

Intellectual Capital Influence on Financial Performance Banking

Ono Tarsono, Ayuni Fauziyah

Department of Accounting
Sekolah Tinggi Ilmu Ekonomi Indonesia Jakarta
Jakarta, Indonesia
ono_tarsono@stei.ac.id

Faris Faruqi

Department of Management
Sekolah Tinggi Ilmu Ekonomi Indonesia Jakarta
Jakarta, Indonesia

Abstract—This aims study is to test whether the influence of intellectual capital to the financial performance of banking listed on the Indonesia Stock Exchange (BEI). Independent variable in this research is intellectual capital measured using VAICTM and dependent variable is the financial performance of banking is measured by return on assets (ROA). This research uses descriptive research type of quantitative approach, as measured by using Partial Least Square regression (PLS) with Smartpls 3.0. The population of this study is a Banking company listed on the Indonesia Stock Exchange (BEI) in 2013 until 2015. The sample is determined by purposive sampling method, with a total sample of 30 banking companies. The data used in this research is secondary data. The technique of collecting data using documentation method through IDX official website: www.idx.co.id. Hypothesis testing using inner model test and outer model test. The results prove that the influence of intellectual capital on the financial performance of banks listed in the Indonesia Stock Exchange (BEI) period 2013-2015. The results showed that intellectual capital has a positive and significant impact on the company's financial performance. Intellectual capital has a positive and significant impact on the company's financial performance in the future. The growth rate of intellectual capital does not affect the financial performance of the company in the future. This electronic document is a "live" template and already defines the components of your paper [title, text, heads, etc.] in its style sheet.

Keywords—financial performance banking; intellectual capital; partial least square; ROA

I. INTRODUCTION

The economic growth has grown and growing more rapidly marked by the rapidly increasing information technology, increasingly tight business competition, as well as the creation of innovations that are more modern. In the banking industry sector is required to improve the quality and quantity of physical assets, which is a major component in determining the success of the company, because with a larger quantity, the company can sell more products. But along with the demands of the changing times that are now more controlled by technology and knowledge, it can bring out the success of the company is no longer judged by how many companies are able to sell its products, but more determined by the ability of the company in producing and providing products that can be sold.

Along with the social economic changes that have social economic characteristics based on science (knowledge). Wernelfelt proposes resource-based theory that is the source of modeling [1]. It is indirectly possible for a company to change its business strategy, such as (a) corporate-level strategy, (b) business-level strategy, and (c) development strategy, labor based business (business based) knowledge-based business). Firms that implement such knowledge-based strategies can create added value with no value (hidden value) that exists on intangible assets (intangible assets). One approach used in the assessment and measurement can not be done by intellectual capital on the concept of Petty and Guthrie [2].

Intellectual capital is a growing topic in recent years. In Indonesia, the phenomenon of intellectual capital began to develop after PSAK (revised 2011) on intangible assets. According to PSAK No. 19 (revised 2011). Paragraph 08 which expresses an intangible asset is a non-monetary asset that can be owned without physical form and is owned for use in goods or services, leased to the other party, or for administrative purposes.

Intellectual capital according to Organization for Economic Cooperation and Development (OECD) is not a form of organizational (structural) capital and human capital [3]. Organizational capital (structural) is software, network, and. Human resources within organizations and external resources related to organizations, such as consumers and suppliers [4].

Measurements (proxies) used to measure intellectual capital, firms can use value added intellectual coefficient (VAICTM), developed by Pulic in 1998 [5]. The VAICTM method as a good measure is used to measure intellectual capital. The main components of VAICTM can be seen from the value added capital employed (VACA) is a good and sustainable relationship between the company and its partners, such as distributors, suppliers, customers, employees, community, government, and so on. Value added human capital (VAHU) is the quality of human resources owned by companies such as knowledge, experience, skills, commitment, good working relationships within and outside the company environment, and so on. Value added structural capital (STVA) includes organizational structure, strategy, process sequence, good work culture, and company's ability to meet all company routines [6].

Based on the description above, the authors are interested to conduct research with the title "Intellectual Capital Influence on Financial Performance Banking". The selection of VAICTM as the basis for measuring intellectual capital refers to Firer and William [7], Chen et al [8], where all the required information is available in financial reporting. Financial Performance Indicators used are ROA, this refers to research conducted by Ulum, because ROA can reflect the business benefits and efficiency of total asset utilization [9]. While the banking sector was chosen because according to Joshi banking company is one of intellectual intensive sectors, besides banking sector also more homogeny than other economic sectors [10].

II. LITERATURE REVIEW

PSAK No. 19 (revised 2010) Paragraph 08 which states that intangible assets are non-monetary assets that can be identified without physical form and are held for use in the production or delivery of goods or services, leased to others, or for administrative purposes. While in Paragraph 09 mentioned some examples of intangible assets such as science and technology, design and implementation of new systems or processes, licenses, intellectual property rights, market knowledge and trademarks (including product brands and publicity titles). This is what causes companies to pay more attention to intangible assets as business business strategy (SBU) to achieve competitive advantage and apply knowledge based business (knowledge based business).

A. Intellectual Capital

Until now, the definition of intellectual capital is often interpreted differently by the researchers. The definition of intellectual capital was first proposed by Pratiwi [11], intellectual capital is a type of knowledge activity, utilization of brain power, and the fundamental sources of company performance. Intellectual capital define as a whole resource and capability of high value, unusual, and difficult to imitate or substitute that creates competitive advantage and sustained superior performance [11].

B. Financial Performance

Performance is an important thing that must be achieved by every company. Performance can be a benchmark of the company's ability to manage and allocated all its resources. The company must continue to improve the quality and performance of the company, in order to achieve company goals [12]. Performance is a description of the achievement that will be achieved by the company in its operational activities both concerning financial aspect, marketing aspect, fund raising aspect and fund distribution, technological aspect, and human resource aspect [13]. The company's financial performance is a description of the company's financial condition which is analyzed using financial ratios. From the analysis can be seen how the company's financial condition that reflects work performance. Assessment of financial performance is one way to fulfill obligations to funders and to achieve company goals.

Company performance can be viewed in terms of financial and non financial. The performance of companies referred to in this research is financial performance. Financial performance is the determination of a certain measure that can measure the success of a company in generating profit. The company's financial performance is the result of many individual decisions made continuously by management [14].

C. Intellectual Capital Influence on Financial Performance of Banking

The influence of intellectual capital on the company's financial performance is represented by ROA. ROA is an analysis of the company's ability to profit by using the total assets owned by the company in accordance with the costs to fund the asset [15]. The Company will achieve its goal if all of its potential and resources have been used effectively and efficiently. These resources include employees (human capital), physical assets (physical capital), and structural capital.

Efficiency of the use of all these resources will result in value added that encourages the company to achieve maximum performance, especially the financial performance of the company. Employees with the knowledge, skills, and insights they have can work efficiently by minimizing operating costs but generating substantial profits for the company. Employees with good intellectuals will be able to provide quality services that can retain or attract new customers. In addition, companies with strong structural capital will have cultural support that allows companies to try something, to learn, and to try something again [16]. The overall minimization of asset usage and the development of intellectual capital in an effective and efficient manner will result in optimal profit for the benefit of the company and its stakeholders. This means, when intellectual capital increases, the expected ROA increases.

H₁: Intellectual Capital (VAICTM) has a positive effect on financial performance

D. Intellectual Capital Influence on Financial Performance of Future Banking

The financial performance of a company can be interpreted as a prospect or future, growth and good development potential for the company. By creating capital efficiency it will support the company's current financial performance. Efficiency generated in the past will automatically support future financial performance. Several previous studies that have been conducted include: Tan et al [17] and Susanto & Siswantaya [18] examined the effect of intellectual capital on financial returns in 150 companies listed on the Singapore stock exchange using the Partial Least Square (PLS) method [17]. The results are consistent with the research of Chen et al [8] in Susanto and Siswantaya [18] that intellectual capital positively affects the performance of the company, both present and future; The average growth of intellectual capital is positively related to the performance of the company in the future. Ulum conducted a study of 130 banking companies in Indonesia with Partial Least Square (PLS) method [19]. The results indicate that intellectual capital affects the current financial performance of the company and the company's financial

performance in the future, but the average growth of intellectual capital (ROGIC) does not affect the financial performance of the company in the future.

Intellectual capital does not only positively affect the company's financial performance for the current year, logically, even intellectual capital may also predict future financial performance [17].

H₂ :Intellectual Capital (VAICTM) positively affects future financial performance

E. The Influence of Intellectual Capital Growth Rate on Financial Performance of Future Banking

If companies with higher intellectual capital (VAICTM) will perform better, the logic rate of growth of intellectual capital (ROGIC) will also have a positive relationship with future financial performance [17] and Susanto & Siswantaya [18]. Companies that are able to manage and develop strategic resources then the company will be able to create an added value and competitive advantage that will lead to improved corporate financial performance. Strategic resources can be tangible assets and intangible assets, Intangible assets here can be a company's intellectual assets of innovation, information systems,organizational culture, human resources. This is in accordance with knowledge-based theory. Improving financial performance will have a positive impact on returns earned by stakeholders. Therefore, stakeholders will act as controllers in the management of corporate resources including intellectual resources. This is in accordance with Stakeholder theory.

Several previous studies that have been conducted include: Tan et al tested the effect of intellectual capital growth which was illustrated by obtaining positive ROGIC results affecting the financial performance of the company's future [17]. Dewi conducted research and got the result that ROGIC have a significant effect to financial performance of Regional Development Bank [16]. conducted research on all firms in infrastructure, utilities and transportation listed on BEI, there was a significant result that ROGIC had an effect on company performance.

H₃: Intellectual capital growth rate (ROGIC) has a positive

F. Effect on Future Financial Performance

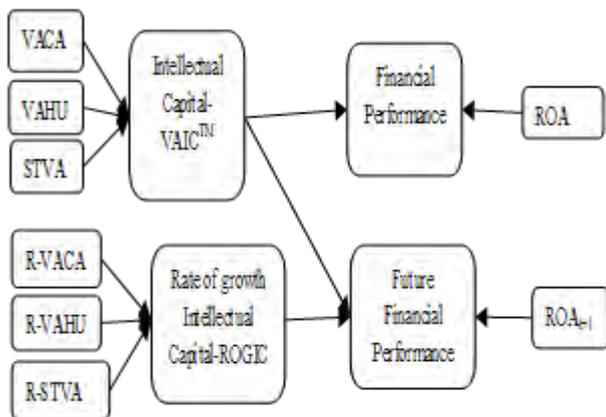


Fig. 1. Research framework.

III. RESEARCH METHODS

A. Research Strategy

This research is associative causality that is research which know relation or causal influence from independent variable to dependent [14].

B. Definition and Operationalization of the Research

1) Independent variables

Intellectual capital can be measured for performance based on added value (value added) created by employed capital employed (VACA), human capital (VAHU), and structural capital (STVA). The combination of the three value-added (VAICTM) values developed by Pulic [5] and the Rate of Growth Intellectual Capital (ROGIC).Stages of VAICTM calculation.

$$VA = Out - In \tag{1}$$

VA: Value Added, Out : Total revenue (Operating and non-operating income), In: Operational and non-operating expenses (in addition to personnel expenses)

$$VACA = \frac{VA}{CE} \tag{2}$$

VACA: value added capital employed, VA: value added, CE: Capital Employed

$$VAHU = \frac{VA}{HC} \tag{3}$$

VAHU: value added human capital, VA: value added, HC: Human capital: Employee expenses

$$STVA = \frac{SC}{VA} \tag{4}$$

STVA: Structural capital added value: ratio from SC to VA, SC: Structural capital=VA-HC, VA: Value added Human capital: Employee expenses

$$VAIC^{TM} = VACA + VAHU + STVA \tag{5}$$

In addition to VAICTM, the other independent variable is the Rate of Growth of Intellectual Capital (ROGIC) which is the difference (Δ) between the value of intellectual capital from year t to the intellectual capital value of the t-1 year.

$$ROGIC = VAIC^{TM}_t - VAIC^{TM}_{t-1} \tag{6}$$

2) Dependent variable

The financial performance used in this research is Return on assets (ROA). ROA reflects the business benefits and efficiency of the company in the utilization of total assets [14]. ROA is the ratio of net income to total assets, providing an overview or idea of overall return on investment obtained by the company [20]. ROA is calculated based on the ratio of net income after interest and tax to total assets [20]. ROA can be calculated by the following formula [20].

$$ROA = \frac{Net\ Income}{Total\ Assets} \tag{7}$$

a) *Sample research*: The data used in this study is secondary data, data obtained from the site www.idx.co.id period 2013-2015. This type of data is used as a quantitative time series data. The population used is banking sector companies listed in Indonesia Stock Exchange (BEI) in 2013 until 2015. The method used in this study is purposive sample method, by using the sample criteria obtained really in accordance with the research that will be done.

b) *Data collection technique*: The technique used in this study is the method of documentation, that is by collecting, recording and reviewing secondary data in the form of annual financial statements of banking companies published in Indonesia Stock Exchange (IDX), as well as from various books, related scientific journals, and Related websites.

c) *Data analysis method*: Processing and data analysis using SmartPLS 3.0 for windows software program is a statistical application based application with Partial Least Square (PLS) analysis model.

IV. RESULTS

A. Descriptive Statistics

Define the table below shows descriptive statistics on the VAICTM dependent variable and the components that make up it, namely: VACA, VAHU, and STVA for the last 3 (three) years 2013 to 2015.

TABLE I. DESCRIPTIVE STATISTICS ANALYSIS VAICTM

	Year	Minimum	Maximum	Mean	Std. Deviation
VACA	2013	0,019	0,499	0,284	0,120
	2014	0,042	0,488	0,262	0,103
	2015	0,094	1,695	0,306	0,283
VAHU	2013	1,149	4,715	2,262	0,831
	2014	1,278	6,012	2,352	1,110
	2015	1,111	4,570	2,220	0,820
STVA	2013	0,130	0,788	0,504	0,165
	2014	0,218	0,834	0,506	0,166
	2015	0,100	0,781	0,493	0,172
VAIC TM	2013	1,476	5,986	3,050	1,054
	2014	1,644	6,889	3,121	1,297
	2015	1,342	5,880	3,019	1,019

Source: Secondary data processed 2017

Table 1 above explains that the average value of VAICTM banking industry for 2013 is 3.050 with a standard deviation of 1.054. Minimum value is 1.476 and maximum is 5,986. Year 2014 minimum value 1,644 and maximum 6,889. While the average value obtained 3.121 with standdard deviation 1.297. Year 2015 minimum value of 1,342; Maximum 5,880; Averaging 3.019 with a standard deviation of 1,019.

The following Table 2 shows descriptive statistics on independent ROGIC variables over the last 3 (three) years 2013 through 2015.

TABLE II. DESCRIPTIVE STATISTICS ANALYSIS ROGIC

	Year	Minimum	Maximum	Mean	Std. Deviation
R-VACA	2013-2014	-0,456	0,149	-0,020	0,107
R-VAHU		-1,248	4,261	0,090	0,930
R-STVA		-0,315	0,421	0,003	0,155
ROGIC		-1,796	4,209	0,071	1,031
R-VACA	2014-2015	-0,125	1,515	0,044	0,284
R-VAHU		-3,500	1,218	-0,130	0,779
R-STVA		-0,311	0,134	-0,010	0,096
ROGIC		-3,627	1,440	-0,100	0,896

Source: Secondary data processed 2017

Table 2 above explains that the average ROGIC value for 2013-2014 is 0.071 with a standard deviation of 1,031; Minimum value of -1,796 and maximum 4,209. While the period 2014-2015 minimum value -3,627 and maximum 1.440; An average value of -0.100 with a standard deviation of 0.896.

The following table shows the descriptive statistics of financial performance dependent with return on asset (ROA) for the last 3 (three) years 2013 to 2015.

TABLE III. DESCRIPTIVE STATISTICS ANALYSIS OF BANKING FINANCIAL PERFORMANCE

	Minimum	Maximum	Mean	Std. Deviation
ROA 2013	0,0026	0,0390	0,0162	0,0089
ROA 2014	0,0027	0,0302	0,0128	0,0085
ROA 2015	0,0013	0,0303	0,0112	0,0084

Source: Secondary data processed 2017

Table 3 above explains that in general, in the period 2013 to 2015 the financial performance projected by ROA indicates a consecutive minimum value of 0.0026; 0.0027; and 0.0013. The maximum value of ROA is 0.0390; 0.0302; and 0.0303. ROA mean value of 0.0162; 0.128340; And 0.0112. While the standard deviation of ROA is respectively equal to 0.0089; 0.0085; and 0,0084.

B. Test Outer Model

1) Test outer model hypothesis 2013-2015

The following figure is the result of calculation estimation by using PLS with data of year 2013.

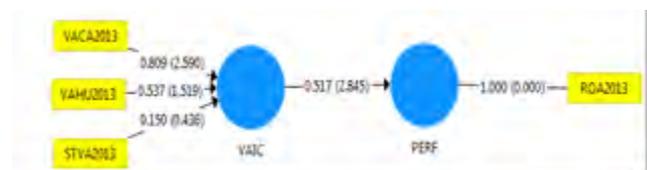


Fig. 2. Outer model H₁ 2013 results.

Based on the test results with the PLS shown in Figure 2 above, it is known that from 3 VAICTM-forming indicators, only STVA₂₀₁₃ has a t-statistic value below 1.282. While VACA₂₀₁₃ and VAHU₂₀₁₃ have t-statistics of 2.590 and 1,519 respectively. The table below presents the outer weight value of intellectual capital indicator and financial performance for 2013.

TABLE IV. VALUE OF OUTER WEIGHT H₁ 2013

	Original Sample	Sample Mean	Std. Deviation	T Statistics	P Values
ROA2013 -> PERF	1,000	1,000	0,000		
VACA2013 -> VAIC	0,809	0,687	0,312	2,590	0,005
VAHU2013 -> VAIC	0,537	0,423	0,354	1,519	0,065
STVA2013 -> VAIC	0,150	0,175	0,343	0,436	0,331

Source: Secondary data processed 2017

Based on Table 4 above the VAICTM indicator shows that VACA₂₀₁₃ and VAHU₂₀₁₃ values have t-statistics of 2,590 and 1,519 significant at $p < 0.10$ whereas STVA₂₀₁₃ has a t-statistic value of 0.436 and is not significant. In order to obtain a good model it is necessary to re-test by eliminating the STVA₂₀₁₃ is not significant and or only involving indicators that are close to significant. The results of the retesting of the VACA₂₀₁₃ and STVA₂₀₁₃ indicators are shown in Figure 3 and Table 5.

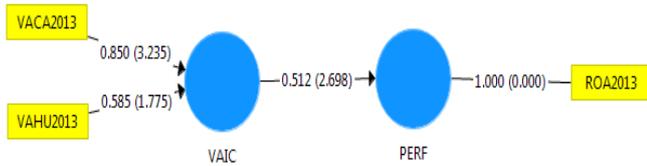


Fig. 3. Results of outer model H₁ 2013 (recalculate).

After eliminating insignificant indicators and involving only significant or significant indicators, it is well known that both VACA₂₀₁₃ and VAHU₂₀₁₃ have a weight value above 0.50 and a significant t-statistic $p < 0.05$.

TABLE V. RESULTS OF OUTER WEIGHT H₁ 2013 (RECALCULATE)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2013 -> PERF	1,000	1,000	0,000		
VACA2013 -> VAIC	0,850	0,764	0,263	3,235	0,001
VAHU2013 -> VAIC	0,585	0,559	0,329	1,775	0,038

Source: Secondary data processed 2017

The next test is done by calculating the indicators of intellectual capital in 2014 with the indicator of corporate financial performance in 2014. Figure 4 below is the result of calculation by using PLS for 2014 data.

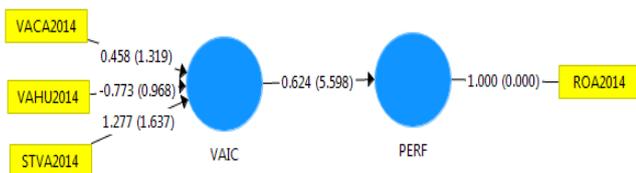


Fig. 4. Results of outer model H₁ 2014.

Based on the test results with PLS shown in Figure 4 above, it is known that of the 3 VAICTM-forming indicators, only VAHU₂₀₁₄ has a t-statistic value below 1.282. While VACA₂₀₁₄ and STVA₂₀₁₄ have t-statistics each of 1,319 and 1,637. Table 6 below presents the value of outer weight indicator of intellectual capital and financial performance of 2013.

TABLE VI. RESULTS OF OUTER WEIGHT H₁ 2014

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2014 -> PERF	1,000	1,000	0,000		
VACA2014 -> VAIC	0,458	0,441	0,347	1,319	0,094
VAHU2014 -> VAIC	-0,773	-0,790	0,799	0,968	0,167
STVA2014 -> VAIC	1,277	1,251	0,780	1,637	0,051

Source: Secondary data processed 2017

Based on the above table, the VAHU₂₀₁₄ indicator has low weight and insignificant value. In order to obtain a good model it is necessary to retest by eliminating the VAHU₂₀₁₄ is not significant and or only involving indicators that are close to significant. The results of the retesting of the VACA₂₀₁₄ and STVA₂₀₁₄ indicators are shown in Figure 5 and Table 7.

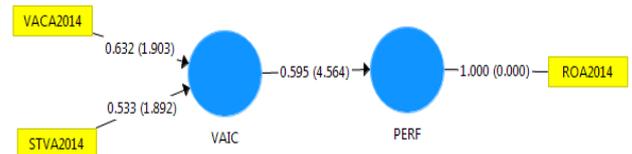


Fig. 5. Results of outer model H₁ 2014.

After eliminating the insignificant indicator and involving only significant or significant indicator, it can be seen that both VACA₂₀₁₄ and STVA₂₀₁₄ have a weight value above 0,50 and t-statistic is significant $p < 0,05$.

TABLE VII. RESULTS OUTER WEIGHT H₁ 2014 (RECALCULATE)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
FROA2014 -> PERF	1,000	1,000	0,000		
VACA2014 -> VAIC	0,632	0,572	0,332	1,903	0,029
STVA2014 -> VAIC	0,533	0,562	0,282	1,892	0,030

Source: Secondary data processed 2017

The next test is do by calculating the indicator of intellectual capital in 2015 with the indicator of corporate financial performance in 2015. Figure 6 below is the result of calculation by using PLS for data of 2015.

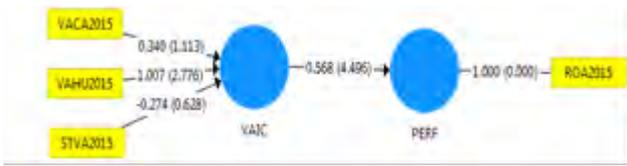


Fig. 6. Results of outer model H₁ 2015.

Based on the results of testing with PLS shown in Figure 6 above, it is known that from 3 VAICTM-forming indicators, only VAHU₂₀₁₅ has a t-statistic value above 1.645 that is equal to 2.776. While the VACA₂₀₁₅ and STVA₂₀₁₅ have a t-statistic value below 1.645. The table below shows the outer weight of intellectual capital indicator and financial performance of 2015.

TABLE VIII. RESULTS OF OUTER WEIGHT H₁ 2015

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2015 -> PERF	1,000	1,000	0,000		
VACA2015 -> VAIC	0,340	0,277	0,306	1,113	0,133
VAHU2015 -> VAIC	1,007	0,860	0,363	2,776	0,003
STVA2015 -> VAIC	-0,274	-0,179	0,436	0,628	0,265

Source: Secondary data processed 2017

Based on Table 8 above, the indicator STVA₂₀₁₅ has a low weight value and not significant. In order to obtain a good model it is necessary to re-test by eliminating STVA₂₀₁₅ is not significant and or only involving indicators that are close to significant. The results of the retesting of the VACA₂₀₁₅ and VAHU₂₀₁₅ indicators are shown in Figure 7 and Table 9.



Fig. 7. Outer model H₁ 2015 (recalculate) results.

After eliminating the insignificant indicator and involving only significant or significant indicator, it can be seen that both VACA₂₀₁₄ and STVA₂₀₁₄ have a weight value above 0,50 and t-statistic is significant p < 0,05.

TABLE IX. RESULTS OUTER WEIGHT H₁ 2015 (RECALCULATE)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2015 -> PERF	1,000	1,000	0,000		
VACA2015 -> VAIC	0,507	0,478	0,235	2,159	0,016
VAHU2015 -> VAIC	0,792	0,794	0,149	5,313	0,000

Source: Secondary data processed 2017

2) Test outer model hypothesis 2 year 2013 – 2015

The second hypothesis proposed in this study to examine the effect of intellectual capital on future financial performance. That is, intellectual capital is used as a tool to predict the company's financial performance in the future. Intellectual Capital Variables proxied with VAICTM are linked to the dependent variable (financial performance- PERF) with 1 year lag (2013 by 2014, and 2014 by 2015). Components of VAICTM in 2013 are linked to the financial performance measures of 2014. From the results of the data using the PLS obtained the following results:

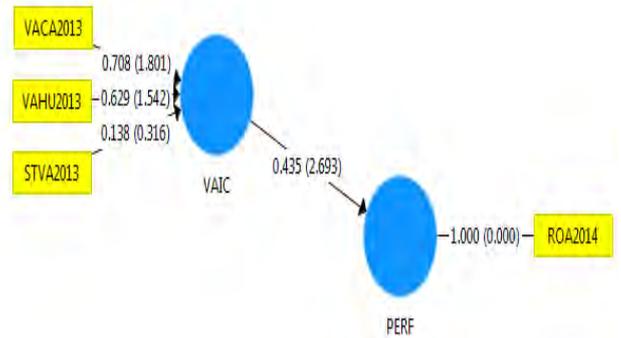


Fig. 8. Results of outer model H₂ year 2013-2014.

Based on the results of the PLS testing hypothesis 2 in Figure 8 above, indicating that of the three indicators in this study, only STVA₂₀₁₃ has a t-statistic value below at 1.282. While VACA₂₀₁₃ and VAHU₂₀₁₃ have a t-statistic value of 1.801 and 1.542 respectively. For more detail see Table 10 as follows.

TABLE X. VALUE OF OUTER WEIGHT H₂ 2013-2014

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2014 -> PERF	1,000	1,000	0,000		
VACA2013 -> VAIC	0,708	0,575	0,393	1,801	0,036
VAHU2013 -> VAIC	0,629	0,536	0,408	1,542	0,062
STVA2013 -> VAIC	0,138	0,166	0,435	0,316	0,376

Source: Secondary data processed 2017

Based on table 10 above, only indicator STVA₂₀₁₃ which has low weight value and not significant. In order to obtain a good model it is necessary to re-test with a significant t-statistical value or close to significant. The results of the retesting of the VACA₂₀₁₃ and STVA₂₀₁₃ indicators are shown in Figure 9 and Table 11.

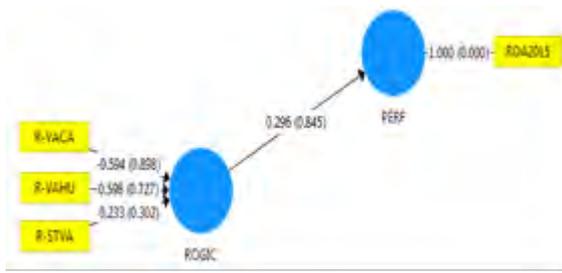


Fig. 9. Results of outer model H₂ year 2014-2015 (recalculate).

After eliminating the insignificant indicator and involving only significant or significant indicator, it can be seen that both VACA₂₀₁₄ and STVA₂₀₁₄ have a weight value above 0,50 and t-statistic is significant p <0,05.

TABLE XI. VALUE OF OUTER WEIGHT H₃ 2014-2015

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2015 -> PERF	1,000	1,000	0,000		
R-VACA -> ROGIC	-0,594	-0,091	0,662	0,898	0,185
R-VAHU -> ROGIC	0,598	0,382	0,823	0,727	0,234
R-STVA -> ROGIC	0,233	0,222	0,770	0,302	0,381

Source: Secondary data processed 2017

The next test is do by calculating the indicators of intellectual capital in 2014 with the indicator of corporate financial performance in 2015. Figure 10 below is the result of calculation by using PLS for 2015 data.

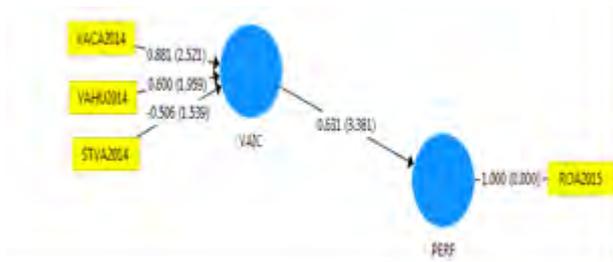


Fig. 10. Results of outer model H₂ year 2014-2015.

Based on the results of the PLS testing of Figure 10 above shows that to 3 indicators VACA₂₀₁₄, VAHU₂₀₁₄ and STVA₂₀₁₄ have t-statistics above 1,282 that is equal to 2,521; 1,959 and 1.539. But only STVA₂₀₁₄ which has only low weight value. For more details see the table below.

TABLE XII. VALUE OF OUTER WEIGHT H₂ 2014-2015

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2015 -> PERF	1,000	1,000	0,000		
VACA2014 -> VAIC	0,881	0,757	0,349	2,521	0,006
VAHU2014 -> VAIC	0,600	0,594	0,306	1,959	0,025
STVA2014 -> VAIC	-0,506	-0,411	0,329	1,539	0,062

Source: Secondary data processed 2017

Based on table 12 above, there are indicators that have low weight and significant value. In order to obtain a good model it is necessary to re-test with a significant t-statistical value or close to significant. The results of the retesting of the VACA₂₀₁₃ and STVA₂₀₁₃ indicators are shown in Figure 11 and Table 13.

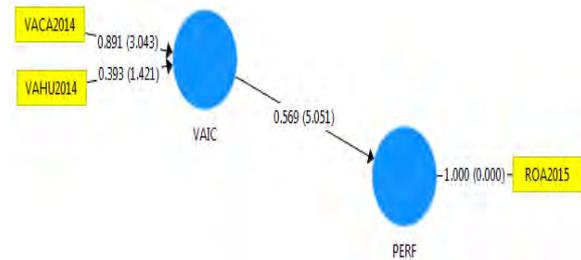


Fig. 11. Results of outer model H₂ year 2014-2015 (recalculate).

After eliminating the negative and significant indicator and involving only significant or significant indicator, it can be seen that both VACA₂₀₁₄ and STVA₂₀₁₄ have t-statistics above 1,282 and significant p <0.10. For more details see the table below.

TABLE XIII. VALUE OF OUTER MODEL H₂ 2014-2015 (RECALCULATE)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2015 -> PERF	1,000	1,000	0,000		
VACA2014 -> VAIC	0,891	0,785	0,293	3,043	0,001
VAHU2014 -> VAIC	0,393	0,443	0,277	1,421	0,078

Source: Secondary data processed 2017

3) Test outer model hypothesis 3 2013 - 2015

The third hypothesis proposed in this research is that ROGIC affects the future financial performance of the company. The rate of growth of intellectual capital (ROGIC) is the growth rate of VACA, VAHU and STVA companies from year to year. Will be tested for financial performance in the future with 1 year lag.

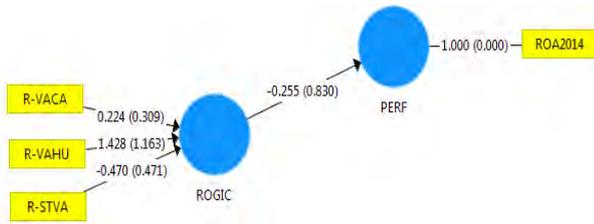


Fig. 12. Results of outer model H₃ 2013-2014.

Based on the results of the PLS test of Figure 4.11 above, it shows that the t-statistical value of R-VACA, R-VAHU, and R-STVA is 0.309; 1,163; And 0.471. The result has a value below t-table that is 1.282 so the result is not significant. For more details see the table below.

TABLE XIV. VALUE OF OUTER WEIGHT H₃ 2013-2014

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2014 -> PERF	1,000	1,000	0,000		
R-VACA -> ROGIC	0,224	0,197	0,724	0,309	0,379
R-VAHU -> ROGIC	1,428	0,977	1,228	1,163	0,123
R-STVA -> ROGIC	-0,470	-0,320	0,998	0,471	0,319

Source: Secondary data processed 2017

Based on table 14 above, indicating that ROGIC indicator is not feasible to explain construct. Jayati stated that the insignificant results will affect the inner capital result which will cause low R-square and t-statistic values between variables [14].

The next test is to test data PLS 2014-2015 years. Testing is done by calculating ROGIC indicator period 2014-2015 with financial performance 2015.

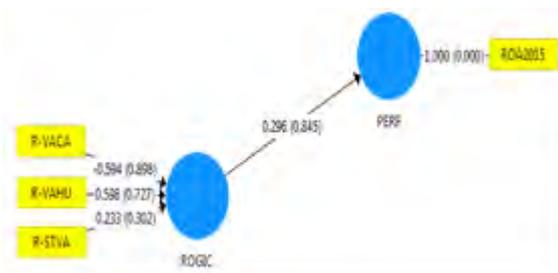


Fig. 13. Result outer model H₃ 2014-2015.

Based on the results of the PLS testing in Figure 13 above, it shows that the t-statistical value of R-VACA, R-VAHU, and R-STVA is 0.891; 0.726; And 0.296. These results prove that the indicator of ROGIC under t-table is 1.282 and not significant. For more details see the table below.

TABLE XV. VALUE OF OUTER WEIGHT H₃ 2014-2015

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROA2015 -> PERF	1,000	1,000	0,000		
R-VACA -> ROGIC	-0,594	-0,091	0,662	0,898	0,185
R-VAHU -> ROGIC	0,598	0,382	0,823	0,727	0,234
R-STVA -> ROGIC	0,233	0,222	0,770	0,302	0,381

Source: Secondary data processed 2017

Based on table 15 above, indicating that ROGIC indicator is not feasible to explain construct. The insignificant results will affect the result of inner capital which will cause low R-square and t-statistic values between variables.

4) Inner model test

The dependent variable is evaluated using the R-square value, while the independent variables are evaluated using the original sample showing the positive or negative values. The result of inner model can be seen from original sample value, T-statistic and R square. The second step in doing Partial Least Square testing is by testing inner model. The results of inner model testing are as follows:

TABLE XVI. VALUE INNER WEIGHTS H₁

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
VAIC ₂₀₁₃ -> PERF ₂₀₁₃	0,512	0,542	0,190	2,698	0,004
VAIC ₂₀₁₄ -> PERF ₂₀₁₄	0,595	0,619	0,130	4,564	0,000
VAIC ₂₀₁₅ -> PERF ₂₀₁₅	0,601	0,622	0,121	4,973	0,000

Source: Secondary data processed 2017

The result of hypothesis test 1 (H₁) in 2013 that is the influence of intellectual capital (VAICTM) to financial performance of banking company have positive and significant effect. It is based on the above table, the original sample value shows a positive result of 0.512 and t-statistics of 2.805 whose value is greater than t-table 1.645. In 2014, shows that based on the above table, the influence of intellectual capital on the financial performance of banks in 2014 have a positive and significant impact. It is based on the table, the original sample value shows a positive result of 0.595 and t-statistics of 4,564 whose value is greater than t-table 1.645. While in 2015 proves the results of the table positively and significantly influence. Testing of hypothesis 1 proves that intellectual capital have positive and significant influence to financial performance of banking.

TABLE XVII. VALUE INNER WEIGHTS H₂

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
VAIC ₂₀₁₃ -> PERF ₂₀₁₄	0,432	0,498	0,156	2,767	0,003
VAIC ₂₀₁₄ -> PERF ₂₀₁₅	0,569	0,607	0,113	5,051	0,000

Source: Secondary data processed 2017

The result of hypothesis testing 2 (H2) is the influence of intellectual capital (VAICTM) in 2013 to financial performance of banking company in 2014 have positive and significant effect. It is based on the above table, the original sample value shows a positive result of 0.432 and t-statistics of 2.767 whose value is greater than t-table 1.645. While the influence of intellectual capital (VAICTM) in 2014 terhadap financial performance of banking companies in 2015 have a positive and significant impact. It is based on the table, the original sample value shows a positive result of 0.569 and t-statistics of 5.051 whose value is greater than t-table 1.645. Testing of hypothesis 2 proves that intellectual capital have positive and significant impact to financial performance of banking future.

TABLE XVIII. VALUE INNER WEIGHTS H₃

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ROGIC ₁₃₋₁₄ -> PERF ₂₀₁₄	0,296	0,206	0,351	0,845	0,199
ROGIC ₁₄₋₁₅ -> PERF ₂₀₁₅	-0,255	-0,250	0,307	0,830	0,203

Source: Secondary data processed 2017

Of Result of hypothesis 3 (H3) test that is influence of growth rate of growth intellectual capital (ROGIC) period 2013-2014 to company financial performance in the future show original result sample 0,296 and t-statistic 0,845 smaller than t-table. This resulted in the growth rate of intellectual capital has not played an important role for companies, especially banks. These results prove that the growth rate of intellectual capital has no significant effect on future financial performance.

While the rate of growth intellectual capital (ROGIC) of 2014-2015 on the company's financial performance in the future shows the original ahsil sample -0.255 and t-statistics of 0.830. This resulted in the growth rate of intellectual capital has not played an important role for companies, especially banks. These results prove that the growth rate of intellectual capital has no significant effect on future financial performance.

The next step is to look at the R-Square value of the research model. The structural model is evaluated by using R-Square for the dependent construct and t test as well as the significance of the structural path parameter coefficients. In assessing the model with PLS, it starts by looking at R-Square for each dependent variable. Changes in R-Square values can be used to assess the effect of certain latent independent variables on latent dependent variables whether they have substantive influences [21]. Decision making in inner model by looking at weight and should show positive direction with t-statistic above 1,282 (for α 0,10); 1,645 (for α 0.05); 2,326 (for α 0.01) one tailed. The three hypotheses in the inner model test yield the coefficient of determination or R-square as follows:

TABLE XIX. R-SQUARE VALUES H₁, H₂, AND H₃

Variable	R-Square						
	Hypothesis 1			Hypothesis 2		Hypothesis 3	
	2013	2014	2015	2013-2014	2014-2015	2013-2014	2014-2015
VAIC	-	-	-	-	-	-	-
PERF	0,262	0,355	0,362	0,187	0,324	0,088	0,065

Source: Secondary data processed 2017

In table 19 above, shows the results of R-Square testing on the three hypotheses proposed. The value of R-Square PERF in 2013 is 0.262, meaning that VAICTM variable is able to explain PERF variable equal to 26,2%. The value of R-Square 2014 and 2015 as presented in the table is the first hypothesis testing. While the results of R-square hypothesis 2 are 0.187 and 0.324 respectively. It shows that the period 2013-2014 intellectual capital is able to explain the future financial performance of 18.7% and the period 2014-2015 intellectual capital is able to explain the future financial performance of 32.4%. While the rest is explained by other variables that are not used in this study. Ulum says the greater the R-Square number indicates the greater the independent variable can explain the dependent variable, so the better the structural equation [19].

The result of R-Square value of hypothesis 3 period 2013-2014 intellectual capital growth rate able to explain future financial performance of 8.8% and period 2014-2015 intellectual capital growth rate able to explain the future financial performance of 6.5%. While the rest is explained by other variables that are not used in this study. Ulum says the greater the R-Square number indicates the greater the independent variable can explain the dependent variable, so the better the structural equation [19].

V. DISCUSSION

Based on the results of the above PLS testing, the discussion is presented in three sections, the first section discusses the influence of intellectual capital on the financial performance of banks in the current year (H1). In the second part discusses the influence of intellectual capital (VAICTM) on the financial performance of banking in the future (H2). While the third section discusses the influence of intellectual capital growth rate (ROGIC) on the financial performance of the company's future (H3).

A. Intellectual Capital Influence on Financial Performance of Banking

First hypothesis in this study examined the effect of intellectual capital on the company's financial performance in the same year. Intellectual capital is tested using the company's financial performance in the year of observation 2013 to 2015. In 2013 to 2015 hypothesis 1 shows that the influence of intellectual capital on the financial performance of banking companies positive and significant with the value of T-statistics in 2013 of 2,698 is greater than T -table is 1.645; In 2014 the value of T-statistics of 4.564. While the year 2015 amounted to 4.973 R-square value in 2013 to 2015 in a row by 0.262; 0.355

and 0.363 which means that the VAICTM variable in 2013 is able to explain the financial performance of 2.62% while the rest is explained by other variables. Based on the explanation, it is known that hypothesis 1 is accepted.

The results of this study are consistent with the research of Chen et al which states that intellectual capital has a positive effect on the financial performance of the company [8]. This research is same with result of research of Ulum and Jayati which stated that based on the result of penelitian with PLS known all value of t-statistic and R-Square, hypothesis 1 proved intellectual capital have significant and significant to company financial performance because t- Statistics are bigger than t-tables [14, 19].

The results of this study in accordance with the results of research which states there is a positive influence between intellectual capital with company performance as well as research Bontis [22] at Malaysia and Murti companies [23]. So it can be indicated if intellectual capital has played an important role in the contribution of financial performance of banking companies in Indonesia [17].

However, the results of this study differ from Kuryanto which states that intellectual capital does not positively affect the financial performance of the company, so there is an indication of the use of physical and financial assets still dominate to contribute to the performance of the company [24].

B. Intellectual Capital Influence on Financial Performance of Future Banking

The second hypothesis in this study is to examine the influence of intellectual capital on the financial performance of banking companies in the future. The results of testing and data processing with PLS proves that intellectual capital has a positive and significant impact on financial performance of banking companies in the future. That is, that intellectual capital is used as a tool to predict the company's financial performance in the future. In this context intellectual capital is tested with a lag of 1 year.

It is based on t-statistic value from year 2013-2014 and 2014-2015 respectively of 2,767 and 5,051 indicates that t-statistic is bigger than t-table. The values of R-squares are 0.187 and 0.324 respectively. That is, that intellectual capital is able to explain the financial performance of banking companies by 1.87% and 3.24%. While the rest is explained by other variables that are not used in this study. Based on the explanation, that hypothesis 2 is accepted.

The results of this study are in accordance with Firer and William and Ulum, which states that not all components of VAICTM have a significant influence on the financial performance of the company [7, 19]. In this case, the test results indicate that VACA and VAHU have significant T-statistical values to explain the VAICTM constructs. The results of this study are consistent with Mavridis, Ulum, and Kamath findings that in the case of the banking industry, the relevant VAICTM components are VACA and VAHU [9, 11, 25, 26]. It also supports the statement of Pulic when it first introduced the VAICTM method which states that the intellectual abilities of a

company are built by physical capital (VACA) and intellectual potential (VAHU) [5].

The results of this study in accordance with the results of research and Murti which stated that the higher the intellectual capital of a company, the higher the future performance of the company [11, 23]. The results of this study are also in accordance with the research of Chen et al. which proves that intellectual capital can be one of the indicators to predict company performance in the future [8].

However, the results of this study differ from the results of research which states intellectual capital is not a major component of the company, making it difficult to measure the company's performance in the future [24].

C. The Influence of Intellectual Capital Growth Rate on Financial Performance of Future Banking

The third hypothesis in this study is to examine the effect of growth rate of intellectual capital (ROGIC) on financial performance in the future with 1 year lag. The growth rate of intellectual capital from 2013-2014 is tested with the financial performance of 2014 and 2014-2015 tested with the financial performance of 2015. The results of testing and data processing with PLS proves that intellectual capital has no significant effect on the financial performance of banking companies in the future, with the value of t- Statistics 0.845 for the year 2013-2014 and 0.830 years 2014-2015. The t-statistics value is smaller than t-table. The value of R-square for year 2013-2014 is 0,088 and for year 2014-2015 equal to 0,065. That is, that the growth rate of intellectual capital is able to explain the future financial performance of 8.8% and 6.5%. While the rest explained other variables. These results indicate that growth rates on future financial performance are insignificant. Based on the result of the explanation, that hypothesis 3 is rejected.

The results of this study indicate that there is no close relationship between ROGIC with the future financial performance of the company. The results of this study are in accordance with the results of research, which states that his research had no positive effect for ROGIC 2003-2004 and had a positive effect for ROGIC 2004-2005 but not significant [24]. This study is also consistent with the Tan et al [17] study which states that there is no ROGIC influence on future corporate financial performance [19].

The results of this study are also in line with Jayati's study which states that the influence of ROGIC on future corporate financial performance is not significant, because all indicators have t-statistics under t-table [14]. However, this study is not in line with the research of Tan et al which states that there is a positive influence between the growth rate of a company's intellectual capital and the future performance of the company [17].

Jayati says that the reason why the results do not have a significant effect is because the mean value is smaller than the standard deviation. Jayati also stated that the insignificant growth rate of growth intellectual capital (ROGIC) on the company's financial performance means that the company has not managed and developed its resources and is still focused on the short-term interests of the company's return [14].

VI. CONCLUSION

Based on the results of testing and discussion as has been presented, it can be drawn some conclusions as follows:

The first hypothesis proposed in this study is the influence of intellectual capital on the financial performance of banks. In this study, intellectual capital was tested with financial performance in the same year. Based on the results of testing with PLS note that the value of t-statistics in a row from the year 2013-2015 amounted to 2.698; 4,564 and 4,973. The value of weight (original sample) in a row is 0,512; 0.595 and 0.601. While the R-square value of 0.262; 0.355 and 0.362. So the first hypothesis has a positive and significant effect, which means that H1 is accepted.

The second hypothesis is the influence of intellectual capital on the future financial performance of the company. This, intellectual capital is tested against financial performance with 1 year lag. Based on the test results show that all indicators have a t-statistic value above t-table. So the second hypothesis has a positive and significant effect, which means that H2 is accepted.

The third hypothesis is the influence of the growth rate of intellectual capital on the future financial performance of the company. Test results with PLS prove that statistically there is no ROGIC influence on future financial performance. So the second hypothesis has no significant effect, which means H3 is rejected. Jayati says that the reason why the results do not have a significant effect is because the mean value is smaller than the standard deviation [14]. Jayati also stated that the insignificant growth rate of growth intellectual capital (ROGIC) on the company's financial performance means that the company has not managed and developed its resources and is still focused on the short-term interests of the company's return [14].

REFERENCES

- [1] B. Wernerfelt, "Resource-Based View of The Firm," *Strategic Management Journal*, vol. 5, pp. 171-180, 1984.
- [2] R. Petty and J.Guthrie, "Intellectual capital literature review: Measurement, reporting and management," *Journal of Intellectual Capital*, vol. 1, no. 2, pp.155-176, 2000.
- [3] J. Mortensen, *Measuring and Reporting Intellectual Capital : Experiance, Issue and Prospects*, OECD and International Symposium, Royal Netherland Academy of Arts and Science: Amsterdam - Netherland, June 1999.
- [4] Y.M. Pramelasari, *Pengaruh Intellectual Capital Terhadap Nilai Pasar Dan Kinerja Keuangan Perusahaan*. Semarang: Fakultas Ekonomi Universitas Diponegoro Semarang, 2010, pp. 20.
- [5] A. Pulic, "Measuring the performance of intellectual potential in the knowledge economy," *The2nd World Congress on the Management of Intellectual Capital*, Hamilton, ON, January 21-23, 1998.
- [6] L.M Ifada and H. Hapsari, "Pengaruh Intellectual Capital terhadap Kinerja Keuangan Perusahaan Publik (Non Keuangan) di Indonesia," *Review Akuntansi Dan Keuangan*, vol. 2, no. 1, pp. 181-194, 2012.
- [7] S. Firer and S.M. Williams, "Intellectual Capital and Traditional Measures of Corporate Performance," *Journal of Intellectual Capital*, vol. 4, no. 3, pp. 348- 60, 2003.
- [8] M.C. Chen, S-J Cheng, and Y. Hwang, "An Empirical Investigation of the Realiationship between Intellectual Capital and Firm's Market Value and Financial Performance," *Journal of Intellectual Capital*, vol. 6, no. 2, 2005.
- [9] I. Ulum, *Intellectual Capital*, 1st Ed. Yogyakarta 55511: Graha Ilmu, 2009, pp. 41.
- [10] M. Joshi, "Intellectual capital performance in the banking sector: An assessment of Australian owned banks," *Journal Of Human Resource Costing & Accounting*, vol. 14, no. 2, pp. 151-170, 2010.
- [11] I. Pratiwi, *Faktor- Faktor Penentu Atas Pengungkapan Modal Intelektual di Indonesia*. Depok: Universitas Indonesia, 2013, pp. 17.
- [12] R.C. Hadiwijaya, *Capital Terhadap Nilai Perusahaan dengan Kinerja Keuangan Sebagai Variabel Intervening*. Semarang: Fakultas Ekonomika Dan Bisnis Universitas Diponegoro, 2013, pp. 27.
- [13] Jumingan, *Analisis Laporan Keuangan*. Cetakan Pertama, Jakarta: PT Bumi Aksara, 2006, pp. 239.
- [14] S.E. Jayati, *Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Perusahaan Perdagangan Jasa Yang Terdaftar Di Bursa Efek Indonesia*. Yogyakarta: Fakultas Ekonomi Universitas Negeri Yogyakarta, 2016, pp. 20-82.
- [15] M. Hanafi dan A. Halim. *Analisis Laporan Keuangan*. Rev. Ed. Yogyakarta: UPP AMP YKPN, 2003.
- [16] C.P. Dewi, *Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Pada Perusahaan Manufaktur Yang Terdaftar di Bursa Efek Indonesia Tahun 2007-2009*. Semarang: Fakultas Ekonomi Universitas Diponegoro Semarang, 2011.
- [17] H.P. Tan, D. Plowman, and P. Hancock, "Intellectual Capital and Financial Return of Companies," *Journal of Intellectual Capital*, vol. 8, pp. 76-95, 2007.
- [18] N. Sutanto and I. G. Siswantaya, "Pengaruh modal intelektual terhadap kinerja perusahaan pada perusahaan perbankan yang terdaftar di bursa efek indonesia," *Jurnal Modus*, vol. 26, no 1, 2014.
- [19] I. Ulum, "Intellectual Capital Performance Sektor Perbankan di Indonesia," *Jurnal Akuntansi Dan Keuangan*, vol. 10, pp. 77-84, 2008.
- [20] J.F. Weston, S. Besley, and E.F. Brigham, *Essential Of Managerial Finance*, 8th Ed., 1996, pp. 103.
- [21] I. Ghozali, *Structural Equation Modeling Metode Alternatif Dengan Partial Least Square (PLS)*, 4th Ed. Semarang: Universitas Diponegoro, 2014.
- [22] N. Bontis, W. Chua C.K., and S. Richardson, "Intellectual Capital and Business Performance in Malaysian Indurtries," *Journal of Intellectual Capital*, vol. 1, no. 1, pp. 85-100, 2000.
- [23] A.C. Murti, "Analisis Pengaruh Modal Intelektual terhadap Kinerja Perusahaan (Studi pada Perusahaan yang Terdaftar di Bursa Efek Indonesia)," *Skripsi*. FE Jurusan Akuntansi, Universitas Diponegoro, 2010.
- [24] B. Kuryanto, M.S. "Pengaruh Modal Intelektual Terhadap Kinerja Perusahaan," *Akuntansi Dan Auditing*, vol. 5, no. 2, pp. 128-147, 2009.
- [25] D.G. Mavridis and P. Kyrmizoglou, "Intellectual capital performance drivers in the Greek banking sector," *Management Research News*, vol. 28, no. 5, pp. 43-62, 2005.
- [26] G.B. Kamath, "The intellectual capital performance of the Indian banking sector," *Journal of Intellectual Capital*, vol. 8, no. 1, pp. 96-123, 2007.