

THE MYSTIQUE OF INTELLECTUAL CAPITAL: A SILENT EFFECT

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ABSTRACT

Intellectual capital has been a long-standing issue, about its existence and its influence on company performance, but it is not recorded in the company's financial statements. Its presence is not visible in the financial statements but affects the company's performance. The 3 (three) main components of intellectual capital are Value-added Capital Employed (VACA), Value-Added Human Capital (VAHU), and Structural Capital Value-Added (STVA). The objective of this study is to prove the impact of those intellectual capital's components on financial performance. This study used a quantitative method. The population is banking companies listed on the Indonesia Stock Exchange which are classified as LQ 45. The sample is a banking company listed on the Indonesia Stock Exchange which is classified as LQ 45. The model that used to measure intellectual capital was the Pulic model, which is a measurement of intellectual capital performance made following the demands inflicted on financial performance. The results of the study showed that Value-added Capital used has a significant positive effect on financial performance, added value human capital has a significant negative effect on financial performance, and added value of structural capital has a significant positive effect on financial performance.

Keywords: *Intellectual capital, VACA, VAHU, STVA, Pulic, performance*

1. INTRODUCTION

With a science-based business, the company's competitive ability is not only conceived by tangible assets but also how the company manages intangible assets optimally. One approach used in assessing and measuring intangible assets is Intellectual Capital, which has now become the focus of attention in various fields, both management, information technology, sociology, and accounting. (Petty and Guthrie, 2000). This is a challenge for accountants to be able to measure Intellectual Capital in financial statements. So the financial statements produced have usefulness to meet the information needs of the stakeholders. Intellectual capital has long been an issue.

Suhardjanto and Wardhani (2010) revealed that the level of intellectual capital disclosure in Indonesia was still low at an average of 34.5%. Yet based on the results of a global

survey conducted by Price Waterhouse-Coopers (Eccles et al., 2001 in Bozzolan et al., 2003) and Taylor and Associates (Williams, 2001) in 1998, showed that information about a company's intellectual capital is 5 out of 10 types of information needed by users of financial statements.

The limited provisions of accounting standards regarding intellectual capital encourage experts to create measurement and reporting models. One model that is very popular in various countries is the Value Added Intellectual Coefficient (VAICTM) developed by Pulic (1998). VAICTM does not measure intellectual capital but measures the impact of intellectual capital management (Ulum, 2017: 119). The assumption is that if a company has good intellectual capital and is well managed, then there will certainly be an impact. That impact was then measured by Pulic with VAICTM.

The relationship between intellectual

capital and company performance has been proven empirically by several previous researchers. Alfrah (2017) showed that optimal intellectual capital management has a positive and statistically significant impact on company performance. McDowell et al. (2018) who conducted a study of 460 MSMEs showed that there was a positive relationship between the intellectual capital components of organizational performance. The results of both studies are in line with the results of Hamdan's (2017) study which conducted research on companies in the Kingdom of Saudi Arabia and Bahrain.

In Indonesia, the relationship of intellectual capital to financial performance has been proven by several previous researchers. Wijayani (2017) conducted a study of manufacturing companies listed on the Indonesia Stock Exchange for the 2012-2014 period. The results of his research show that Intellectual Capital has a significant positive effect on financial performance which is proxied through ROA, ROE, and EPS. Sutanto and Siswantaya (2014) conducted research on banking companies listed on the Indonesia Stock Exchange. The results of his research show that Intellectual Capital has a significant positive effect on company performance and company performance in the future. The results of the study of Sriwahyuni et al. (2019) also supports the results of previous studies. Research conducted at this pharmaceutical company shows the results that Intellectual Capital influences financial performance which is proxied through ROA and Net Profit Margin.

But the results of research from Andriana (2014) and Wulandari et al. (2018) contradicts previous studies. The results of these two studies indicate that intellectual capital does not affect financial performance.

According to Hery (2016: 25), financial performance is an attempt to evaluate the efficiency and effectiveness of companies in generating certain profits and cash positions. Besides, the measurement of financial performance will reveal the prospects of the company's financial growth and development obtained by relying on the resources they have.

According to Sudibya and Restutidalam Aida and Rahmawati (2015), a company's performance is a picture of a company's financial condition that is analyzed by financial analysis tools. So that information is obtained about the good and bad of the company's financial condition, while also reflecting the optimal use of resources in the face of market competition. In this study, the authors use Return on Assets (ROA) as a proxy for measuring company performance.

This study refers to the research of Ozkan et al. (2017). The difference between this study and previous research is that the previous research took samples of banking companies in Turkey in the period 2005 - 2014. While in this study, using a sample of banking companies listed on the Indonesia Stock Exchange in the period 2008 - 2018. The selection of banking samples is because banking is a service sector that prioritizes services to consumers. It is this service system that relies on intellectual or human capital intelligence. Based on the background description above, this study has entitled the effect of intellectual capital on the financial performance of banking companies included in LQ45 Index on the Indonesia Stock Exchange in the 2008-2018 period. Based on the discussion above, then the question in this research is whether VACA, VAHU or STVA which affects the financial performance?

2. LITERATURE REVIEW

Resource-Based Theory was developed to analyze the competitive advantage of a company that features knowledge or which relies on intangible assets. Valuable and scarce resources can be directed to create a competitive advantage so that the resources owned can last long and are not easily imitated, transferred or replaced. (Ulum, 2017: 23). Barney in Ulum (2017: 23) explains that to be a potential resource and a sustained competitive advantage, the company's resources must have four keys; Valuable Resources, Rare Resources, Imperfectly Imitable Resources, and Non-Substitutability Resources.

2.1 Financial performance

According to Sudibya and Restuti in

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Aidadan Rahmawati (2015), financial performance can be interpreted as an achievement that has been realized through work that has been carried out to the fullest, which includes income statements, balance sheets, and capital change reports that can be used as a measurement tool to find out financial performance company in a certain period. In this study, the used ratio is Return on Assets (ROA).

2.2 Value Added Capital Employed (VACA)

The relationship between VACA and financial performance has been studied by several previous researchers. Ozkan et al. (2017) conducted a study of 44 banks operating in Turkey in 2005 - 2014. The results of his study showed that capital employed (VACA) had a positive effect on financial performance which was proxied to ROA. Capital Employed Efficiency (CEE) and Human Capital Efficiency (HCE) have a positive effect on the financial performance of banks. While Structural Capital Efficiency (SCE) is less effective in creating added value for the banking sector when compared to HCE. Smitri and Das (2017) conducted research on companies in India registered with COSPI and the results of their research showed that employed capital had a positive effect on profitability which was proxied to ROA. Intellectual capital is a fundamental cause for increasing company productivity, profitability, growth and market value. Overall, Human Capital has a large impact on company productivity during the study period. Al-Musali and Ku Ismail (2016) conducted research on commercial banks in GCC countries, the results of the study showed that the efficient use of Capital Employed had an impact and positive relationship on financial performance. Bank profitability in all GCC countries, except Kuwait, has been created more by Capital Employed. Simarmata and Subowo (2016) conducted research on 30 banking companies listed on the Indonesia Stock Exchange in the period 2010 - 2013. The results of this study showed that capital employed had a positive effect on ROA. Jayanti and Binastuti (2017) conducted research on 40 banking companies in the period 2010-

2014. Their research showed that VACA has a positive effect on ROA. Based on the *discussion* above, the hypothesis is as follows:

H1: Value Added Capital Employed (VACA) has a positive effect on financial performance.

2.3 Value Added Human Capital (VAHU)

The relationship between VAHU and financial performance has been studied by several previous researchers. Ontiset al. (2018) conducted a study of 151 cooperatives in Italy. The results of his research show that Human Capital has a positive contribution to the performance that is proxied to ROA. Also, the results of research McDowell et al. (2018) showed the similar result. Research conducted on 460 small business owners shows that Human Capital has a positive influence on organizational performance proxy to 8 items, one of which is ROA. Ozkan et al. (2017) also conducted a study of 44 banks in Turkey and the results showed that Human Capital had a positive effect on financial performance. Simarmata and Subowo (2016) showed the similar result that human capital has a positive effect on financial performance and indicate that Intellectual Capital (VAICTM) has a positive effect on financial performance (ROA) and firm value (PBV). CEE has a positive effect on financial performance, but harms firm value. HCE has proven to have a positive effect on both financial performance and company value. SCE has proven to have a negative effect both on financial performance and so on firm value.

Sardo and Serrasqueiro (2016) conducted a study the non-financial companies in 14 countries in Western Europe show that the highest contribution to the company's financial performance is found as human capital.

The research hypothesis can be formulated as follows:

H2: Value Added Human Capital (VAHU) has a positive effect on financial performance.

2.4 Structural Capital Value Added (STVA)

STVA shows the contribution of structural capital in creating value-added to the company. Structural Capital is the company's ability to fulfil the process of its activities and structures

that support the efforts of employees to produce optimal intellectual performance and overall business performance (Fariana, 2014). The relationship between STVA and financial performance has been studied by previous researchers. Ginesti et al. (2018) conducted a study of 452 companies that obtained reputation assessments from the Italian Competition Authority (ICA) and the result of the study showed that STVA had a positive and significant relationship to financial performance. Tiwari and Vidyarthi (2016) conducted research on banks listed on the Bombay Stock Exchange. The result showed that structural capital has a significant positive relationship on bank performance. Chowdhury et al. (2018) conducted a study in the textile industry sector in Bangladesh and the result showed that structural capital has a considerable effect on ROA which is a proxy for measuring financial performance. The results of the study are also in line with the results of Jayanti & Binastuti (2017) research which states that STVA has a positive effect on financial performance which is proxied through ROA. Based on the discussion above, the hypothesis is as follows:

H3: Structural Capital Value Added (STVA) has a positive effect on financial performance.

3. RESEARCH METHODS

Operational Definition and Variable Measurement

The independent variables in this research are the forming components of intellectual capital, namely Value-Added Capital Employed (VACA), Value-Added Human Capital (VAHU), and Value-Added Structural Capital (STVA). Whereas variable variability in this research is financial work.

In this study, the financial performance indicators used are *Return on Assets* (ROA).

Independent Variable

The independent variable is an independent variable that influences or explains the dependent variable. The independent variables in this research are the components that make up intellectual capital.

3.2 Value Added Capital Employed (VACA)

Good utilization of Capital Employed is part of the company's intellectual capital. The formula used to calculate VACA is $VACA = VA / CA$.

3.3 Value Added Human Capital (VAHU)

Value Added Human Capital (VAHU) is the ratio of Value Added (VA) to Human Capital (HC). This ratio is an indicator of how much value-added can be created from the funds that the company has spent on its workforce. Quality workers will have the ability to drive company performance so that a value creation process will occur. The formula used to determine this VAHU is $VAHU = VA / HU$.

3.4 Structural Capital Value Added (STVA)

Structural Capital Value Added (STVA) is the ratio of Structural Capital to Value Added (VA). This ratio shows the contribution of Structural Capital (SC) in creating value. Pulic in Ulum (2017) explains that Structural Capital is dependent on creating value. The formula used to calculate STVA is $STVA = ST / VA$.

Population and Sample

The population in this study is the banking companies listed on the Indonesia Stock Exchange. The sampling technique used for this study was purposive sampling. The samples were LQ45 banking companies that published 11 (eleven) annual reports for the years 2008 to 2018.

Data Collection

The type of data used in this study is secondary data in the form of annual financial statements contained on the official website of the Indonesia Stock Exchange and related company websites from the period 2008-2018 and will be processed using the Eviews program.

Analysis Method

The research model is as follows:

$$Y = \alpha + \beta_1 VACA + \beta_2 VAHU + \beta_3 STVA + e$$

Note:

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Y = Financial Performance

VACA = Value added ratio to employed capital

VAHU = Value added ratio to human capital

STVA = Structural capital ratio to value added.

The analysis includes classical assumption test, goodness of fit test, simultaneous test, and individual test.

4. RESEARCH RESULTS AND DISCUSSION

Research result

The normality test shows the following results:

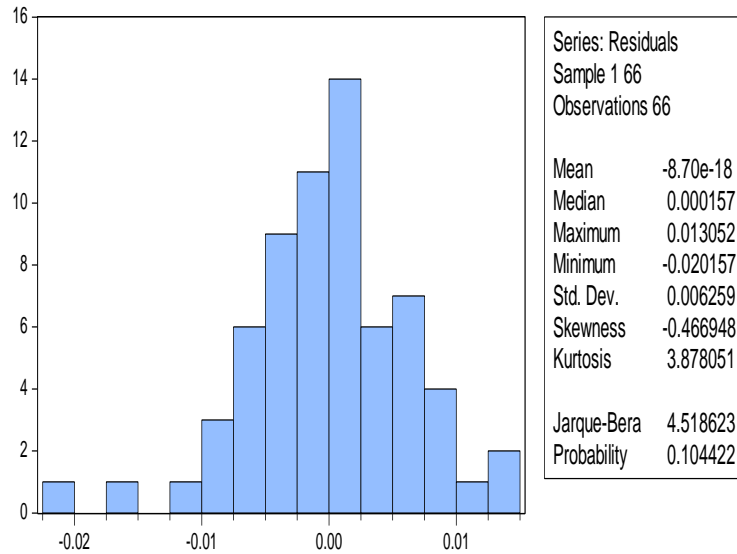


Figure 1. Normality Test
 (Source: Processed Data)

Based on the normality test that has been done by reviewing 9 programs, the indicator of Jarqua Berra is $0.104 < 2$ which means that data is normally distributed. The data also passed the multicollinearity test, heteroscedasticity test and

the serial correlation test. *It means the data passed the classic assumption test.*

Hypothesis testing

Hypothesis testing shows the following result:

Dependent Variable: ROI
 Method: Least Squares
 Date: 07/04/19 Time: 23:09
 Sample: 1 66
 Included observations: 66

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | -0.031211 | 0.006699 | -4.659008 | 0.0000 |
| STVA | 0.154540 | 0.027660 | 5.587207 | 0.0000 |
| VACA | 0.056911 | 0.014851 | 3.832021 | 0.0003 |
| VAHU | -0.017395 | 0.005112 | -3.402992 | 0.0012 |
| R-squared | 0.605299 | Mean dependent var | | 0.029961 |
| Adjusted R-squared | 0.586201 | S.D. dependent var | | 0.009962 |
| S.E. of regression | 0.006408 | Akaike info criterion | | -7.203742 |
| Sum squared resid | 0.002546 | Schwarz criterion | | -7.071036 |
| Log likelihood | 241.7235 | Hannan-Quinn criter. | | -7.151303 |
| F-statistic | 31.69371 | Durbin-Watson stat | | 1.029155 |
| Prob(F-statistic) | 0.000000 | | | |

Figure 2. Regression Results
 (Source: Processed Data)

The Adjusted R-squared value is 0.586201, which means 58.62% of the variation in ROA can be explained by the VACA, VAHU, and STVA variables in the model. While the remaining 41.38% is explained by other independent variables that are not included in this model. Based on the shown result of the Simultaneous Significance Test (F test), the Prob-F is 0.000000 ($p < 0.05$) which indicates that the regression model can be used to predict financial performance or it can be said that VACA, VAHU, and STVA together have been proven to have a significant effect on financial performance. Based on individual test result, the VACA coefficient value is 0.056911 with a prob value of 0.0003, VAHU coefficient value is -0.017395 with a prob value of 0.0012, and STVA coefficient value is 0.154540 with a prob value of 0.0000.

Discussion

Value Added Capital Employed (VACA) has shown a significant positive effect on the financial performance of banking companies listed on the Indonesia Stock Exchange in the 2008-2018 period. This has been proven by the VACA coefficient value of 0.056911 and a prob value of 0.0003 ($p < 0.05$) so that the first hypothesis is proven. While in **Table 4.13** above, the adjusted R-Square value is 0.058510, this figure shows that the significant amount of the VACA variable on ROA is 58.51%.

The results of the first hypothesis testing which states that VACA has a positive and significant effect on financial performance which is proxied using Return on Assets (ROA), indicates that the higher VACA in a company, the higher possibility to increase the Return on Assets (ROA).

If the company can utilize the employed capital to its full potential, it will be able to encourage value creation in the company, so this will also affect the company's financial performance.

The results of this hypothesis are in line with research conducted by Ozkan et al. (2017),

Smitri and Das (2017), Al-Musali and Ku Ismail (2016), Simarmata and Subowo (2016), Jayanti and Binastuti (2017) In their research, showing the results of VACA has a positive effect on financial performance.

Value Added Human Capital (VAHU) has a significant negative effect on the financial performance of banking companies listed on the Indonesia Stock Exchange in the period 2008-2018, this is evidenced by the VAHU coefficient value of -0.017395 and a prob value of 0.0012 which is smaller than the significance level of 0.05 so the second hypothesis is not proven. While in table 4.14 above, the *Adjusted R-Square* value is 0.294898, this figure shows that the significant amount of the VAHU variable on ROA is 29.48%

The test results stating that VAHU has a positive and significant effect on financial performance which is proxied using *Return on Assets* (ROA), implies that the use of human capital can contribute to the company's ability to drive financial performance. The absence of a positive influence from VAHU on financial performance seems to be due to the company allocating more funds to finance intellectual capital in the form of non-HR. The results of this study are not following the reports of Nick Bontis (2017), McDowell et al. (2018), Simarmata and Subowo (2016), and Sardo and Serrasqueiro (2016) which stated that VAHU had a positive effect on financial performance.

Structural Capital Value Added (STVA) has a significant positive effect on the financial performance of banking companies listed on the Indonesia Stock Exchange in the period 2008-2018, this has been proven by the STVA coefficient value of 0.154540 and a prob value of 0.0000 ($p < 0.05$) so the hypothesis three proven. While in table 4.15 above, the *Adjusted R-Square* value is 0.420817, this figure shows that the significant amount of the STVA variable on ROA is 42.08%

The results of testing the third hypothesis which states that STVA has a positive and significant effect on financial performance which is proxied using *Return on Assets* (ROA), indicates that the higher the STVA in a company,

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it will be able to increase Return on Assets (ROA).

The results of this hypothesis are in line with the results of the study of Ginesti *et al.* (2018), Tiwari and Vidyarthi (2016), Chowdhury *et al.* (2018), Jayanti and Binastuti (2017) which states that STVA has a positive effect on financial performance which is proxy through ROA.

5. CONCLUSIONS AND SUGGESTIONS

Conclusions

This study aims to determine the effect of intellectual capital components namely Value-Added Capital Employed (VACA), Value-Added Human Capital (VAHU), Structural Capital Value-Added (STVA) on financial performance that is proxied by Return on Assets (ROA) in banking companies in 2008 -2018.

The results showed that VACA had a significant positive effect on the financial performance of banking companies listed on the Indonesia Stock Exchange; VAHU had a significant negative effect on the financial performance of banking companies listed on the Indonesia Stock Exchange; STVA had a significant positive effect on financial performance on banking companies listed on Indonesia stock exchange.

Suggestion

Based on the conclusions above, the writers recommend:

1. Companies should pay more attention to resources that can form intellectual capital. Given the entry of the era of the new economy that prefers knowledge-based business.
2. For further researchers who want to research a similar topic can use different financial performance measures, for example, Return on Equity (ROE) or Earning Per Share (EPS). It also can use different company sectors or by adding a

period of research time to expand the test sample.

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