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THE EFFECT OF INTELLECTUAL CAPITAL ON A COMPANY'S PERFORMANCE MODERATED BY ITS GOVERNANCE AND IT STRATEGY INTEGRATION EMPLOYED BY BANKS LISTED IN INDONESIAN STOCK EXCHANGE

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This study investigates whether IT integration and company governance can affect the relationship between intellectual capital and company performance in the Indonesian banking sector. That could happen, as there are ever tighter and more numerous competitiveness levels in the banking sector, especially in the field of information technology (IT) and the support given by the top management. This study employs data from 33 banking companies listed on the ISE (Indonesian Stock Exchange) in 2013–2014. The testing was done on the elements of VAICTM (VACA, VAHU, STVA), moderated by IT strategy integration (ITSI) and corporate governance (DK) using the measurement of financial performance (ROA). The findings obtained show that VAHU has a positive effect on financial performance. If the VAICTM element were moderated by ITSI, then a well-integrated IT strategy would weaken the relationship between VACA and banking performance. The limitations of this study lie in the period of the data used, which is limited to 2013– 2014, and in that the component used for testing was done in isolation.

Keywords: Intellectual Capital, VAICTM, IT Strategy, Good Corporate Governance, Banking

Studi ini menyelidiki apakah integrasi Teknologi Informasi dan tata kelola perusahaan dapat mempengaruhi hubungan antara modal intelektual dan kinerja perusahaan di sektor perbankan Indonesia. Hal tersebut bisa terjadi, karena terdapat tingkat daya saing yang semakin ketat dan semakin banyak di sektor perbankan, terutama di bidang teknologi informasi (IT) dan dukungan yang diberikan oleh manajemen puncak. Studi ini menggunakan data dari 33 perusahaan perbankan yang tercatat di ISE (Bursa Efek Indonesia) pada 2013-2014. Pengujian dilakukan pada elemen VAICTM (VACA, VAHU, STVA), dimoderatori oleh IT Strategy Integration (ITSI) dan corporate governance (DK) dengan menggunakan pengukuran kinerja keuangan (ROA). Temuan yang diperoleh menunjukkan bahwa VAHU memiliki pengaruh positif terhadap kinerja keuangan. Jika elemen Abstract

Abstrak

VAICTM dimoderatori oleh ITSI, maka strategi TI yang terintegrasi dengan baik akan melemahkan hubungan antara kinerja VACA dan perbankan. Keterbatasan penelitian ini terletak pada periode data yang digunakan, yang terbatas pada 2013-2014, dan komponen yang digunakan untuk pengujian dilakukan secara terpisah.

Kata kunci: Modal Intelektual, VAICTM, Strategi TI, Tata Kelola Perusahaan, Perbankan

The banking industry now faces the challenge of determining the kind of competitive strategy used in order to prioritize the needs of its stakeholders (Li and Ye, 1998). Multidimensional corporate performance is needed in order to fulfill the desires of all stakeholders, which are increasingly complex and often conflicting. Therefore, there should be a synergy between performance measurement and growth revenue to measure the success of its implementation. Indonesian Banking Survey 2015's results show that human development and automation initiatives as intangible assets (Harrison and Sullivan, 2000) should be increased to achieve the company's objectives (profit). Profit from the company's objectives in finance can be indicated with the two conditions of sales and investment, by which the company should be able to generate profit by using all assets after taking into account the cost of capital (Soedaryono et al., 2012), known as the return on assets (ROA).

This condition implies the existence of competition in the banking industry in order to achieve the company's short- and long-term goals, and it triggers the banking industry to face high operational risks in the face of competition to get advantages and benefits from its competitors as the achievement of company performance. In order to achieve the desired ROA, the intangible assets (intellectual potential) of physical capital, human resources, and information technology are required (Pulic, 1998). The combination of physical and intellectual potential capital is known as intellectual capital (IC). The use of IC serves as a strategic asset to help the company survive in the competition for scarce resources (Kehelwalatenna and Premaratne, 2012).

Researchers studying IC use the VAICTM method to classify IC into three main components: human capital (HC), structural capital (SC), and customer capital (CC) (Bontis, 2001; Pulic, 1998; Stewart, 1997; Edvindson and Malone, 1997). The role of intellectual capital in improving performance company's in а competitive banking depends on each company's technological superiority (Becalli, 2006; Chen et al., 2005; Li and Ye, 1998; Powell et al., 1997). Excellent information technology can be applied when there is support from top management (Johnson and Lederer, 2006; Ross and Weill, 2002; Raghunathan et al., 1999).

To ensure that the role of intellectual capital in the performance of bank profits is in accordance with the multidimensional purpose, it needs a new framework in management strategy, where investments towards IT cannot be separated from a company's strategy of (Li and Ye, 1998) and get support from CEO/CIO in achieving the company's goals (Johnson and Lederer, 2006), as well as its need for corporate governance and eliminating the risk of error (McGee, 2009; Macey and O'Hara, 2003) in business competition (Lawson and Samson, 2001).

Therefore, this study tries to develop what has been done in previous studies that only examine the influence of IC on a company's performance (Ulum, 2012; Kamath, 2007; Mavridis, 2004; Firer and Williams, 2003) by adding IT strategy integration and corporate governance as moderating variables. The study will look at how the effect of an integrated IT strategy and corporate governance can strengthen or weaken IC's relationship to company performance in the banking industry. Financial performance will be measured in this study as profitability indicators of ROA. With reference to the report issued by the deposit insurance agency (LPS), this study investigates the banking industry in 2013 and 2014, since the net interest margin (NIM) in the year 2013 reached 4.9%, and 4.2% in 2014. The decline in NIM has exerted pressure on bank profitability.

This study helps the banking industry in achieving the company's competitive goals, which are focused more on the empowerment of intangible assets such as value-added capital employed, valueadded human capital, and structural capital value added, as well as IT strategy integration, whose benefits so far have not been felt, making it necessary to put some effort into improving IC and the support from top management for the selection of an information strategy. The same applies to the regulator, in this case the central bank.

This study will formulate some of the issues to be examined based on the background of development and competition in the banking industry in Indonesia: (1) Does the IC measured by three components, VACA, VAHU, and STVA, affect company performance measured by ROA? (2) Does IT strategy integration moderate the influence of IC on company performance measured by ROA? (3) Does corporate governance moderate the influence of IC on company performance measured by ROA?

LITERATURE REVIEW

Stewardship Theory

Stewardship theory is formed from assumptions related to the philosophy of human nature, in which in every human being has the characteristics trustworthiness, responsibility, of integrity, and honesty. Based on this theory, it is believed that management can be trusted in decisions related to the public interest and the interest of shareholders for the sake of the company's development (OECD Study Team, 2006). Another assumption that makes up this theory is the existence of reciprocal, long-term, contractual relationships that are developed in harmony based on trust, reputation, and collective goals (Van Slyke, 2006). Such behavior is a result of the relationship between the manager, the owner of the company, the working environment, and the objectives of the organization or the company (Madison, 2014; Salvato, 2004). Therefore, in this theory, the owner of the company creates an organizational structure within the company so that the manager can continue to grow behaviorally. This is based on the assumption that each individual is motivated to continue to meet his or her needs on a higher level (Madison, 2014).

Agency Theory

Agency theory can also be regarded the relationship between the as parties appointed to manage the firm (agent) and the party who hires them (principal). In this theory, the owner of a company chooses to give a contract to the manager agents by considering the cost and the expertise they will provide to the company (Van Slyke, 2006). The key of agency theory is the separation between ownership and management. The owner gives authority to the agents to act in accordance with his expectations, and in return he provides compensation and sanctions. Compensation is given if the managers do a good job representing the owners of the company to fulfill the company's goals, and sanctions are given when the managers give priority to meeting their own rather than the company's goals.

Resource-Based View (RBV) – Information System

The development of a company RBV is the focused of the field of strategic management, which describes the nature of a company and is not focused companies can on how survive competition (Lockett et al., 2009). RBV assumes that a company distributes scarce resources, or heterogeneous resources, so that they last longer. There are four attributes attached to heterogeneous resources: They should be valuable, scarce, unduplicated, and irreplaceable. Based on the definition related to RBV, science is reflected as the main thing in the company's RBV (Barney, 1991; Grant, 1991). And based on the literature, management science focuses more on the use and management of asset-based science. The company's knowledge, assessment, and study on the role of management in value creation can also be called intellectual capital (IC) (Sonnier, 2008; McElyea, 2002; Petty and Guthrie, 2000).

The RBV model is directly related to the IC, having two determining factors of resources, namely internal and external resources, as well as capability. Internal resources for IC include human capital and intellectual property, whereas external capital includes customers and suppliers. The presentation of a company's RBV IC should also include tangible assets owned by the company, namely financial assets and physical capital (Sonnier, 2008) in addition to human capital and structural capital (organizational capital).

Intellectual Capital (IC)

Intellectual capital is also a result of the use and management of assets based on science, knowledge, assessment, and management towards the creation of value (Sonnier, 2008; McElyea, 2002; Petty and Guthrie, 2000). The creation of innovation, strategy, individual individual capability, motivation, leadership, the organizational climate, and workgroup effectiveness, as well as other processes that can realize the vision and mission of the company (Wijaya, 2012; Ulum, 2007; Bontis, 2000), is human capital, which can determine the value of companies that become the components of the IC. The economic value, which is a measure of the company's performance, can be seen from the two categories of intangible assets, namely human capital and organizational capital (Ulum, 2007; OECD, 2006). In this case, organizational capital that becomes the component of IC is structural capital (SC) and customer capital (CC) (Ulum, 2007; Bontis, 2000).

Value-Added Intellectual Capital (VAIC)

VAIC is a unique method that resulted from the development of the Skandia Navigator method, which aimed to find the efficiency of a company's resources from the financial statements it issues annually (Nazari, 2010; Pulic, 2004, 2000, 1998). In addition, VAIC can serve as an indicator measuring the ability of intellectual resources (Wijaya, 2012). VAIC measurement is done by using the sum of the valueadded capital employed (VACA) + value-added human capital (VAHU) + value-added structural capital (STVA), and further is elaborated as,

OUT (output) is the revenue generated from all of the products or services sold by the company in the market, while IN (input) is all expenses incurred by the company in the effort to generate revenue. It is important to note that when using this method, the calculation process of IN does not include personnel expenses. This is because the labor factor is placed as a separate entity in its function in the creation of value (Tan et al., 2007). To assess the success of a business and to demonstrate the ability of the company to create value, a value-added indicator is required. The calculation used by the VA is gotten by finding the difference of value between a company's output and input.

Physical Capital (VACA – valueadded capital employed)

Physical capital (physical capital) is an indicator of the value added created by the capital that the company has efficiently given (Soedaryono et al., 2012). Physical capital, also called working capital, is defined as the accumulation of capital from fixed and current assets. Business capital is also known as operational assets and it can be interpreted as the value of assets that contribute to the company's ability to generate revenue.

Human Capital (VAHU – value-added human capital)

Human capital is an element that the company uses to create value. Human capital is the most important element, and it serves as the spearhead for the company in the creation of added value that could be lost if they stopped working for that company (Soedaryono et al., 2012; Bontis. 1998). Companies must be able to distinguish whether a development of its human capital is included in the costs to be incurred or part of the implementation of its investment (Stewart, 1997). The development of employees is part of investment if the results of the development of human capital have a positive impact the company's value.

Structural Capital (STVA – valueadded structural capital)

Human capital is the element used by companies in value creation. Human capital is the most important element and as the spearhead for the company in the creation of value added that can be lost if they do not work for that company (Soedaryono et al., 2012; Bontis, 1998). Companies must be able to distinguish whether a development of its human capital, including on the costs to be incurred or part of the implementation of the investment firm (Stewart, 1997). The development of the employees belongs to a part of the investment if the results of the development of human capital has a positive impact on the increase in the value of the company.

Corporate Governance

Corporate governance is a system that helps in the regulation and control of a company. By using a basic understanding of the Cadbury Committee, the setting up of a relationship owned by the shareholders will create a rule that includes any matters relating to the rights and obligations of stakeholders. In the guidelines of corporate governance (GCG) in Indonesia, there are five basic principles: transparency, accountability, responsibility, fairness, and independence (Komite Nasional Kebijakan Governance, 2006).

Commissioners are mechanisms that limit a company's liability so that it functions as a giver of guidance and direction to manage the company. The Board of Commissioners has no authority to manage the company, but it is responsible for checking the company's management, providing advice related to the board of directors on the results of the monitoring in accordance with Act No. 40 of 2007.

Strategic Information on Information Technology (IT)

Information technology is intended to store, process, manipulate, and use information. IT acts as a medium that provides easy access to information as well as infrastructure for knowledge, with a role in facilitating safe and reliable communication (Josefa Ruiz-Mercader et al., 2006).

The CIO's strategy formation for IT focuses on all IT employees knowing the purpose of the vision and mission and how to achieve them. In addition, setting up and maintaining a relationship in a business is one of the keys to achieving its vision and mission (McKeen and Smith, CIO Brief vol. 16). To create an integrated IT strategy, the CEO must explain to the CIO the company's business strategy, and the CIO must explain to the CEO the capabilities and potential of the IT that is now owned and is supporting the company's business strategy (Lederer and Johnson, 2006). Therefore, the CEO is required to be competent in IT equalization in order to play an active role as a catalyst for the formation of new business strategy for the company or for the development of its ongoing business strategy (Lederer and Johnson, 2006; Henderson and Venkatraman, 1993).

A study using VAICTM to measure intellectual capital in Indonesia has been used in the discussion of research on the performance of the banking industry, especially if the study of the major components of the VAIC method involves VACA, VAHU, and STVA. Generally, the several studies conducted related to IC only examined the direct relationship to company performance.

Some studies were done just to test directly the relationship between IC and a company's financial performance. Chen et al. (2005) tried to add some variables to IC testing regarding a company's financial performance, namely research and development (R&D) variables and advertising expenditure.

Previous studies concerning IT strategy integration (Becalli, 2006; Johnson and Lederer, 2006; Chen et al., 2005; Ross and Weill, 2002; Raghunathan et al., 1999; Li and Ye, 1998; Powel et al., 1997) and corporate governance (Kutum, 2015; McGee, 2009; Garengo, 2005; Macey and Ohara, 2003) only saw the direct effects on the financial performance of the company. In fact, the biggest risk of banking operations is human development (PWC, 2015) which may affect company performance in accordance with the company's target objectives. Therefore, this study tries to see whether IC has a different effect on a company's performance when there is a monitoring mechanism from the commissioners and when there is support from top management on the IT strategy selected.

The framework is built by showing the moderation of corporate governance and IT strategy integration on the influence of IC on financial performance. The use of that moderating variable is based on Baron and Kenny (1986), in which the influence of the previous research findings has widely proven that IC affects performance. Therefore, corporate governance and top management support to the selected IT strategy will be tested to see how much influence they have, whether weakening or strengthening the effect of IC on performance.

RESEARCH METHOD

This study used 61 data involving 33 banking companies as a research sample to test three independent variables, namely, VACA, VAHU, and STVA, accompanied by two moderating variables (GCG and ITS), on the dependent variable of ROA. By using data from financial reports from 33 banking companies listed in the Indonesian Stock Exchange in 2013 and 2014, the total number of data used in this study is 66 data. Three data are useless, so they are not included in the process of testing; thus, there are only 61 data used in this testing. In 2013 and 2014, the mean of banking companies' *net profit margins* decreased up to 0.7%, based on the *Indonesian Banking Survey*. The banking industry is the most IC-intensive industry (Firer and William, 2003).

Research Hypotheses

IC in this study is based on the value added created by physical capital (VACA), human capital (VAHU), and structural capital (STVA). The combination of VACA, VAHU, and STVA developed by Pulic (2000) was then changed into VAICTM. Whereas previous studies (Ulum, 2012; Tan et al., 2007; Chen et al., 2005; Firer and Williams, 2003) have proved that the IC measured by VAICTM affects a company's financial performance, this research will also try to see the effect of each component of VAICTM on the financial performance of banks in the midst of intense competition.

Physical capital is one of the indicators that can create value added for intellectual capital, hence hypothesis 1a: VACA affects the return on assets (ROA); human capital, which includes innovation, strategy. individual capability, individual motivation. leadership, and other processes, can provide support to realize the vision and mission of the company (Wijaya, 2012; Ulum, 2007; Bontis, 2000). Hypothesis 1b: VAHU affects the return on assets (ROA). The effective use of structural capital will create efficient use of assets, so it triggers a company's profit. Hypothesis 1c: STVA affects the return on assets (ROA).

In achieving corporate objectives, namely the target on the level of profit, on the company's asset utilization

efficiently, a banking company faces tight competition in connection with the development of increasingly sophisticated technology. Top management is able to understand the potential of currently owned information technology in supporting the company's business strategy and (Lederer Johnson, 2006). Therefore, top management is required to be competent with IT equalization in order to play an active role as a catalyst for the formation of a new business strategy for the company and of the development of ongoing business strategy (Lederer and Johnson, 2006; Henderson and Venkatraman, 1993).

The better its IT strategy integration is created and implemented, the lower the company's physical investment in building the branch and in supporting equipment. Consequently, the company will be more selective of its employees. Hypothesis 2a: IT strategy integration will weaken the influence of VACA on the return on assets (ROA). Hypothesis 2b: IT strategy integration will weaken the influence of VAHU on the return on assets (ROA). Hypothesis 2c: IT strategy integration will weaken the influence of STVA on the return on assets (ROA).

Law number 40 of 2007 regarding the corporate governance mechanism states that supervision is the responsibility of the board of commissioners; it is also responsible for providing related advice to the board of directors. Therefore, it is necessary to have a comprehensive medium of communication with the management (board of directors), in the form of regular meetings to discuss various issues and company development. The more frequently regular meetings are held, the better the performance of the company (Ronen and Yaari, 2008; Conger et al., 2008).

Thus, the additional value from intellectual capital will be able to give better performance results when there is adequate support via regular meetings attended by the board of commissioners. Hypothesis 3a: The regular meeting average attendance of the Board of Commissioners will strengthen the influence VACA has on the return on assets (ROA). Hypothesis 3b: The regular meeting average attendance of the Board of Commissioners will strengthen the influence of VAHU on the return on assets (ROA). Hypothesis 3c: The regular meeting average attendance of BOC will strengthen STVA's influence on return on assets (ROA).

Research Model

 $ROA = \beta_0 + \beta_1 VACA + \beta_2 VAHU$ $+ \beta_3 STVA + \beta_4 GCG + \beta_5 TS + \varepsilon$

RESULT AND DISCUSSION

The ROA variable has a mean of 2.080, with the highest value of 7.58 and the lowest value of -0.93. However, the median is at 1.710, with a standard deviation of 1.501. This situation shows that the distribution ranges were very long, namely 8.51. ROA below the median has a shorter range (2.64), while ROA above the median has longer ranges (5.87). The average value indicates that a company could make a profit of 2.080 on any one of its assets. High ROA value shows that a banking company can produce high profits by making use of all its assets.

The VACA variable, which is one of the components in assessing intellectual capital, has a 0.579 average, with a range of 0.013–2.655. The mean value is slightly higher than the median value, standing at 0.467, with a standard deviation of 0.506. This

condition occurs because VACA has a fairly wide range in the amount of 2.642, and there are some companies that have high values of VACA. A value less than 1 indicates that a banking company has less capital employed, and there are only four companies that have a value of more than 1. In other words, it can be interpreted that the contribution of the capital employed in banking companies to organizational value added is very low.

Another component to calculate intellectual capital is VAHU, which has a mean of 3.498 and ranges from 1.001 to 7.702. The mean value is slightly lower than the median value, which stands at 3.594, with a standard deviation of 0.944. This shows that the average value added produced by a banking company is 3.498 times the funds spent on labor. The value describes the contribution made by every rupiah invested in human capital, so the value added produced by banking companies is relatively high.

The last component of intellectual capital that will be discussed in this study is STVA, which has a mean of 0.683, with the highest value of 0.870 and the lowest value of 0.001. The average value is slightly lower than the median value, which stands at 0.722, with a standard deviation of 0.143. These figures show that the average banking company's structural capital that produces 1 rupiah of value added amounted to 0.683, and there are only two companies that have a very low STVA value. This indicates the success of the banking companies' structural capital in value creation.

The DK variable is a variable used for the measurement of corporate governance (GCG), which has an average of 11.219, with the highest value of 44.2 and the lowest value of 1.5. The mean value is slightly higher than the median value of 7, with a standard deviation of 10.587. The DK variable calculation results show that the mean supervision by the board of commissioners for the operation of a banking company is done almost every month. Thus, the mean figures of its board meetings are as much as 11.219, whereas the median value is only seven times in one year.

The ITS variable is a categorical variable that shows the CEO's support for the policies created for the company's technology. The data for the ITS variable showed that there were 27 companies that do not have a CIO. So, the head of the division or the head of the IT group is directly responsible for its performance to the CEO. Meanwhile, there are 31 sample companies that have CIOs, which consists of six companies with CIOs who are not directly responsible to their companies' CEOs and the remaining 25, who are directly responsible to their CEOs. In addition, there are three sample companies in which the CIO also serves as the CEO or the head of IT division or group, who is directly responsible to CEO.

The Analysis Result of Correlational Testing

Based on correlational testing among variables, there are some variables that have a significance of 1% alpha. The relationship formed on the significance of 1% is the relationship with the ROA variable with VAHU variables that have a significantly positive relationship with the value of the power relation of 57.2%. Similarly, the relationship between the ROA variable on STVA

odel	Sum of	Df Mean	F	Sig.	
	Squares	Square		-	
Regression	51,172	5 10,234	6,705	000ª	
Residual	83,953	55 1,526			
Total	135,125	60			
	odel Regression Residual Total	odelSum of SquaresRegression51,172Residual83,953Total135,125	NOVAodelSum of SquaresDf SquareRegression51,1725Residual83,95355Total135,12560	NOVAodelSum of SquaresDf SquareMean SquareRegression51,172510,2346,705Residual83,953551,526Total135,1256060	Sum of Squares Df Square Mean Square F Sig. Regression 51,172 5 10,234 6,705 000 ^a Residual 83,953 55 1,526 135,125 60

Table 1. The result of model testing using main variable

a. Predictors: (Constant), ITS, GCG, VACA, VAHU, STVA

b. Dependent Variable: ROA

Source : processed data

Table 2. Main Model T testing

Coefficients^a

A NIOVA h

Model		Unstandardized Coefficients		Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta	_	
1	(Constant)	-,168	,943		-,178	,859
	VACA	,179	,331	,060	,540	,591
	STVA	-2,963	1,917	-,283	-1,545	,128
	GCG	,025	,016	,173	1,565	,123
	ITS	-,087	,161	-,060	-,538	,593
	VAHU	1,186	,287	,746	4,137	,000,

a. Dependent Variable: ROA

Source : processed data

also has a positive relationship with a significant percentage value of 38%. The relationships formed between the VAHU and STVA variables are positive and significant, having the percentage of 80.6%.

The relationship variables at an alpha level of 5% are the relationships formed between the ROA and GCG variables, having a value of a positive and significant relationship of 29.3%. The positive and significant relationship is also shown by the VAHU and GCG variables, with a value of 26%. Meanwhile the value of 27.1% is derived from the relationship between the STVA and GCG variables, which also has a positive and significant strength. In addition, there is a significant marginal relationship between the VACA and ITS variables at 24.8% (with a significance level of 0.054).

This test is done to see how the main variables (VACA, VAHU, STVA, GCG, ITS) affect ROA. Based on Table 1, the model for testing the main variables is good, as can be seen from the F-sig of 0.000, which is smaller than the value α .

On the other hand, the testing of each independent variable on the dependent variable (ROA) is based on Table 2,

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	,684a	,468	,349	1,21076				

a. Predictors: (Constant), STVAI, GCG, VACA, VAHU, STVA, VACAG, ITS, VACAI, VAHUG, VAHUI, STVAG Source: processed data

which shows that only the VAHU variable's positive effect is proved to be significant on ROA at 1.186. This means that every rupiah spent on human capital provides a level of gains on the operationalization of the assets (ROA) amounting to 1.186%. This result is consistent with research done by Wijaya (2012), Ulum (2007), and Bontis (2000). The advantages of human capital in the form of innovation. strategy, individual capability, individual motivation, and leadership can encourage companies to use assets optimally to maximize their profits.

The result of Analysis of Model Testing with moderation interaction

The test performed on models with interaction moderation (VACA, VAHU, STVA, GCG, ITS, VACAG, VAHUG, STVAG, VACAI, VAHUI, and STVAI) in their relations is related to ROA. The test result demonstrates the value of this model, having the F-sig of 0.000. This value is smaller than the value of α (5%), which may mean that the interaction model of moderation is a good model.

The contributions made by each of the variables in the model of the interaction of moderation against the effects on ROA reaches 51.6% (from R-square results in Table 3).

In the model that uses the interaction of moderation, the test result shows that the

VACA and VAHU variables' results are in contrast with the main model's test results. The VACA Variable has smaller t-sig test results than the value α , which is equal to 0.017, while the VAHU variable has a value of t-sig at 0.608. This means that the VACA variable has contributed to the creation of value of the company; profit amounted to 8.524 every time there is an additional 1 unit of physical capital. And there is also evidence that the support given by the CEO to IT strategy will weaken the value creation of physical capital owned by the company on performance, which means if VACA has a positive influence on the performance of 8.524, it will also consider the support of the CEO for the IT strategy so that it makes its positive influence smaller (8.524 to 2.092).

The condition is assumed that the support from the CEO for IT strategy provides incentives to the banking company, so there is no need to have too much physical capital, such as could be attained by strengthening the infrastructure (ATM, CDM, and internet banking).

DISCUSSION

The result shows that there is consistency with the resource-based view, which states that a company can have a unique competitive advantage through a resource potential that is valuable, rare, inimitable, and not substitutable (Barney, 1991): namely, human capital. Human capital is an important

Model	Unstan Coeffic	dardized ients	Standardized Coefficients	t	Sig.
	В	Std. Error	Beta	_	
1 (Constant)	1,001	9,024		,111	,912
VACA	8,524	3,444	2,871	2,475	,017
VAHU	,958	1,855	,602	,516	,608
STVA	-9,377	20,050	-,895	-,468	,642
GCG	,193	,838	1,365	,231	,818
ITS	-,457	1,892	-,314	-,242	,810
VACAG	-,038	,065	-,183	-,589	,559
VAHUG	-,033	,125	-,952	-,265	,792
STVAG	-,017	1,716	-,089	-,010	,992
VACAI	-2,092	,860	-2,950	-2,433	,019
VAHUI	,012	,545	,034	,022	,983
STVAI	1,928	4,591	1,078	,420	,676

Tab	le 4.]	Mod	el Te	esting –	- using	mod	lerat	ing	interact	ion
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a. Dependent Variable: ROA

Coefficients^a

Source : processed data

element in the creation of value (Bontis, 1998). Therefore, the development of employees is an investment that will help achieve company goals. This condition is in accordance with the assumptions attached to RBV, namely, resource heterogeneity and resource immobility (Nothnagel, 2008).

The human resource is unique and difficult to imitate, so it is a competitive advantage (resource heterogeneity). Although it can be replicated, the company's competitors require enormous funds to do so (resource immobility). The unique character of human resources will be managed well, so that it becomes a competitive advantage that is difficult for competitors to imitate (Barney, 1991).

The programs made to implement these characteristics will create unique strategies based on the competence of employees (Lippman and Rumelt, 1982; Barney, 1986) and the managerial talents possessed by employees. The competence and managerial talents of the employees will make a banking company's human resources become more excellent in competition because they can create better value for the company.

This result is also in line with the theory of stewardship, in which every human being has the property of integrity (that is, managerial talent) and thus can be trusted in making corporate decisions. The results given in the test against the model using interaction moderation show that physical capital or venture capital issued to an investment by banking companies in the creation of value added for the company has run efficiently, and this is consistent with the theory of physical capital (Soedaryono et al., 2012).

Physical capital is an important basic factor in the creation of new value or

added value for the company. This happens because it is related to the addition of corporate value created by its human resources. This condition is in line with the effort in building an intellectual capital performance index (El-Bannany, 2008).

The interaction of information strategy moderation, which is integrated into VACA, is consistent with the condition related to the role of information strategy in the banking industry as a medium that can provide ease in acquiring information held by the banking company itself. And it can also be the infrastructure for knowledge, as it is excellent at facilitating reliable storage information (Josefa Ruiz-Mercader et al., 2006). The establishment of IT strategy should be known by the involved IT resources so that they can know the vision and mission and how to achieve them by employing all assets owned by the company (McKeen and Smith, CIO Brief vol. 16).

This is in line with research related to the investment in information technology by companies in the banking industry (El-Bannany, 2008). Physical investment related to IT is needed to achieve a company's goals (the company's revenue). Physical investment covers the procurement of PCs, laptops/notebooks, ATMs, CDMs, EDCs, and others. IT strategy based on physical investment by a banking company aims to accommodate all the needs of the company and its customers and match the existing competition in the banking industry itself (Fredric and Pritam, 2003). In this case, IT is used as a tool for banking operation that functions as a means of storing and providing data to be processed as information.

The result of this study shows that the creation of an IT strategy that is integrated into the company operations of the banking industry can provide benefits to the company (Fredric and Pritam, 2003). This condition can run efficiently if there is approval and support from the CEO/CIO (Johnson and Lederer, 2006). Top management support is needed to eliminate risks and errors that may occur related to the process of IT strategy (McGee, 2009; Macey and Ohara, 2003).

CONCLUSION

Based on the result of research hypothesis testing, this research concludes that VAHU, or value added of human capital, is proven to significantly affect companies' performance (ROA). This indicates that human capital in the banking industry listed on the ISE (Indonesian Stock Exchange) is able to create value for companies. Consequently, the funding spent on workers in the banking industry can give added value, which serves as the most objective indicator to evaluate business success and to show a company's ability to create value.

IT strategy integration has significantly proved to weaken the effect of VACA on ROA (hypothesis 2A is proven). It shows that physical capital owned by a banking company has less added value when the top management gives full commitment to IT strategy implementation. In this case, a banking company with better IT strategy integration will invest in IT and minimize the number of investments related to physical infrastructure and the need related to supporting instrument, which indirectly affects the number of employees that will be recruited. That kind of investment choice is done because, by investing in IT, a banking company can reach its customers all over Indonesia and is not limited to certain region.

This study shows that the *corporate* governance variable is not considered a good moderating variable to relate IC on ROA. This is shown by a low level of attendance among commissaries of meetings concerned with a company's management. The same thing happens to the moderating variable, namely, *IT* strategy integration. This variable's result shows that it is limited in its

interaction with VACA and that it is still unsuccessful in moderating the effect of other IC on ROA. Some components of data use in this study can be improved, as the period of time used was only two years. Besides, the components used to test IC were done separately. Therefore, to achieve perfection in future studies, additional research must be performed related to the use of the time period. In addition, measurement of company performance is not only limited to the factor of profitability, but it can also use other factors - productivity, investor response, and many more.

- Barney, Jay B. 1986. Organizational CultureL Can It Be a Source of Sustained Competitive Advantage? Acadey of Management Review 11 (3) : 656-665.
 - Barney, Jay B. 1991. Firm Resources and Sustained Competitive Advantage. Journal of Management 17 (1): 99-20.
 - Becalli, Elena. (2006). Does IT Investment Improve Bank Performance? Evidence from Europe. Journal of Banking and Finance 31 (2007) 2205-2230.
 - Bontis, N. 2001. "Assessing knowledge assets: a review of the models used to measure intellectual capital". International Journal of Technology Management. Vol. 3 No. 1. pp. 41-60
 - Chen, M.C., S.J. Cheng, Y. Hwang. 2005. "An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance". Journal of Intellectual Capital. Vol. 6 NO. 2. pp. 159-176
 - Conger, J. A.; Finegold, D. & Lawler, E. (1998). Appraising boardroom performance. Harvard Business Review, 76, 136-164.
 - El-Bannany, Magdi. (2008). A Study of Determinants of Intellectual Capital Performance in Banks: The UK Case. www.emeraldinsight.com/1469-1930.htm
 - Firer, S., and S.M. Williams. 2003. "Intellectual capital and traditional measures of corporate performance". Journal of Intellectual Capital. Vol. 4 No. 3. pp. 348-360.
 - Garengo, P.; Biazzo, S. & Bititci, U.S. (2005). Performance measurement systems in SMEs: A review for a research agenda. International Journal of Management Reviews. 7(1), pp. 25 47.

References

- Guthrie, J. T., et al. 2006. Influences of stimulating task on reading motivation and comprehension. The Journal of Educational Research, 99(4): 232-245.
- Harrison, S., and P.H. Sullivan. (2000). "Profitting form intellectual capital; Learning from leading companies". Journal of Intellectual Capital. Vol. 1 No. 1. pp. 33-46.
- Henderson, J. C. dan Venkatraman, N. (1993). Strategic Alignment: Leveraging Information Technology for Transforming Organization. IBM Journal 32:1 (1993) 2-16.
- Johnson, Alice M. dan Lederer, Albert M. (2006). The Impact of CEO/CIO Convergence on IT Strategic Alignment. Emerging Trends and Challenges in Information Technology Management volume 1, 2.
- Kamath, G.B. 2007. "The intellectual capital performance of Indian banking sector". Journal of Intellectual Capital. Vol. 8 No. 1. pp. 96-123.
- Kehelwalatenna, Sampath. dan Premaratne, Gamini. 2012. An Empirical Investigation on Intellectual Capital Performance: Evidence from Banking Sector. University Brunei Darussalam, Brunei.
- Komite Nasional Kebijakan Governance. 2006. Pedoman Umum Good Corporate Governance Indonesia.
- Kutum, Imad. 2015. Board characteristics and Firm Performance: Evidence From PALESTINE. European Journal of Accounting Auditing and Finance Research Vol.3, No.3, pp.32-47, March 2015
- Lawson, B. & Samson, D. 2001. Developing innovation capability in organisations: dynamic capabilities approach. International journal of innovation management, 5(03), 377-400.
- Li, Mingfang. dan Ye, Richard, 1998. Information Technology and Firm Performance: Linking with environmental, Strategic and Managerial Contexts. Information and Management 35 (1999) 43-51.
- Lippman, Steven A. and Rumelt, Richard P. 1982. "Uncertain imitability: an analysis of inter firm deficiency under competition". The Bell Journal of Economics 13: 418-438.
- Lockett, A., Thompson, S. And Morgenstern, U. 2009. The development of resource-based view of the firm: A critical appraisal. International Journal of Management Reviews, 11, 9-28.
- Macey, J. R. & O'hara, M. 2003. The corporate governance of banks. Economic Policy Review, 9(1).

- Mavridis, D.G. 2004. "The intellectual capital performance of the Japanese banking sector". Journal of Intellectual Capital. Vol. 5 No. 3. pp. 92-115.
- McElyea, B. 2002. "knowledge management, intellectual capital, and learning organizations: a triad of future management integration". Futurics, vol.26 nos ½, pp59-65
- McGee, R. W. 2009. Corporate Governance in Transition Economies (pp. 3-20). Springer US.
- Nazari, Jamal A. 2010. An Investigation of The Relationship Between The Intellectual Capital Components and Firm Performance. University of Calgary, Canada.
- Petty, R and Guthrie, J. 2000. Intellectual capital literature review: measurement, reporting management. Journal of Intellectual Capital, Vol.1 No.2 p.155
- Powell, Thomas C and Anne Dent-Micallef. 1997. Information Technology as Competitive advantage: The Role of Human, Business, and Technology Resources. Strategic Management Journal, Vol. 18, No. 5 (May, 1997), 374-405.
- Pulic, A. 1998. Measuring the Performance of Intellectual Potential in Knowledge Economy. Paper presented at the 2nd World Congress on Measuring and Managing Intellectual Capital, McMaster University, Hamilton.
- Pulic, A. 2000. VAICTM an Accounting Tool for IC Management. International Journal of Technology Management 20 (5/6/7/8) 702-714.
- Pulic, A. 2004. Intellectual Capital Does it Create or Destroy Value?. Measurring Business Excellence 8(1) 62-68.
- PwC. 2015. Indonesia Banking Survey 2015. Indonesia. http://www.pwc.com/id
- Raghunathan, B., Raghunathan, T. S., and Qiang, T. 1999. "Dimensionality of the Strategic Grid Framework: The Construct and its Measurement," Information Systems Research (10:4), Dec 1999, 343-355.
- Ronen, J. & Yaari, V. 2008. Earnings management: emerging insights in theory, practice, and research (Vol. 3). New York: Springer Verlag.
- Ross, J.W and Weill, P. 2002. Six IT Decisions Your IT People Shouldn't Make. Harvard Business Review(80:11), pp. 84-91.
- Ruiz-Mercader, J., et al. 2006. Information technology and learning: Their relationship and impact on organisational performance in small businesses. International Journal of Information Management (26): 16-29.
- Smith, Heather A. dan Mckeen, James D. What CIOs Need From CEOs. CIO Brief, Volume 16, Number 3

- Soedaryono, Bambang; Murtanto dan Ari Prihartini. 2012. Effect Intellectual Capital (Value Added Intellectual Capital) to Market Value and Financial Performance of Banking Sector Companies Listed in Indonesia Stock Exchange. The 2012 International Conference on Business and Management. Phuket. Thailand.
- Sonnier, blaise M. 2008. Intellectual capital disclosure:high-tech versus traditional sector companies. Journal of Intellectual Capital vol.9 no.4 pp.706-722
- Stewart, T A. 1997. "Intellectual Capital: The New Wealth of Organizations." New York: Doubleday.
- Swierczek, Fredric W. dan Shrestha, Pritam K. 2003. Information Technology and Productivity: A Comparison of Japanese and Asia-Pasific Banks. Journal of High Technology Management Research 14 (2003) 269-288.
- Tim Studi OECD 2004. 2006. Studi Penerapan Prinsip prinsip OECD 2004 Dalam Peraturan Bapepam Mengenai Corporate Governance. Departemen Keuangan Republik Indonesia.
- Ulum, Ihyaul. 2007. Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Perusahaan Perbankan di Indonesia. Universitas Diponegoro, Semarang
- Ulum, Ihyaul. Imam Ghozali dan Anis Chariri. 2009. Intellectual Capital dan Kinerja Keuangan
- Ulum, Ihyaul. 2012. iB-VAIC: Model Pengukuran Kinerja Intellectual Capital Perbankan Syariah di Indonesia. Jurnal Inferensi vol 7, no 1, hlm 183-204. ISSN: 1978-7332.
- Van Slyke, David M. 2006. Agents or Stewards : Using Theory to Understand the Government-Nonprofit Social Service Contracting Relationship.Oxford University Press.
- Wijaya, Novia. 2012. Pengaruh Intellectual Capital Terhadap Kinerja Keuangan dan Nilai Pasar Perusahaan Perbankan dengan Metode Value Added Intellectual Coefficient. Jurnal Bisnis dan Akuntansi 14 (2012)157-180.