finding their own ways / steps in solving problems."

Respondent 3 stated: "I got new things from the implementation of Lesson Study in our school, and this was not seen before ...
\> Students become aware of the basic concepts of the material being taught.
\> Students can find their own way of learning.
\> Students better understand and are embedded in their memory about material because they can find their own way"

Benefits of LS for Model Teachers
Respondent 1 stated
"With LS, the teacher becomes more familiar with and understands the character of each student. Besides that, the teacher becomes aware of the difficulties faced by students"
Respondent 2 stated
"LSLC activities have a positive impact on teachers in the formulation of learning plans."
"I think not only in terms of new knowledge that the LSLC learning plan"
"It is felt that in the LSLC the lesson plan needs to think deeply about the desired goals"
"I also feel not only the purpose, but also the new skills in scouting collaborative learning activities that consider and implement jumping status for high ability category students".

Respondent 3 stated
"I feel that LSLC activities have a positive influence on me in terms of implementing learning, especially being dedicated to serving students who have different characteristics ... there are those who are easy to understand but others who take a long time"
"In my opinion, I am becoming more diligent to provide comprehensive service to all students"
"Through this LSLC I am required to implement active learning where all students learn in groups and self-learning is more passionate"
"I was also encouraged to be more transparent in learning because it was open to be seen, witnessed and observed by observers".

Respondent 4 stated
"After I took part in this semester, I felt that LSLC activities had a positive impact on the model teacher in terms of reflection on learning outcomes where the teacher model was helped by observers".
I think there is a benefit from the teacher observer mainly to reiterate the learning events experienced by my students",
During a reflection from the observer I also got more complete information about the impression of student learning in the class'
"I thank the observers because I can learn more from the learning that has been done through reflection because the observers are more observant to see my students".

Respondent 5 stated "I wrote down with the LS then
✓ Teachers can understand the different character of students.
✓ Teachers can learn from students about the difficulties faced by students.

Respondent 6 stated, "I think with LS then
✓ The teacher knows how to learn from students.
✓ The teacher knows the difficulties experienced by students from the material presented.
✓ Learning presented can be found strengths and strengths from the way students understand

Benefits of LS for Observers
Respondent 1 states that with LS then
✓ Observers gain experience in the learning process.
✓ Observers can learn from observed students.
✓ Can learn from students about how to learn.
✓ Can improve the competence of yourself as well as the model teacher.

Whereas Respondent 2 stated that LS provided benefits to the observer as follows:
"Can know the mistakes of learning faced by students, get new knowledge about LS, know and get a better understanding of how students learn and teachers teach"
Meanwhile Respondent 3 stated about the observer teacher as follows "Can understand the position of students when getting information so they can provide solutions to student problems".

In fact, there are 17 teachers who have delivered honest statements, but only three statements have been sampled.

**CONCLUSION**

From the results of research on the impact of LSLC for model teachers in the piloting school of KWB, the following things can be concluded:

1. LSLC activities have a positive impact on teachers in the formulation of learning plans. Not only in terms of new knowledge that the LSLC learning plan needs to be thought through in depth about the desired goals, but also new skills in scenarios of collaborative learning activities that consider and implement jumping status for high-ability students.

2. LSLC activities provide a positive impact for teachers in terms of implementing learning, where teachers become more dedicated to providing comprehensive services to all students implementing active and transparent learning because it is open to be seen, witnessed and observed by observers.

3. LSLC activities provide a positive impact for the teacher model in terms of reflection on learning outcomes where the teacher model becomes assisted by observers to re-express the learning events experienced by their students, get more complete information about the impression of learning in the classroom and can learn more from learning which has been carried out through reflection activities.

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PRUDENCE 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 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 as well as 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

Introduction

Local government companies get legitimacy from the state constitution. Local government companies become form of the state role so that at the level of implementation, it must always be under the auspices that is full of public interests and public welfare philosophy.

The existence of a strategic local government company with the task of serving the public interest and the realization of public welfare must be managed properly and correctly. In order to realize good and right management, it must be started with prudence.

The 1945 Constitution of the Republic of Indonesia, in the article 33 on paragraph 2 and 3 affirm that the most important branches of production for the State and those that control the life of many people are controlled by the State; while the country land and the natural resources contained in it are controlled by the State and used for the greatest prosperity of the people.

Local government companies that all or most of their capital comes from separated State assets are one of the economic actors in the national economic system to private businesses and cooperation. In carrying out its business activities, local government companies, the private sector and cooperation carry out roles that support each other based on the system of economic democracy.
In the national economic system, local government companies play a role in producing goods and services needed in order to realize the greatest prosperity of the community. The role of local government companies increasingly become important as pioneers in business sectors that have not been favored by private businesses. In addition, local government companies also have a role as executors of public services to balance large private forces and to contribute to the development of small businesses/cooperation. Local government companies are also a significant source of state revenue in various types of taxes, dividend and going public. The role of local government companies is realized in business activities in most of economy sectors. The existence of this strategic local government company requires that prudence should be used in its management.

In the era of regional autonomy, the government has provided broad opportunities for local governments to improve the welfare of their people. Local governments can regulate themselves in several aspects of life in their regions including economic, educational, health, social and cultural aspects. In the economic aspect, local governments have the authority to form regional companies. Local government companies have a strategic role in the current era of regional autonomy. With these conditions, and with management practices that lead to inefficiency and fraud, the local government companies need and are important to make improvement to accelerate public services. From the literature review on local government companies, it can be seen that local government companies according to Law No 23 of 2014 concerning Regional Governments are business entities that all or most of their capital owned by the Region. There are two forms of local government companies: 1) Regular Local Government company without shares holders, and 2) Local Government Company in the form of a limited liability company which the capital is divided into shares, wholly or at least 51% (fifty one percent) of its shares owned by one local government.

The concept of managing the local government Company/local government Public Company is made possible by a management model with a system of "self-management". This management concept uses a responsible and intensive supervision or guidance system.

The authority of the regional government as the authority holder can conduct "policy interventions" in a positive context related to the performance of local government companies through the Supervisory Board. Law No 23 of 2014 concerning Regional Government states that in the management of a Regional Company, one of them must contain elements of good corporate governance. While the management concept of the local government Company based on Regulation of the Minister of Home Affairs No. 3 of 1998 concerning Regional Corporate Legal Entities states that local government companies are limited liability companies subject to Law No 40 of 2007 concerning Limited Liability Companies and their implementing regulations.

The management conditions of local government companies still not be optimal. This can be seen from its management that still be trapped in the pattern of bureaucratic work rather than the company that is oriented to customer satisfaction and the services provided are not maximized and there are mismanagement practices that lead to inefficiency and fraud.

The arrangement of the management and supervision systems of local government companies has been carried out by the Government and expected to continue.

The concept of state involvement in the economic field was first put forward by Beveridge, a member of the British Parliament, in his report which contained a social program, namely income
distribution community and social welfare since baby born until the death, provision of employment, supervision of wages by government, and business in education. However, in the current era of globalization, the concept of state involvement in all forms of community life has become unpopular because of its inability to deal with bureaucratic problems that are meticulous as obstacles and generate practices of Corruption, Collusion and Nepotism.

In the field of economic activity, the government must affirm the basic rules of free competition by strengthening contracts and protecting private property. Therefore the government must not restrict the profits of the winner and may not also overcome the losses of the losers. Thus, creative entrepreneurs will develop along with the growth of the market and the emergence of new products that are attractive and earnable money with the hope that every entrepreneur is allowed freely so that the old business can develop and at the same time build new businesses which in turn will open up and create new jobs and bring prosperity for many people. However, if entrepreneurs are hampered by various provisions made by the government and also burdened with high taxes, it will create a drastic reduction in investment and production and job vacancies that are more and more limited.

The state as a regulator has an interest so that the existence of companies including local government companies should be maintained because the company is a source of tax revenue and job availability for a large number of workers. For this reason, the State is obliged to create a business climate that supports growth for the existence of these companies. However, the state is also obliged to protect the public interest if there is a company that violates the law or the prevailing positive law.

Since regional companies operate, there are indeed many major problems and challenges, including most regional companies suffered losses significantly because they are managed inefficiently and have low productivity so that the form of the company does not have the ability to compete in good business competition both in domestic and international markets. Some of the factors that led to the inefficient management of most local government companies suffered losses and became a financial burden on the state included:

1. The lack of legal status and organizational structure of local government companies. It is not clear whether the companies as economic actors have full autonomy or only as executors or the part of the organizational structure of a department.
2. The majority of local government companies do not have a corporate culture, vision and mission of the company.
3. Lack of entrepreneurial spirit and HRD professionalism that manages local government companies, as a result performance and productivity are very low.
4. Local government companies are not managed with the principles of good business management (GCG) as a result of government intervention that is too dominant in the company's operations.

It is suspected for a long time that companies have contracted a very dangerous virus, and threatens its sustainability, such as the practice of corruption, collusion and nepotism (KKN). The practice of KKN not only can attack and cause destruction to the resilience of the company, but also has made the Indonesian economy's resilience collapse.

When Indonesia economy is opened, it must be affected and influenced by the principles of the global economy and trade liberalization. The Indonesian economy will be faced with the economies of other countries or the economies of Indonesia's trading partners such as export and import activities, investments, both direct and indirect investments, and lending and borrowing. The influence of
economic system is a challenge for the formulation of national policies, the world of economics and economic actors.

**Formulation of the Problem**

The formulation of the problem in this study is as follows:

1. What is the prudential philosophical basis?

2. What is the application of prudence in local government companies?

**Literature Review**

1. Meaning of Implementation

   According to the Big Indonesian Dictionary (KBBI), the definition of implementation is the application of a plan that has been prepared in such a mature and detailed manner that the application or implementation must be intact as a whole.

   According to Majone Wildafsky the definition of implementation is evaluation. Meanwhile, according to Browne and Wildafsky, the implementation is interpreted as an expansion of activities that are mutually adapted.

   Mclaughin argues that implementation is defined as activities that are mutually customizing. And according to Fullan, implementation is a process to implement ideas, programs or a new set of activities with the hope that others can accept and make changes.

2. Prudential

   Prudential is a principle that emphasizes that banks in carrying out business activities both in gathering especially in channeling funds to the public that must be very careful. The purpose of this prudential is that the bank should always in good health to run its business and comply with the provisions and legal norms that apply in the banking world. Prudential is stated in Article 2 and Article 29 paragraph 2 of Law No. 10 of 1998.

   In the opinion of Drs. Paripurna P. Sugarda, S.H., M.Hum, Prudential in the banking system of regulation and supervision in Indonesia until now has not been interpreted uniformly. The difference in meaning influences the regulation of the banking supervision system. The banking regulation and supervision system in Indonesia has weaknesses which is seen from different meanings of prudential in the banking regulatory and supervisory system. The difference in giving meaning to this prudential can cause problems when being applied.

   Mathias Dewatripon and Tirole stressed that regulation can be designed to reduce the risk of accounting manipulation and to protect banks from the shock of economic risks that are beyond their control.
3. Company

In an effort to fulfill their needs, people use goods and services that are the result of production activities. Production activities carried out in an organized manner of the factors of production which are generally carried out by the company. Thus the company is interpreted as a technical part of the organization of capital and labor which aims to produce goods or services.

A company is the technical part of an economic entity that produces goods and services. So, the definition of business is the entity of a juridical and economic factors of production that aims to seek profit by providing services to consumers who need it. It is called juridical unity because generally business entities are legal entities that carry out economic activities to obtain profits. Several types of business entities are divided based on capital ownership, business fields, number of workers, and legal form.

4. Enterprises owned by local government

According to Law No 23 of 2014 concerning local government, enterprises owned by local government are business entities that all or most of their capital owned by the local government. There are two forms of local government companies: 1) Local Government Public Company. It is a local government company that capital is owned by one local government and not divided into shares and 2) Local Government Company is local company in the form of a limited liability company which its capital is divided into all or at least 51% (fifty one percent) of the shares owned by one Region. From observations of the laws and regulations, it can be seen that there is no law on regional government owned enterprises instead of Law No. 5 of 1962 concerning regional companies as a legal protection for local government companies. This condition is quite different from the state-owned enterprise which has a legal protection, namely Law No 19 of 2003 concerning state-owned enterprises.

**Objectives and Benefits of Research**

1. Research Objectives

   This research aims to:
   1. To study, analyze, understand and explain the prudential philosophical basis.
   2. To study, analyze, understand, find and explain the concept of prudential in the management of regional companies.

2. Benefits of Research

   The benefits of the results of this study are:
   1. Theoretically the results of this study are expected to provide a study, analysis, understanding and explanation of the prudential philosophical basis.
2. Practically this research is expected to be useful in finding and explaining the concept of prudential in the management of local government companies.

**Research Methodology**

1. Type of Research

   This research is a normative juridical review, namely research that refers to legal norms contained the legislation, history, cases and court decisions as the characteristic law namely *Sui Generis*.

2. Data Type

   The types of data that will be used in this study are:

   2.1 Primary data

   The data was obtained through library research and techniques for collecting and inventorizing laws and regulations, books, scientific works, articles related to prudential principle issues, as well as data obtained from institutions or research institutions where research is available.

   2.2 Secondary data

   The information or facts which are obtained directly from data sources or through research in the field. In this case data was obtained from the community and local government companies.

3. Data Source

   3.1 Primary Data Source.

   All primary data are explained in terms of primary legal material in the form of the opinions of scholars and the literature relevant to the object of research. The legal materials used in this study include:

   1) Primary Legal Material

   That is a binding legal material consisting of applicable laws and regulations or applicable provisions.

   2) Secondary Legal Materials

   Secondary legal materials that are used to support primary legal materials, including those derived from the work of scholars, journals, data obtained from institutions, and literature books that can be used as references to support this research.
3) Tertiary Legal Material

That is legal material that contains secondary legal material from the dictionary.

3.2. Secondary Data Source

A number of data or facts taken directly from data sources in the field (local government companies and communities).

4. Data Collecting Techniques

The activities of collecting data in this study conducted by library research. The research was conducted to obtain data from books, prevailing laws and regulations, court decisions, scientific magazines and other documents relating to the subject matter of the prudential principle.

5. Data Analysis Techniques

Data analysis in this study uses a qualitative approach. The data analyzed in this study are comprehensive and constitute to holistic the management of local government companies by holding good corporate management principles such as prudential and supported by compliance with applicable regulations (compliance).

Research and Discussion

1. Prudential Strategic Existence

In the development of local autonomy era, the government has provided wide opportunities for local governments to improve the welfare of their people. Local governments can regulate themselves in several aspects of life in their region, including economic, educational, health, social and cultural aspects. In the economic aspect, the local government has the authority to erect local government company. The prudential phrase equals "kehati-hatian" that in the big Indonesian dictionary means "paying close attention"; so that in the context of local government companies management, every personnel in board must seriously run the company based on prudential.

Regarding the meaning of the word "prudential" itself, according to A.C Page and R.B. Ferguson explained in "The prudent man rule" that every person in charge of managing an investment for the benefit of another party must always act cautiously and feel morally to the other party. Then an entrepreneur must realize that what management is owned by others and morally responsible to the community.

This Prudential at least describes a person that always maintain and provide legal certainty for all actions taken in a local government company. Compliance with the directors of the existing regulations is a good faith that is needed so that all their actions are not blamed by the prevailing laws and regulations.
The Prudential is a duty of skill and care for business actors which must be reflected in the attitude and behavior of management and directors that must be built-in in detail which is outlined in the system and procedures in written form. If the system and procedures based on the principle of prudence run on each company, then it can be a control tool and will also facilitate external and internal supervision carried out by a competent supervisory institution.

2. Implementation of Prudential in Local Government company

The Board of Directors must make arrangements in good motivation and prudential for the interests and in accordance with the goals and objectives of local government companies. This prudential can be individual directors or the cumulative directors. All kinds of risks obtained in making these decisions must be accounted for in accordance with the principle of accountability to make the company be a healthy and advanced region.

Some forms of prudential implementation are effective Internal Audit Practices and clarity of functions, rights, obligations, authorities and responsibilities in the company's Organizational Structure (SOTK), policies and procedures in local government companies.

However, various differences in the characteristics of the field between banking, state-owned enterprises and local government companies, hence the prudential value mandates that in carrying out its duties, members of the Board of Directors must comply with the company's working regulation (SOTK) and legislation must implement the principles of professionalism, efficiency, transparency, independence, accountability and fairness.

The main condition for making negotiation PKB must have formed a union that meets the requirements and has the authority to negotiate the preparation of the PKB. Whereas the making of PP is only required if the employer or company has employed at least 10 or more employees (in Article 25 paragraph 1 letter of Law No. 21 of 2000 concerning Trade Unions / Labor Unions or " Law No. 21/2000 "and Article 110 paragraph 1 and Article 108 paragraph 1 of Law No. 13 of 2003.

Seriousness in implementing prudential can maximize the value of the company by increasing the principles of openness, accountability, responsibility and fairness to make the company has strong competitiveness.

On the other hand the benefits of prudential that are implemented seriously will encourage the management of the company professionally, transparently and efficiently, and empower functions and increase independence.

The benefits of implementing prudential appropriately will increase the value of investment and the wealth of local government companies.

Weaknesses in implementing prudential can be found in companies that experience financial crises. On the other hand, because of weakness or lack of supervision, it causes irregularities in local government companies. Based on the hypothesis, if the prudential is supported by the compliance principle, it is not implemented and the local government company is not managed properly causing the company faced financial crisis.
However, to make the tasks continuously can be carried out within the corridors of the statutory duties are necessary to conduct an effective supervision system. The possibility that directors can make mistakes are visible and observable. For example a conflict of interest, the board of directors is bound not to take a personal profit (no secret profit rule) on the opportunity that should belong to the company.

3. Regional Companies

Regional companies according to Law No 23 of 2014 concerning regional government are business entities that all or most of their capital is owned by the Region. There are two forms of regional companies: 1) Regional Public Companies and 2) Regional limited Companies.

From observations of the laws and regulations found the absence of a Law on local government-owned enterprises substituting Law No 5 of 1962 concerning local government companies as a legal protection for local government companies. This condition is very different from a state-owned enterprise which has a legal protection, namely Law No 19 of 2003 concerning state-owned enterprises.

The concept of managing non-regional limited companies (regional companies / regional public companies) is made possible by the management model of local government companies with a "self-managed" system. This management concept uses a responsible and intensive supervision or guidance system.

Management of local government companies is carried out with direct supervision and guidance by policy makers conducted by the regional head as the highest authority in the local government. The authority of the regional government as the authority holder can conduct "policy interventions" in a positive context related to the performance of local government companies through the supervisory board.

Law No 23 of 2014 concerning Regional Government states that in the management of local government companies one of them must contain elements of good corporate governance. However, government regulations and other regulations that regulate further provisions regarding good corporate governance in the management of the local government companies have not been issued.

While the management concept of regional companies (Limited Liability Companies), based on Home affair regulation No. 3 of 1998 concerning Regional Corporation Legal Entity, states that local government companies in the form of limited liability companies are subject to Law No 40 of 2007 concerning Limited Liability Companies and their implementing regulations.

Conclusions and Recommendations

1. Conclusion

From the description and discussion above, the conclusions can be drawn in this study as follows:
1.1. Prudential philosophical basis states that every person in charge of managing an investment for the benefit of another party must always act cautiously and his mind must be morally bound to the other party. Furthermore, an entrepreneur, he must be aware that management is owned by others and morally responsible to the community.

1.2. Prudence implementation in the management of local government companies is a prudential value that mandates that in carrying out its duties and members of the Board of Directors must comply with the company's SOTK and legislation and must implement the principles of professionalism, efficiency, transparency, independence, accountability, accountability, and fairness. Regulations that can be used as reference for directors in the framework of prudential implementation are Company Regulations and joint labor agreements.

2. Suggestions

2.1. The Board of Directors is obliged to prioritize prudential in the event that decision making does not harm the company. Decision making will always be associated with accountability so that the good and bad decisions taken can be judged by the success of the company.

2.2. The most effective form of prudential implementation is the strengthening of an effective Internal Audit function and clarity of rights, obligations, authority of functions and responsibilities in SOTK companies, policies and procedures.

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Special Dedication

International College of Rajamangala University of Technology Krungthep is filled with deep sorrow upon the sudden loss of a dear Indonesian colleague who just recently visited UTK to participate as research paper presenter in last November's IIC2018 International Conference. We dedicate this journal to her. We are extending our deep and heartfelt sympathy to the bereaved family of Dra. Ani Purjayanti. We join you in praying for her eternal rest. To all our brothers and sisters in Indonesia, know that you are in our thoughts and prayers in your difficult time during a calamity afflicted by your country.
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