Management Analysis Journal 7 (3) (2018)

Management Analysis Journal

http://maj.unnes.ac.id

THE EFFECT OF INTELLECTUAL CAPITAL ON THE PROFITABILITY OF THE BANKING COMPANIES LISTED ON INDONESIA STOCK EXCHANGE IN 2013-2016

Lely Silvia✉, **Ida Maftukhah**

Management Department, Faculty of Economics, Universitas Negeri Semarang, Semarang, Indonesia

Info Article

History Article:
Received July 2018
Approved August 2018
Published September 2018

Keywords:
Intellectual Capital; Profitability.

Abstract

The purpose of this study is to know the effect of intellectual capital to profitability of banking companies. The sample of this research is 35 banking companies listed in Indonesia Stock Exchange 2013-2016. The method of data analysis using multiple regression analysis. The result showed the regression coefficients variable VACA is as much as 2.632 and sig score 0.010; regression coefficient variable is as much as 4.256 and sig score 0.000; regression coefficient variable is as much as -1.148 and sig score 0.253. The concusion of this research is VACA and VAHU have positif dan significant effect on profitability of banking companies and STVA has negative and no significant effect on profitability of banking companies.

Abstrak

Tujuan penelitian ini adalah untuk mengetahui pengaruh intellectual capital terhadap profitabilitas perusahaan perbankan. Sampel dalam penelitian yang digunakan adalah sebanyak 35 perusahaan perbankan yang terdaftar di Bursa Efefk Indonesia tahun 2013-2016. Metode analisis data yang digunakan adalah analisis regresi berganda. Hasil penelitian menunukkan koefisien regresi variabel VACA sebesar 2,632 dan nilai sig sebesar 0,010; koefisien regresi variabel VAHU sebesar 4,256 dan nilai sig 0,000; serta koefisien regresi variabel STVA sebesar -1,148 dan nilai sig 0,253. Kesimpulan penelitian ini adalah VACA dan VAHU memiliki pengaruh positif dan signifikan terhadap profitabilitas perusahaan perbankan dan STVA memiliki pengaruh negatif dan tidak signifikan terhadap profitabilitas perusahaan perbankan.

✉ Correspondence Address:
L2 Building, 1st Floor, Faculty of Economics, Universitas Negeri Semarang
Jalan Taman Siswa, Sekaran, Gunungpati, Semarang, 50229
E-mail: lelysilvia@yahoo.co.id

ISSN 2252-6552

INTRODUCTION

The purpose of the company is to improve the health of the owner by optimizing the value of the company (Haryanto, 2014). In reality, there is an agency relationship that occurs, namely the relationship between managers and owners of the company (Yulianto et al., 2014). Managers as rational human beings tend to behave as imperfect agents who are more striving to improve their welfare compared to improving the welfare of shareholder (Yulianto, 2013). Although there are differences of interest between the two parties, they have the same goal of generating profit in every operational activity.

The success of the company in creating profit can be seen through the financial performance of the company. The financial performance of the company describes the financial condition of a company that is analyzed by the financial analysis tools, so it can be known either the bad or the good condition of a company that reflects the performance of work in a certain period (Safitri & Yulianto, 2015).

The Company has various alternative sources of funding, both inside and outside the company (Wijayanto, 2010). One source of corporate funding from the inside of the firm is profit, while external capital can come from debt (Nugroho, 2014). The advantage of companies other than as an indicator of the company's ability is to fulfill its obligations for those who have funds and also an element in the creation of corporate value that shows the future prospect of the company (Veronica, 2013). Every company tries to maintain their survival by using the company's resources effectively and efficiently in maximizing the company's returns and capabilities in the face of a competitive business environment (Wahyuni, 2012).

The Efforts to increase profit, the company can utilize tangible assets and intangible assets. The development of technology and business competition are increasingly tight forcing companies to change the way they run their business from a business based on employment or labor-based business to a business based on knowledge or knowledge-based business (Habibah & Raharjo, 2016). The intangible value creation must receive adequate attention because it has a huge impact on the overall performance of the company (Ulum, 2009). One of the company's intangible assets is a knowledge asset. The company's attention to the management of knowledge assets (intellectual capital) is the greater number of years. This is due to the awareness that IC is the foundation for the company to win and grow (Tobing, 2007). IC is defined as knowledge resources in the form of employees, customers, processes or technologies in which firms can use them in the process of creating value for the company (Nikolaj Bukh et al., 2005).

Knowledge-Based View (KBV) explains that the strategy formulation came from employees. (Sveiby, 2001). KBV became the basis for increasing human capital in the company's operational activities which required the company to always develop and find new knowledge (Nasib & Fariana, 2012). Organizational knowledge capital is not only supported by quality human resources, but also appropriate information technology and knowledge sharing culture. The advantage is that they are able to respond to the opportunities quickly and innovations can be created to be able to achieve business success by reducing operating cost (Nawawi, 2012). If a firm can develop unique knowledge or a unique new capability through any manner other than luck, it must identify a valuable problem and conduct an efficient solution search. Valuable solutions deliver value to the firm, either through enhancement or development of a product or service or by reducing the cost of production or delivery (Nickerson & Zenge, 2004).

Pulic (2000) states in general that there are three components of IC, namely Capital Employed, Human Capital and Structural Capital. Customer capital or capital employed involves relation, feedback, input to product/ service, suggestion, experience from the customer. The term customer extends so that it also includes suppliers, distributors and authorities or other players who can contribute to the value chain (Stewart, 2001) . Bontis (2001) states that human capital presents the inventory of individual knowledge of an organization that is presented by its employees. Meanwhile, according to Bontis et al. (2000) states that structural capital includes all non-human knowledge warehouses within the organization that includes databases, organizational charts, manual processes, strategies, routines and anything of value from the value of the material.

The absence of a standard size of IC calculations makes Pulic (2000) as well proposed a measure to assess the value added of the three IC components, namely Value Added Capital Employed (VACA), Value Added Human Capital (VAHU) and Structural Capital Value Added (STVA). This approach is relatively easy and very

possible to do because it is constructed from the account in the company's financial statements (Ulum, 2009). Ulum (2009) states that VACA is an indicator of value added created by a unit of physical capital. VACA is the comparison between value added (VA) with capital employed (CE) or working capital.

The purpose of this study is to determine the effect of intellectual capital (VACA, VAHU and STVA) on the profitability of banking companies listed on the Indonesia Stock Exchange 2013-2016.

Hypothesis Development

The loyalty that exists between the company and its relation is expected to increase the sales and expected profit could increase. This is accordance with the KBV theory which states that the knowledge capital possessed by employees and supported by technology and culture can increase the effectiveness and efficiency of the organization to create profits as much income patterns as possible (Nawawi, 2012). Both of this capital will create value for customers. This is in accordance with research by Citraningrum (2010) and Sardo & Serrasqueiro (2017) which show VACA positively affect profitability. The hypothesis of this research is

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

Knowledge-Based View (KBV) explains that strategy formulation came from employees. (Sveiby, 2001). Employees who bring knowledge to the company will provide valuable solutions and provide value to the company either through increasing product or service development or by reducing production costs so as to be able to increase company revenue. (Nickerson & Zenger, 2004). The added value generated by employees through personal skills so that the company can win the competition (Permasari & Rismadi, 2013). Massie's research (2014) and Habibah and Riharjo (2016) mention if VAHU has a positive influence on profitability. The hypothesis of this research is:

H2: Value-Added Human Capital (VAHU) has a positive effect on profitability.

Structural Capital Value Added (STVA) measures the amount of Structural Capital (SC) required to generate 1 rupiah of value added and is an indication of how structural capital success creates value for the company. This structural capital can increase the company's performance in the form of efficiency and high productivity (Siagian, 2000). According to the concept of KBV, the knowledge that is owned by a company that is possessed by employees contained in the system or organizational culture will not be lost. The results of Harianja (2013) show that STVA has a positive effect on profitability. The hypothesis of this research is:

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

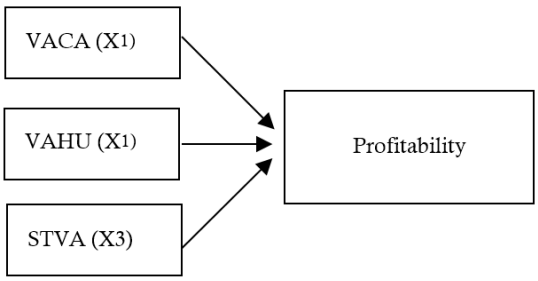

Figure 1. Research Model

METHOD

This research uses quantitative approach and type of descriptive research. The research design is a hypothesis testing study, that is by testing the relationship between variables hypothesized in the research. Sources of data obtained from secondary data with documentation techniques obtained from annual reports of banking companies listed on the Indonesia Stock Exchange in 2013-2016.

The population in this research are 41 companies and companies that become the samples in this study as many as 35 banking companies determined by purposive sampling. This technique is used with the aim of directing data collection to suit needed (Oktavilia & Khoiruddin, 2017), with the following criteria: 1) companies listed on the Stock Exchange 2013-2016; 2) the company has financial statements during the year 2013-2016; 3) if there is one company that has unavailability of data, then the company will not be used as sample.

The dependent variable in this research is Return On Asset (ROA). Return On Asset (ROA) is also often called Return On Investment (ROI) is the profitability ratios used to measure the effectiveness of the company in generating profits by utilizing assets owned. ROA is the ratio between asset and profit (Safitri, 2013). The formula for calculating ROA is as follows:

ROA = Total Assets/ Net Profit

Independent variable of this research is all Pulic (2000) Intellectual Capital (IC) component. The formula for calculating all three IC components is as follows:

1. Calculating VA

$$VA = OUT - IN$$

Where:
VA : Value Added, difference between output and input
OUT : Total sales and other revenue
IN : Expenses, all expenses except employees expenses

2. Calculating VACA

$$VACA = VA/ CE$$

Where:
VACA : The ratio of VA to CE
VA : Value Added
CE : Funds available

3. Calculating VAHU

$$VAHU = VA/ HC$$

Where:
VAHU : The ratio of VA to HC
VA : Value Added
HC : Employees expenses

4. Calculating STVA

$$STVA = SC/ VA$$

Where:
STVA : The ratio of SC to VA
VA : Value Added
SC : VA - HC

Data analysis method used is multiple regression analysis to test the influence of independent variables VACA, VAHU, STVA to dependent variable ROA. Multiple regression analysis models in this research are:

$$ROA = \alpha + \beta 1VACA + \beta 2VAHU + \beta 3STVA + e$$

Where:
α : Constants
β 1 : VACA variable coefficients
β 2 : VARIOUS variable coefficients
β 3 : STVA variable coefficient
e : Standard error

Estimation of the regression model in this research using partial test (t-test). Before the regression hypothesis test is used, then tested the classical assumptions underlying the use of regression equations. The classical assumption test includes a normality test, autocorrelation test, multicollinearity test and heteroscedasticity test

RESULT AND DISCUSSION

Before conducting hypothesis testing, firstly done a testing descriptive analysis of research data. The results of the descriptive analysis of this study can be seen in Table 1.

Table 1. Descriptive Statistics Test Results

	N	Min	Max	Mean	Std. Dev
VACA	135	-.36902	1.06708	.24493	0.1686
VAHU	135	-1.9087	7.01441	2.10840	1.2889
STVA	135	-.44371	19.7512	.66595	1.6982
ROA	135	-5.3700	5.42000	1.62081	1.6508

Table 1 shows the result that the VACA variable has the lowest value of 0.36902 obtained by J Trust Bank and the highest value of 1.06708 obtained by Pembangunan Daerah Banten Bank. The average is 0.24493 with standard deviation 0.1686. Variable VAHU has the lowest value of -1.9087 obtained by Permata Bank and the highest value of 7.01441 obtained by Bumi Arta Bank. The average is 2.10840 with a standard deviation of 1.2889.

STVA variable has the lowest value of 0.44371 and the highest value of 19.7512 both of them obtained by MNC International Bank. The average is 0.66595 with a standard deviation of 1,6982. ROA has the lowest value of -5.3700 obtained by J Trust Bank and the highest value of 5.420 obtained by Mestika Dharma Bank. The average is 1.62081 with a standard deviation of 1.6508.

Classic Assumption Test

Before performing the hypothesis test, first, perform the classical assumption test. The results of the classical assumption test of this research are as follows:

Table 2. Kolmogorov-Smirnov Test Result

	Unstandardized Residual
Kolmogorov-Smirnov	1.221
Asymp. Sig (2-tailed)	.101

The result of the normality test shows the result of K-S value equal to 1.221 with probability significance equal to 0.101 bigger than value α = 0.05. So, it can be concluded that the data is normally distributed.

Table 3. Durbin-Watson Test Result

Std. Error of the stimate	Durbin-Watson
1.388	1.906

The results of the autocorrelation test show that the Durbin-Watson value of 1.906 and the value of dμ = 1.7645 So that the value dμ < d < 4-du is 1.7645 < 1.906 < 2.2355. From the result of the calculation, Durbin-Watson result of regression equation of this research is no autocorrelation.

Table 4. Multicolinearity Test Result

	Tolerance	VIF
VACA	683	1.463
VAHU	.695	1.439
STVA	.964	1.038

The results show tolerance values greater than 0.10 and VIF value less than 10. So, it is concluded that the regression model does not occur multicollinearity.

Table 5. Geljser Test Result

	t	Sig.
VACA	1.332	.185
VAHU	.356	.722
STVA	1.051	.295

The results of this study indicate the probability sig value. the three independent variables are above the 5% confidence level (0.05). So, it can be concluded that the regression model used does not occur heteroscedasticity.

$$ROA = 0.120 + 2.263VACA + 0.475VAHU - 0.083STVA + e$$

The results show that if the VACA, VAHU and STVA variables are 0, then the profitability (ROA) variable is 0.120. Each increase of VACA variable is 1 unit while the other variable is considered constant then the average profitability variable (ROA) will increase by 2.263. Each increase of VAHU is 1 unit while other variables are considered constant, then the average profitability variable (ROA) will increase 0.475, while every increase of STVA variable is 1 unit while the other variable is considered constant, then the average profitability variable (ROA) will decrease 0.083.

Table 6. Coefficient of Determination Test Result

Model	R Square	Adjusted R Square
1	.309	.293

The test results determination shows the value of Adj. R square of 0.293. This shows that only 29.3% of profitability variation (ROA) can be explained by intellectual capital variable (VACA, VAHU, STVA), while the rest of 70.7% is explained by another variable outside research variable.

Partial Test

Tabel 7. t-test Result

Model	t	Sig.
VACA	2.632	.010
VAHU	4.256	.000
STVA	-1.148	.253

The results show the VACA variable has a count of 2,632 with the sig level. 0.010 <0.05. This shows that VACA has a positive and significant influence on ROA. The results of this study indicate that the good relationship between the company and its relationships could grow the attitude of loyalty of the company's relationships so as to provide added value for the company so as to increase profit for the company. The results of this study support the research of Chen et al. (2005), Citraningrum (2010), Pramelasari and Prastiwi (2010), which showed positive results. While some research shows different results as those of Harianja (2013) which indicate if the VACA has a negative effect.

This shows that VAHU has a positive and significant influence on ROA. The results of this study indicate that giving appreciation to employees through salary provided by the company is able to make employees more trying with the ability, innovation and knowledge to improve profit and performance of the company. The results of this study support the research of Chen

et al. (2005), Massie (2014) who showed positive results. While some studies show different results such as Pramelasari and Prastiwi (2010) which states that VAHU has a negative influence

The STVA variable has t count of 1.148 with the sig level. of 0.253 > 0.05. This shows that the STVA variable has a negative and insignificant effect on ROA. The results of this study indicate that structural capital has no effect on the profitability of the company, this is because if the company's sales rise then the added value obtained by the company will be high. In this banking company, the average value added of the company has increased from 2013-2016 and there is an increase in cost for employees (wages salaries). With the high value-added and high employee cost, then the company's structural capital will be low. Different things happen to the company's profit if sales increase then the company's profit will increase. Thus, low STVA values will increase profitability. According to Chen et al. (2005), this is presumably because STVA is not a good indicator to explain SC. So, the possibility of measurement in this way has not been able to reflect the overall STVA. The results of this study support Pramelasari and Prastiwi (2010) and Massie (2014) studies which show negative results. While some studies show different results such as Habibah and Riharjo (2016) which states that STVA has a positive influence.

CONCLUSION AND RECOMMENDATION

Based on the results of the study, it can be concluded that the added value generated through human capital (VAHU) and capital employed (VACA) has an influence on the profitability of the company. This indicates that the high level of VACA and VAHU affect the profitability of the company (ROA). While the added value generated through the company's structural capital (STVA) has no effect on the profitability of the company. This indicates that the high value of STVA does not affect profitability (ROA).

The suggestion for further research is to use other Intellectual Capital (IC) measurement models to obtain more accurate and better results. For investors should be more careful to consider the intellectual capital owned by the company because of the important role of the company's intellectual capital to create value for the company. For the company should develop, manage and report the IC to improve profitability and to attract potential investors to invest.

REFERENCES

Bontis, N. (2001). *Managing Organizational Knowledge by Diagnosing Intellectual Capital: Framing and Advancing the State of the Field.* World Congress on Intellectual Capital Readings (pp. 13-56).

Bontis, N., Chua Chong Keow, W., & Richardson, S. (2000). Intellectual Capital and Business Performance in Malaysian Industries. *Journal of Intellectual Capital, 1*(1), 85-100.

Chen, M. C., Cheng, S. J., & Hwang, Y. (2005). An Empirical Investigation of the Relationship between Intellectual Capital and Firms' Market Value and Financial Performance. *Journal of Intellectual Capital*, *6*(2), 159-176.

Citraningrum, D. P. (2010). Pengaruh IC terhadap Kinerja Keuangan Perusahaan Perbankan Periode 2005-2007. *Jurnal Dinamika Akuntansi, 2*(1).

Habibah, B. N., & Raharjo, I. B. (2016). Pengaruh Intellectual Capital terhadap Kinerja Keuangan pada Perusahaan Manufaktur. *Jurnal Ilmu dan Riset Akuntansi, 5*(7), 1-16.

Harianja, H. (2013). Analisis Value Added sebagai Indikator Intellectual Capital terhadap Kinerja Perbankan di Indonesia. *Jurnal Ekonomi dan Keuangan, 2*(5).

Haryanto, S. (2014). Identifikasi Ekspektasi Investor melalui Kebijakan Struktur Modal, Profitabilitas, Ukuran Perusahaan dan GCPI. *Jurnal Dinamika Manajemen, 5*(2).

Massie, G. M. (2014). Pengaruh Fee Based Income dan Intellectual Capital terhadap Profitabilitas pada Industri Perbankan di Bursa Efek Indonesia. *Katalogis, 2*(7).

Nasih, M., & Fariana, R. (2012). Manusia sebagai Penentu Penciptaan Nilai dan Kinerja Perusahaan Perbankan di Indonesia. *Masyarakat, Kebudayaan dan Politik, 25*(4), 309-319.

Nawawi, I. (2012). *Manajemen Pengetahuan (Knowledge Management)*. Bogor: Ghalia Indonesia.

Nickerson, J. A., & Zenger, T. R. (2004). A Knowledge-Based Theory of the Firm—the Problem-Solving Perspective. *Organization science, 15*(6), 617-632.

Nikolaj Bukh, P., Nielsen, C., Gormsen, P., & Mouritsen, J. (2005). Disclosure of Information on Intellectual Capital in Danish IPO Prospectuses. *Accounting, Auditing & Accountability Journal, 18*(6), 713-732.

Nugroho, N. C. (2014). Analisis Pengaruh Profitabilitas, Pertumbuhan Penjualan, Ukuran Perusahaan dan Umur Perusahaan terhadap Struktur Modal Usaha Mikro Kecil dan Menengah Kerajinan Kuningan di Kabupaten Pati. *Management Analysis Journal*, *3*(2), 1-5.

Oktavilia, S., & Khoiruddin, M. (2017). Mappings Industry as the Strategy for Enhancing Competitiveness of Industry in Semarang Regency. *Advanced Science Letters, 23*(8), 7131-7134.

Permasari, I., & Rismadi, B. (2013). Intellectual Capital dan Return on Equity: Analisa Metode Value Added Intellectual Coefficient (VAICTM)

di Perusahaan Manufaktur yang Terdaftar di BEI. *Finance and Accounting Journal, 2*(2).

Pramelasari, Y. M., & Prastiwi, A. (2010). Pengaruh Intellectual Capital terhadap Nilai Pasar dan Kinerja Keuangan Perusahaan. *Doctoral dissertation.* Perpustakaan FE Undip.

Pulic, A. (2000). VAIC™–an Accounting Tool for IC Management. *International journal of technology management*, *20*(5-8), 702-714.

Safitri, A. L. (2013). Pengaruh Earning per Share, Price Earning Ratio, Return on Asset, Debt to Equity Ratio dan Market Value Added terhadap Harga Saham dalam Kelompok Jakarta Islamic Index. *Management Analysis Journal*, *2*(2).

Safitri, R. D., & Yulianto, A. (2015). Pengaruh Kinerja Keuangan Perusahaan terhadap Return Total Saham pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *Management Analysis Journal*, *4*(1), 22-29.

Sardo, F., & Serrasqueiro, Z. (2017). A European Empirical Study of the Relationship between Firms' Intellectual Capital, Financial Performance and Market Value. *Journal of Intellectual Capital*, *18*(4), 771-788.

Siagian, S. P. (2000). *Manajemen Abad 21.* Jakarta: Bumi Aksara.

Stewart, T. A. (2001). Intellectual Capital. *Qfinance*, 1-4.

Sveiby, K. E. (2001). A Knowledge-Based Theory of the Firm to Guide in Strategy Formulation. *Journal of Intellectual Capital, 2*(4), 344-358.

Tobing, P. L. (2007). *Knowledge Management: Konsep, Arsitektur dan Implementasi*. Yogyakarta: Graha Ilmu.

Ulum, I. (2009). Intellectual Capital Performance Sektor Perbankan di Indonesia. *Jurnal Akuntansi dan Keuangan*, *10*(2), 77-84.

Veronica, T. M. (2013). Pengaruh Good Corporate Governance, Corporate Social Responsibility & Kinerja Keuangan terhadap Nilai Perusahaan. *Jurnal Dinamika Manajemen, 4*(2), 132-149.

Wahyuni, S. (2012). Efek Struktur Modal terhadap Profitabilitas pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *Management Analysis Journal*, *1*(2), 29-33.

Wijayanto, A. (2010). Analisis Pengaruh ROA, EPS, Financial Leverage, Proceed terhadap Initial Return. *Jurnal Dinamika Manajemen*, *1*(1), 68-78.

Yulianto, A., Kiswanto, Widiyanto, & Yulianto, A. (2014). Linear and Non-Linear Approaches in Testing Managerial Ownership on the Firm Value: Evidence Indonesian Firms. *IOSR Journal of Business and Management, 16*(9), 1-5.

Yulianto, A. (2013). Keputusan Struktur Modal dan Kebijakan Dividen sebagai Mekanisme Mengurangi Masalah Keagenan. *Jurnal Dinamika Manajemen, 4*(2), 161-179.