



# Effect Intellectual Capital (Value Added Intellectual Capital) to Market Value and Financial Performance of Banking Sector Companies Listed in Indonesia Stock Exchange

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## **Abstract**

*The purpose of this study is to investigate the effect of intellectual capital to the market value and financial performance of companies with Value Added Intellectual Capital (VAICTM) .The Sample in this study were 16 banking companies listed in Indonesia Stock Exchange (IDX) period 2005-2009 by using purposive sampling method. The three components of the intellectual capital that is physical capital (VACA), human capital (VAHU), and structural capital (STVA) as independent variables. Market-to-book ratio as a proxy for market value and Return On Assets (ROA) as a proxy for financial performance of the company became the dependent variable. Testing panel data regression in this study using 5% found that there is influence one component of the Value Added Intellectual Capital (VAICTM), namely physical capital (VACA) to the market value and there is influence from three components of Value Added Intellectual Capital (VAICTM) to the company's financial performance.*

*Keywords :Intellectual capital, Value Added Intellectual Capital (VAICTM), market value, financial performance of the company, Market-to-book ratio ( M/B ratio ), Return On Assets (ROA), physical capital (VACA), human capital (VAHU), and structural capital (STVA).*

## **INTRODUCTION**

### **Background**

One important factor to be considered by the company in the formulation of organizational strategy refers to the intellectual capital. This inference was based on findings about the performance of organizations, especially organizations that run



their business with the knowledge base (knowledge based business) (Suprayitno, 2008).

In line with the changing knowledge-based economy (knowledge based) and application of knowledge management (knowledge management) then the company's success is determined in the process of transformation of knowledge of the company. Measurement of intangible assets in this case is not explicitly stated that intellectual capital has become the focus of attention in various fields, management, information technology, sociology and accounting (Ulum, 2009).

PSAK 19 (revised 2000) on the basis of intangible assets intellectual capital development of the discussion of issues, although in PSAK 19 is not expressed directly as intellectual capital. Under PSAK 19 Intangible assets are non-monetary assets that can be identified and has no physical form and have to be used to produce or deliver goods or services, leased to another party, or for administrative purposes (IAI, 2009).

Developments related to the discussion of intellectual capital is not in line with the development of appropriate measurement techniques for intellectual capital. So far there is no accurate measurement of intellectual capital. However Pulic (1998) with the Austrian IC Research Centre developed a method to measure intellectual capital in a company which further known as "Value Added Intellectual Capital" (VAICTM). This method is very important to measure the contribution of each resource to create added value for the company. The resources in this regard that once an element is the physical capital VAICTM (Vaca - Value Added Capital Employed), human capital (VAHU-Value Added Human Capital), and structural capital (STVA - Structural Capital Value Added).

By Pulic (2004) value added is the main objective in the knowledge-based economy (knowledge based). While the creation of value added requires the right size associated with physical capital (ie financial funds) and intellectual potential (presented by the employee with all the potential and abilities attached to them). Furthermore Pulic (2004) stated that intellectual capital (which proxied with VAICTM) shows how both of these resources (physical capital and intellectual potential) has been efficiently utilized by the company.

The studies related to the topic of intellectual capital within and outside Indonesia are mostly done by the realization of the economic shift towards the knowledge economy (knowledge economy). Studies related to the intellectual capital that has been done, among others, research Ulum et al (2009) describes the relationship intellectual capital and corporate financial performance using Partial Least Squares approach to the analysis. Zeghal and Maaloul (2010) describes the analysis of value added as an indicator of intellectual capital and its impact on company performance. Can (2009) describes the impact of intellectual capital to the



company's performance with the object of research is that there are companies on the Hang Seng Index. Ting and Lean (2009) examined the performance of intellectual capital in financial institutions Malaysia.

Tobias (2009) describes the intellectual capital and corporate value. Syamsiati (2009) describes the relationship intellectual capital and financial performance of manufacturing companies listed on the Indonesia Stock Exchange in 2002-2007. Margaretha and Rahman (2006) describes the influence of intellectual capital to the market value and financial performance. Solikhah (2010) have examined the influence of intellectual capital to financial performance, growth and market value of the company listed in Indonesia Stock Exchange (BEI). While that distinguishes this study with previous studies is the study attempted to measure the influence of intellectual capital (VAICTM) to market value and financial performance of the banking sector companies listed on the Indonesia Stock Exchange 2005-2009 period. The banking sector was chosen as a sample for the banking industry is one sector that is effective in the use of intellectual capital; it refers to research Ulum et al (2009).

VAICTM model selection as a proxy for intellectual capital refers to the work Ulum et al (2009), Zeghal and Maaloul (2010), Can (2009), Syamsiati (2009), and Tobias (2009). Measurement of market value using market-to-book ratio since this ratio to measure performance based on market value. The selection of objects of research involving public companies (listed) aimed at obtaining data related to the company's market value as measured by market-to-book based on market value or based on market valuation of a company (Abdolmohammadi, 2005). While the selection of ROA as a measure of financial performance due to the selection point of view of profitability assessment ratios into two in terms of sales and investment. Starting from the statement ROA to measure profitability and financial performance of company '. ROA is one form of ratios to measure the profitability of the company's ability to generate profits by using the total assets available after capital costs (the costs used to fund assets) have been excluded from the analysis.

### **Research Problem**

The problem in this study is a testament to the influence of intellectual capital to market value and financial performance. Conservative accounting practices that emphasize the company's investment in intellectual capital are presented in financial statements result in an increase in the difference between market value and book value. This indicates that the investor will provide high value to the companies that have a greater intellectual capital (Belkaoui 2003 in Ulum 2009). While related to the company's financial performance, intellectual capital investment is expected to contribute in the process of corporate profit. Then the formulation of research problems is "How can the influence of intellectual capital to market value and financial



performance in the banking sector companies listed on the Indonesia Stock Exchange in the year 2005-2009?"

## **THEORITICAL FRAMEWORK AND HYPOTHESES**

### **Theoritical Framework**

#### **Intellectual Capital**

According to Stewart (1997), the intellectual capital as intellectual material has been formalized that, captured and leveraged to creat wealth by producing a higher value asset. On this definition of intellectual capital is a resource of knowledge available on the company that produces high-value assets and economic benefits in the future for the company. Intellectual capital is here intregated between technology and information that support the company's relationships with outside parties. In line with the above definition of intellectual capital, cited Brinker (2000) equate intellectual capital as the sum of human capital and structural capital (eg relationships with consumers, network management and information technology)

Bontis et al (2000) also explains that the whole process intellectual capital and assets that usually do not appear on the balance-sheet and all intangible assets (trademarks, patents, and brands) which is the contribution of human knowledge in the category of corporate resources. Intellectual capital can also be briefly described as an organizational capability to create, perform and implement knowledge transfer. Based on these notions can be taken over a core that intellectual capital is a resource company that is not a physical but can generate an added value for companies that can increase the company's market value.

Value added is defined in this problem can be mathematically calculated by subtracting the input (IN) on the output (OUT). In this case the output (OUT) shows revenue and includes all products and services sold into the market, while the input (IN) include all expenses that are used in a revenue gain (Tan et al, 2007). Furthermore, Tan et al (2007) states that employee expenses are not included in the input (IN) for conceiving its active role in the process of value creation, intellectual potential presented by the labor expense) is not counted as an expense (cost) and not included in the Input component (IN) (Pulic, 2004). This happens because the suppression of labor as an entity of value creation (value creating entity).

Pulic (2004) suggests three main components of value added or VAICTM (which is a proxy of intellectual capital) that is, physical capital (VACA - Value Added Capital Employed), human capital (VAHU-Value Added Human Capital) and structural capital (STVA - Structural Capital Value Added).



### **Physical capital (VACA - Value Added Capital Employed)**

Physical capital or capital employed efficiency is an indicator of value added created by the capital that afforded by the company with efficient (Firer and Williams in Margaretha 2006). As for the example of the Physical capital or capital employed efficiency is land, buildings, equipment, technology that easily sold or bought in the market.

It could be argued that physical capital or capital employed efficiency are assets that have a physical form and not owned by the company are used efficiently and optimally in the company's operations to the creation of added value to the companies concerned.

### **Human capital (VAHU-Value Added Human Capital)**

Human capital can be said is the most decisive element in the creation of added value of a company. Human capital includes the power of intellectual capital that comes from the people who owned the company that employees are competent, committed, motivated in their work and have a loyalty to the company, where they are at the core of the creation of intellectual power that can disappear when they are not working for another company (Bontis in Margaretha, 2006). It is clear that human capital is spearheading the creation of value-added enterprises. In practice the values embodied in human capital can not be reflected in company financial statements, but the expenses incurred by the company for employee development investment of intellectual capital can be said if the company intends to develop intellectual abilities possessed these people to progress. Based on Stewart (1997) the company must be able to distinguish between costs incurred to pay the employees and the company's investments are doing. So, it is clear that the costs to expand the company's employees do not constitute a form of investment but the cost of the company. These investments can be said to be efficient if the investment is aimed at developing the employee can bring a positive impact on increasing the value of the company.

### **Structural capital (STVA - Structural Capital Value Added)**

Structural capital is what makes the company remains strong due to the progress that has been achieved for the company (Roos et al in Margaretha, 2006). Further structural capital is anything that is a resource company that is not related to humans and consists of databases, organizational structure, a series of processes, strategies, and anything that creates enterprise value is higher than the value material stated in the company's financial statements. Consequence of the structural strength of a company's capital will support



each individual in the company is trying new things and learn more. Based Brooking (1996) states that the management philosophy and corporate culture are part of the company's structural capital have, which is a management philosophy in this regard is the way company leaders think about Their company and its employees and has a dominant effect on corporate culture that is the way companies view their company leaders and employees and it has a considerable influence on corporate culture. Further Brooking (1996) suggest corporate culture as the way we do around here. It things comprasing values, heroes, rites, rituals and Recognized That are shared by the work-force and Brooking insists that corporate culture is an asset to support the strengthening of the corporate goals and is a reflection of management philosophy. Based on the above exposure can be concluded that the financial statements are very limited in describing how much value is owned by the company. Intellectual capital can be described as any form of assets that have no physical form that can be created by the company using the assets of the company have with the optimal and efficient, and supported by employees who are empowered through intellectual learning program. In this case the costs incurred to create the intellectual ability can be said of investment by the company.

### **Market Value**

Company's market value is useful to provide information about the company's performance in the past and its prospects in the future. The market value can be measured using the ratio of market value (market value ratio). According to Gitman (2009) Market ratio is relate a firm's market value, as measured by its current share price, to certain accounting value. Ratio used to measure a company's market value in this study is the market-to-book ratio. This ratio provides assessment of how investors view the company's performance and expect a high return in accordance with the risks (Gitman: 2009). Selection of market-to-book ratio as a measure of the company's market value is based on research that has been done before. Solikhah (2010) analyzed the effect of intellectual capital to financial performance, growth, and market value of the companies listed on the Stock Exchange, Chan (2009) that uses market-to-book ratio as a measure of market valuation in the company's intellectual capital to analyze the impact on organizational performance . Rakhman and Margaretha (2006) in analyzing the influence of intellectual capital to market value and financial performance of companies with a method of Value Added Intellectual Capital (VAICTM) . Zeghal and Maaloul (2010) also use market-to-book ratio as a proxy for stock market valuation in analyzing the value added as an indicator of intellectual capital and its consequences on company performance.



## **Corporate Financial Performance**

In this study the financial performance measured by financial ratios. According to Gitman (2009) Financial ratios can be grouped into 5 (five) kinds of liquidity ratios, activity ratios, profitability ratios, leverage ratios, and the ratio of the market. Ratio used in this study to measure a company's financial performance is the ratio of profitability. According to Harahap (2008) profitability ratios are:

"The ratio is a profitability ratio that describes the company's ability to profit through all the existing capabilities and resources such as sales activities, cash, capital, number of employees, number of branches and so on."

From the definition above can be concluded that the profitability ratio aims to measure the efficiency of corporate activity and the ability of companies to make profits. Besides profitability ratios also aims to measure the effectiveness of management which is reflected in the return of investment through sales activities. Profitability ratios become the primary measurement tool for evaluating the financial performance of enterprises in investment activities that are commonly used by investors. The main attraction for the owners of the company shareholders lies in the profitability ratios, which shows the results of the company's management on funds invested. Profitability ratio or the ratio of profit the company is closely related to Traffic and operations effectiveness in generating profits. Profitability ratios in this study proxied by Return on Assets. Selection of ROA as a proxy for the profitability of a company because the company's ROA to measure the ability of the overall use of the funds that are embedded in the assets used in operations with the aim of making a profit. This ratio thus linking the benefits of the company's operations with a number of investments or assets that are used to generate those profits.

Further selection of ROA as a measure of financial performance are based on studies that have been done by Zeghal and Maaloul (2010) who analyzed the value added as an indicator of intellectual capital and its consequences on the performance of the company. Ting and Lean (2009) who use ROA as the dependent variable in analyzing the performance of intellectual capital in financial institutions in Malaysia. Chan's study (2009) who analyzed the impact of intellectual capital on organizational performance using ROA as a proxy for the performance of organizations and research Ulum et al (2009) which examined the influence of intellectual capital on ROA as a measure of corporate performance.

## **Development of Hypotheses**

### **Effect of Intellectual Capital with the Company's Market Value**

Intellectual capital is believed to give an important contribution in increasing the market value and financial performance of a company (Ulum et al, 2009). If the



value of efficient markets, the company will assess investor higher and will increase its investment in companies that have investments or spending greater intellectual capital (Belkaoui, 2003). Investors believe that intellectual capital is a major factor needed by companies amid fierce competition, which will then provide an increase in market value and financial performance. Thus, the hypothesis proposed to test the effect of intellectual capital to the company's market value is:

H1: Companies with greater intellectual capital tend to have a ratio of market-to-book value is higher.

Considerations of investors to put differing views or values of the three indicators of intellectual capital is the Chen et al (2005) form a hypothesis of the individual components of intellectual capital or VAICTM as follows:

H1-1: Companies with greater physical capital efficiency tend to have a ratio value of market-to-book value is greater.

H1-2: Companies with a greater efficiency of human capital tend to have a market value of the ratio-to-book value greater.

H1-3: Companies with the proportion of structural capital efficiency in creating added value ratios tend to have a market value-to-book value greater

### **Effect of Intellectual Capital with Corporate Financial Performance**

There are several studies on the performance of intellectual capital in Malaysia, is in line with research Bontis (2000), Ting and Lean (2010) who conduct research related to intellectual capital in Malaysia. This study found that human capital is an important contributing factor in measuring the influence of intellectual capital on corporate financial performance (Ting and Lean 2010). More can be said to be a positive influence on intellectual capital of a company's financial performance. Also according to Belkaoui (2003) also uses a stakeholder perspective that states that there is a positive influence on the intellectual capital and financial performance. So based on the description above, a hypothesis can be formed below shows that the intellectual capital that can enhance financial performance in the years to come.

H2: Companies with greater intellectual capital tend to have better financial performance

If investors put a different view of the three indicators of intellectual capital is the Chen et al (2005) form a hypothesis of the individual components of intellectual capital (VAICTM) as follows:

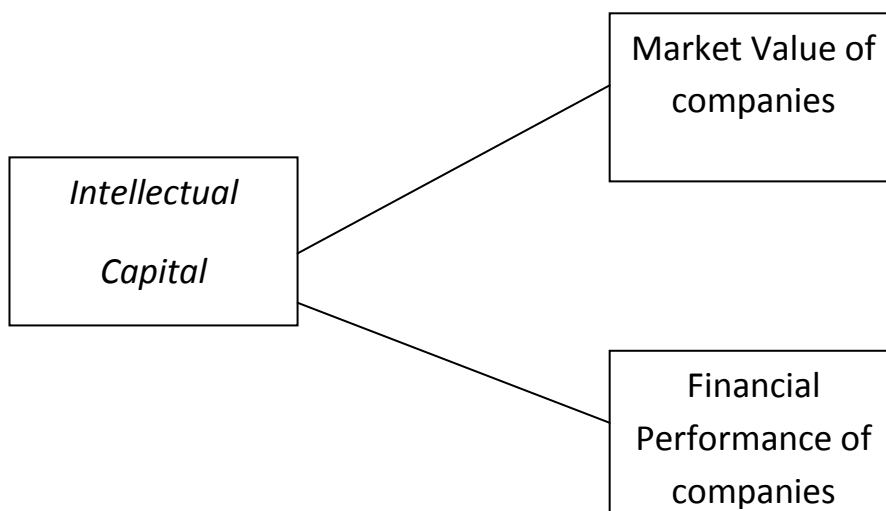
- H2-1: Companies with a greater physical capital efficiency ratio values tend to have a great return on assets
- H2-2: Companies with large human capital efficiency ratio values tend to have a great return on assets.
- H2-3: Companies with a proportion of the structural efficiency of capital in the creation of value added to value ratios tend to have a great return on assets.

Ting and Lean (2009) who use ROA as the dependent variable in analyzing the performance of intellectual capital in financial institutions in Malaysia. Chan's study (2009) who analyzed the impact of intellectual capital on organizational performance using ROA as a proxy for the performance of organizations and research Ulum et al (2009) which examined the influence of intellectual capital on ROA as a measure of corporate performance.

### Research Model

The added value is an important role in increasing corporate value and financial performance. Value added can be achieved with an optimal and efficient development of intellectual capital that firms have. Development of intellectual capital itself depends on three components that make up value added intellectual capital is the capital employed efficiency (VACA), human capital efficiency (VAHU), and structural capital efficiency (STVA).

Based on the description above, the conceptual framework related to the influence of intellectual capital and market value of the company's financial performance can be described by the following scheme: view of the three indicators of intellectual capital is the Chen et al (2005) form a hypothesis of the individual components of intellectual capital (VAICTM) as follows:





## **RESEARCH METHODS**

### **Variables and measurements**

Variables used in this research are the intellectual capital as measured by value added intellectual capital (VAICTM) as independent variables through the three constituent components of the capital employee efficiency (VACA), human capital efficiency (VAHU) and structural capital efficiency (STVA). While the company's market value variable (market value) as measured by market-to-book ratio and corporate financial performance (financial performance) as measured by return on assets ratio is the dependent variable.

### **Data Collection**

In this study, sampling data using purposive sampling method which is the sampling method by using several criteria. As for the criteria are as follows:

1. Registered as a public company in Indonesia Stock Exchange (BEI) from 2005 to 2009.
2. Types of companies are banking firm.
3. There is a completeness of required data (data accounting information related to the total sales and other revenues and expenses and the costs associated with employee) in a row from 2005 to 2009 in accordance with the objectives of the study.

### **Method of Analysis**

Data analysis is the process of simplification of the data into a form that is easy to read and interpret. Analytical methods used in conducting the study are as follows: Descriptive Statistics, Data Quality Test (Normality Test, Test Assumptions Classical), Multiple Linear Regression Analysis Methods: Multiple linear regression or multiple regression is used to test the independent factor of more than one variable, namely the components intellectual capital that consists of employee capital efficiency (VACA), human capital efficiency (VAHU) and structural capital efficiency (STVA). So that the model equations used in this study are as follows: Value added as an indicator of intellectual capital and its consequences on the performance of the company. Ting and Lean (2009) who use ROA as the dependent variable in analyzing the performance of intellectual capital in financial institutions in Malaysia. Chan's study (2009) who analyzed the impact of intellectual capital on organizational performance using ROA as a proxy for the performance of organizations and research Ulum et al (2009) which examined the influence of intellectual capital on ROA as a measure of corporate performance.



A. First Research Model for the market value of the variable

$$M/B : a + \beta VAIC + e$$

$$M/B : a_0 + a_1 VACA_{it} + a_2 VAHU_{it} + a_3 STVA_{it} + e_{it}$$

B. The research model for the financial performance variables

$$ROA : a + \beta VAIC + e$$

$$ROA : a_0 + a_1 VACA_{it} + a_2 VAHU_{it} + a_3 STVA_{it} + e_{it}$$

### Hypothesis Testing

To test the research hypothesis can be done with two tests as follows:

T test is testing the regression coefficient of each independent variable (VACA, VAHU, and STVA) against the dependent variable (Market-to-book ratio and Return on Assets) to determine how much influence the independent variables against the dependent variable.

## ANALYSIS AND DISCUSSION

### 4.1 Analysis of Data

#### a. Partial Test (Test t) First Model

First Partial Test Model Regression analysis for the first model in the study was conducted to investigate more deeply the significance of the component variables of Value Added Intellectual Capital (VAICTM) consisting of (physical capital, human capital, and structural capital) to the market value of proxied into M / B ratio. There is a table that describes the regression results found in this study are based on a partial test of the significance of the t test at a significance level of 5%.

**TABLE 4.1 T test – first model**

REGRESSION			
Variabel Independen	t-statistic	p-value	Decision
Physical Capital ( VACA )	2.271374	0.0260	Significant
Human Capital ( VAHU )	0.207159	0.8364	Insignificant
Structural Capital ( STVA )	-0.131592	0.8957	Insignificant



- a. P-value value of variable physical capital (VACA) is 0.0260 which is smaller than 0.05 then the conclusion is the  $H_0$  is rejected or in other ways that quick look, which states when the number of degree of freedom is 20 or more and 5% confidence level, the  $H_0$  rejected if the t-statistic is greater than t-table is 2.00 (in absolute value) (Ghozali, 2002). This table shows the t-statistics of 2.27137., greater than t-table 2.00. Thus the physical capital variable (VACA) had a significant effect on market-to-book ratio.
- b. The value p-value of human capital variables (VAHU) is 0.8364, which means greater than 0.05 or t-statistic of 0.207159 is smaller than 2:00 nilai-t-table, then the conclusion is  $H_0$  failed to be rejected. Thus the human capital variables (VAHU) has no significant effect on the market-to-book ratio.
- c. P-value value of variable structural capital (STVA) is 0.8957, which means greater than 0.05 or t-statistic for 0.131592 lebih smaller than the t-table 2:00  $H_0$  fails then the conclusion is rejected. Thus the structural variable capital (STVA) has no significant effect on the market-to-book ratio.

#### b. The Partial Test Second Model

The second model in the regression analysis shows the influence between the three components of Value Added Intellectual Capital (VAICTM) consisting of (physical capital, human capital, structural capital) to the financial performance of companies that measure into Return On Assets (ROA) ratio at a significance level of 5 % ( $\alpha = 0.05$ ). The following summary table using the Fixed Effects regression unji Method (FEM).

**TABLE 4.2. T test Second Model**

REGRESSION			
Variabel Independen	<i>t-statistic</i>	<i>p-value</i>	<i>Decision</i>
<i>Physical Capital</i> ( VACA )	3.653057	0.0005	Significant
<i>Human Capital</i> ( VAHU )	2.931980	0.0047	Significant
<i>Structural Capital</i> ( STVA )	2.517769	0.0145	Significant

- a) P-value value of variable physical capital (Vaca) is 0.0005 which is smaller than 0.05 or a t-statistic of 3.653057 is greater than the table value of t- $H_0$  2:00 then the conclusion is rejected. Thus the physical capital variable (Vaca) had a significant effect on return on assets ratio.



- b) The value p-value of human capital variables (VAHU) is 0.0047 which is smaller than 0.05 or a t-statistic of 2.931980 is greater than the value of t-table Ho 2:00 then the conclusion is rejected. Thus the human capital variables (VAHU) have a significant effect on return on assets ratio.
- c) P-value value of variable structural capital (STVA) is 0.0145 which is smaller than 0.05 or a t-statistic of 2.517769 is greater than the table value of t-Ho 2:00 then the conclusion is rejected. Thus the structural variable capital (STVA) has a significant effect on return on assets ratio.

### **Discussion of Result of Research**

Based on the interpretation of the results research that has been conducted, then the on the this section will be discussed further information related to interpretation the influence third-components of Value Added Intellectual Capital (VAICTM) which consist from (physical capital (VACA), human capital (VAHU), and structural capital (STVA) ) against the market-to-book ratios and Return On Assets (ROA) ratio. The descriptions in this section is intended as an attempt to find between the findings and analysis of data with theoretical implications. Associated with the influence of the three components of Value Added Intellectual Capital (VAICTM) to market-to-book ratio that is the first model in this study, only the component of physical capital (VACA) that has a significant influence on the market value of the banking sector companies listed on Indonesia Stock Exchange effects the period 2005 - 2009 while the two components of Value Added Intellectual Capital (VAICTM), namely (VAHU and STVA) had no significant effect. This is consistent with the results of research conducted by Chen et al (2005), Firer and Williams (2003), Shiu (2006). These findings indicate that physical capital (VACA) and physical assets that are not owned by the company has contributed significantly to the stockholders and stakeholders through its important role in value creation (value creation). With other words that the banking companies who registered in Indonesia Stock Exchange on the period of 2005-2009 have been uses to efficiently and optimal physical capital (VACA) the company within its operational activity in order to creation of added value for the company.

Associated with the finding that two other components of the Value Added Intellectual Capital (VAICTM), namely (VAHU and STVA) that have no significant effect on the market-to-book ratio or market value. This is consistent with findings from Firer and Williams (2003) and Chen, Cheng and Hawn (2005) which can be interpreted that the negative market reaction to the state if the company focus investment on these resources, will only lead to a high load (Firer and Williams 2003) and lack of investor understanding of the importance of intellectual capital investment for the efficient management of the company and is one form of risk management company.



Discussion of results the second model in this study who want to see the influence third-components of Value Added Intellectual Capital (VAICTM) which consist from (physical capital (VACA), human capital (VAHU), and structural capital (STVA) against Return On Assets (ROA) ratio is a proxy for the company's financial performance shows a significant influence of the three components of Value Added Intellectual Capital (VAICTM) is. This is in line with findings from Belkaoui (2003), Chen et al (2007), Tan et al (2007), Ulum (2009), and Zeghal and Maaloul (2010). Rationalization of these findings is that intellectual capital into three components Value Added Intellectual Capital (VAICTM) has given an important role in reducing production costs (Zeghal and Maaloul, 2010) and also showed the important role of intellectual capital in creating added value for the company. More information can be concluded that the banking company listed on the Indonesia Stock Exchange (BEI) in the period 2005-2009 has been an efficient and optimal "use" in the company's intellectual capital increasing value-added enterprises. of the stockholder, it can be seen that the management company has been successful in managing the organization in the interest of the owner of the company, it is characterized by the company's financial performance (ROA). Where is obvious that the Return On Assets (ROA) is a measure of corporate performance that are important to the shareholder (Meek and Gray, 1988) and ROA is a measure of corporate profitability (Gitman, 2005).

## **CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND SUGGESTIONS**

### **Conclusion**

Based on the results of panel data regression testing, it can be drawn some conclusions as follows:

- a. In the partial test (t test) can be seen that one of the three components of Value Added Intellectual Capital (VAICTM): the physical capital (VACA) had a significant influence to market-to-book ratio is a proxy for measuring market value of banking firms listed on the Indonesia Stock Exchange (BEI) in the period 2005-2009. While the other two components, namely human capital (VAHU), and structural capital (STVA) does not have a significant influence on market-to-book ratio (M / B ratio).
- b. In the partial test (t test) can also be seen that the three components of Value Added Intellectual Capital (VAICTM): the physical capital (VACA), human capital (VAHU), and structural capital (STVA) significantly influence Return On Assets (ROA), which is a proxy of the financial



performance of banking companies listed on the Indonesia Stock Exchange (BEI) in the period 2005-2009.

### **Managerial Implications**

For the managerial firm, has a view that investment in intellectual capital to be one alternatif profitable investment. This proved the existence of a significant effect given to the market value of intellectual capital and corporate financial performance. For the government as regulator, the study also implies that governments can use the method of Value Added Intellectual Capital (VAICTM) to assess the company in terms of value added creation. This will result in an improvement in economic policy and economic management of the new economy in which the awareness of the importance of the use of corporate intellectual capital as a form of investment.

### **Limitations of Research**

In this study, there are some limitations in some respects. The limitations are as follows:

- a. Samples used in this study is limited to banking companies listed on the Indonesia Stock Exchange, raising a possibility that the conclusions generated in this study can not be directly generalized to other companies outside the banking industry.
- b. Limited use of proxies Return on Assets (ROA) and market-to-book ratio as a measure of financial performance and market value of firms in this study. Related to this, it is necessary to look for additional proxy-proxy.
- c. Measurement VAHU (Value Added Human Capital) is biased because it does not consider the overall number of employees in the banking sector firms sampled in this study.

### **Suggestion**

There are some suggestion based on the limitations as mentioned above is:

- a. On further research may be able to use a sample of firms from outside the banking industry, in order to properly see the influence of intellectual capital to market value and financial performance of companies per industry.
- b. The addition of other proxy-proxy as a measure of financial performance of companies such as Returns On Equity (ROE), and the addition of market value proxies such as Earning per share (EPS).
- c. Enter the total number of employees of the company as the divisor in calculating the company's investment in Human Capital (VAHU)



Company. This will more proportional amount of investment taking into account the company's total employees of the company.

## PEFERENCES

Abdolmohammadi, M, J. 2005. *Intellectual Capital Disclosure and Market Capitalization. Journal of Intellectual Capital*.Vol 6.No.3.

Blocher dan Lin, 2007. *Manajemen Biaya: Penekanan Strategis*.Edisi 3.Jakarta: Salemba Empat.

Bontis N. 1998. *Intellectual Capital : An Explanatory Study That Develops Measures and Models*, Management Decision. Vol.36.No.2.

Djalal, Nachrowi. 2006. *Pendekatan Populer dan Praktis Ekonometrika*.Jakarta: Rajawali Pers.

Firer,S. and Williams, S, M. 2003. *Intellectual Capital and Traditional Measures of Corporate Performance, Journal of Intellectual Capital*.Vol 4.No.3.

Gitman, Lawrence. 2009. *Principles of Managerial Finance* (12<sup>th</sup> Edition), New York : Pearson International Edition.

Ghozali, Imam, 2002. *Aplikasi Analisis Multivariate*.Semarang: Badan Penerbitan Universitas Diponegoro.

Gujarati, Damodar. dan Porter, C, Dawn. 2003. *Principles of Econometrics*. : Mc. Graw Hill

----- 2009. *Dasar-Dasar Ekonometrika*.Edisi 5.Jakarta: Salemba Empat.

Hang Chan, Kin. 2009. *Impact Intellectual capital on Organization Performance*. *Jurnal Intellectual Capital*.Vol 16.

Harahap, Sofyan Syafri. 2007. *Teori Akuntansi Edisi Revisi*. Jakarta: Rajawali Pers.

----- 2008. *Analisis Kritis Atas Laporan Keuangan*. Jakarta : PT Raja Grafindo Persada.

<http://finance.yahoo.com/q/hp?s=^JKSE+Historical+Prices> (diakses pada November 2010 )

<http://www.idx.co.id> ( diakses pada November 2010 ).

Hsun Shih, Kuang dan Chia Jung, Chan. 2010. *Assesing Knowledge Creation and Intellectual Capital in Banking Industry*.*Jurnal Intellectual Capital*.Vol 11.

Ikatan Akuntan Indonesia. 2009. *Standar Akuntansi Keuangan*.Jakarta:Salemba Empat



- Institute For Economics and Financial Research. 2009. *Indonesian Capital Market Direction 2009*. Edisi 12. Jakarta: ECFIN
- Kiong Ting, Irene wei and Hooi Hooi, Lean. 2009. *Intellectual Capital Performance of Financial institution in Malaysia*. *Jurnal Intellectual Capital*.Vol 10.
- Margaretha, Farah dan Arief Rakhman. 2006. *Analisis Pengaruh Intellectual Capital Terhadap Market Value dan Financial Performance Perusahaan dengan Metode Value Added Intellectual Capital*. *Jurnal Bisnis dan akuntansi*.Vol 8.
- Nilmawati. 2006. *Organizational Learning dan Knowledge Asset : Partner Terbaik untuk Mendapatkan Keunggulan Bersaing*. *Ekobis*.Vol 9 No.1.
- Pangestu, Ruliyana Hifdzi Pangestu. 2010. *Analisis pengaruh Kinerja Modal Intelektual dan Karakteristik Perusahaan terhadap Tingkat Pengungkapan Modal Intelektual*. Jakarta.
- Prihadi, Toto. 2007. *Mudah Memahami Laporan Keuangan*, Jakarta: PPM.
- Pulic, A. 1998. "Measuring the performance of intellectual potential in knowledge economy". Paper presented at the 2nd McMaster Word Congress. available online at: [www.vaic-on.net](http://www.vaic-on.net). (accessed Agustus 2010).
- 2004. *Intellectual Capital: does it create or destroy value?, Measuring Business Excellence*, Vol.8, No.1.
- Pusat Bahasa Departemen Pendidikan Nasional Republik Indonesia. 2008. *Kamus Besar Bahasa Indonesia*. Edisi 4. Jakarta: Gramedia Pustaka Utama
- Riahi, Ahmed and Belkoui. 2004. *Accounting Theory*. 5<sup>th</sup> Edition. London: Thomson.
- Roos G and Roos. J. 1997. *Measuring Your Company's Intellectual Performance*. Long Range Planning. Vol.30 .No.3.
- Solikhah, Badingatus. 2010. *Pengaruh Intellectual Capital Terhadap Kinerja Keuangan, Pertumbuhan, dan Nilai Pasar Perusahaan yang tercatat di Bursa Efek Indonesia*. Semarang: Magister Akuntansi UNDIP.
- Stewart, T A. 1997. "Intellectual Capital: The New Wealth of Organizations." New York: Doubleday.
- Suhendah, Rousilita. 2005. *Intellectual Capital*. *Jurnal Akuntansi*. Tahun IX.
- Suprayitno, Edi. 2008. *Pentingnya Pengembangan Intellectual Capital*. Bandung : Manajemen UNPAD.



- Sawarjuwono, T. 2003. "Intellectual capital: perlakuan, pengukuran, dan pelaporan (sebuah library research)". *Jurnal Akuntansi dan Keuangan*. Vol. 5 No. 1. pp. 35-57
- Syamsiati. 2009. *Hubungan Intellectual Capital dan Kinerja Keuangan Perusahaan: Studi Pada Perusahaan Manufaktur di BEI Tahun 2002-2007*. Sumatera Utara : Akuntansi USU.
- Tan HP, Plowman D and Hancock P. 2007. *Intellectual Capital and Financial Return of Companies*. *Journal of Intellectual Capital*. Vol.8.No.1
- The of Chartered Accountants*. 2008. *International Financial Reporting Standard*. England and Wales.
- Tobing, L Paul. 2009. Value Creation dalam Model Intellectual Capital. <http://onknowledge.wordpress.com/2009.05/> ( diakses Oktober 2010 ).
- Ulum, Ihyaul. Imam Ghozali dan Anis Chariri. 2009. *Intellectual Capital dan Kinerja Keuangan Perusahaan: Suatu Analisis dengan Pendekatan Partial Least Square*. Simposium Nasional Akuntansi 12.
- Zeghal, Daniel and Anis Maaloul. 2010. *Analyzing Value Added as an Indicator of Intellectual Capital and its Consequences on Company Performance*. *Intellectual Capital*. Vol 11.