

# Intellectual Capital, Firm Value and Ownership Structure as Moderating Variable: Empirical Study on Banking Listed in Indonesia Stock Exchange period 2009-2012

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## Intellectual Capital, Firm Value and Ownership Structure as Moderating Variable: Empirical Study on Banking Listed in Indonesia Stock Exchange period 2009-2012

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### Abstract

Intellectual capital has been known since the issue of the failure of traditional accounting reporting real asset values and the presence of an integrated reporting standard requiring disclosure on capital employed in the creation of corporate value. This study aims to determine the effect of intellectual capital on firm value by ownership structure as a moderating variable. Intellectual capital is measured by using a model of Value Added Intellectual Coefficient (VAIC<sup>TM</sup>) while the value of the company is measured by using Tobin's Q. The ownership structure as a moderating variable is represented by the percentage of managerial ownership and institutional ownership.

This study's population is banking companies listed in Indonesia Stock Exchange (BEI) from 2009 to 2012. Based on purposive sampling method, the sample is obtained by 27 companies. The analytical method used is multiple regression equation for overall and path analysis for testing residual moderating variables.

The results of this study indicate that intellectual capital has a positive and significant effect on firm value. This study also proves that managerial ownership is moderating variable that negatively affect the relationship of intellectual capital on firm value. While institutional ownership does not moderate the effect of intellectual capital on firm value.

**Keywords:** intellectual capital, VAIC<sup>TM</sup>, firm value, managerial ownership, institutional ownership

### I. Introduction

#### 1.1 Background

Developments in science and technology is growing rapidly in this era of globalization has intensified competition in the business world. Thus, to maintain the existence of the business world, companies must quickly change its strategy based on labor (labor-based business) to businesses based on knowledge, the main characteristics of science (Kuryanto & Muchamad, 2008). Companies that implement this knowledge based businesses tend to create value based on intangible assets (intangible assets) and intangible resources rather than assets (Chen et al., 2005). Companies are increasingly emphasizing the importance of knowledge assets (knowledge assets) as a form of intangible assets (Thaib, 2013). This is because business people begin to realize the ability to compete not only in the ownership of tangible assets, but rather the innovation, information systems, organizational management and its organizational resources (Solikhah, 2010). In the asset management based on knowledge, such as the conventional capital natural resources, financial resources and physical assets can be utilized more efficiently and economically so as to create a competitive advantage for the company (Sawarjuwono & Augustine, 2003). The development of an asset management system based on this knowledge affect the company's financial reporting. According Widyaningdyah (2008), traditional accounting has been used 500 years as the basis for the current financial report fails to adapt to the change in the economy, especially in knowledge-asset reporting requirements. This is because the financial statements are not able to present the relevant information regarding the amount of the value of the intangible asset so that it can influence corporate policy. Failure to report knowledge of traditional accounting assets can be seen from the phenomenon that occurs in some large companies such as knowledge-based Microsoft, Coca Cola and Intel, which are not carrying an intangible asset on the balance sheet of these companies so that there is a very significant difference in value between the book value assets with a market value of these

companies (Sawarjuwono & Augustine, 2003). The existence of a significant difference in value can be concluded that the financial statements are failing to reflect the true value of the company so it cannot be used in decision making (Kuryanto & Muchamad, 2008).

Limitations of financial statements in explaining the value of the company pointed to the fact that the source of economic value is no longer in the form of raw material production, but the creation of intellectual capital (Ulum, 2008). The greater the value of intellectual capital, the more efficient use of capital of the company, thus creating added value for the company (Randa & Ariyanto, 2012). Sunarsih and Mendra (2012) also add that intellectual capital is a major resource with huge potential to improve the performance and market value of the company. According to Randa and Ariyanto (2012), intellectual capital in affecting the value of the company were also influenced by the presence of a majority shareholder control over the company's policy to control the whole action of management in running the company, including the harness and leverage the intellectual capital of the company. Shareholder control is one of the core mechanisms of corporate governance, namely ownership structure (Jensen & Meckling, 1976). Ownership structure by some researchers believed to affect the running of the company, which in turn affects the performance of the company in achieving corporate objectives, namely maximizing firm value (Wahyudi & Hartini, 2006). This is because large shareholders have an incentive to control management in improving the management of intellectual capital and corporate value (Randa & Ariyanto, 2012). Ownership structure often creates agency problems because of the unification of the interests of shareholders against corporate objectives (Purwantini, 2012). Divergence of interests between managers and institutional parties can influence corporate policies that require management to be more effective and efficient in managing the company in order to increase the value of the company (Wahyudi & Hartini, 2006). The policy is one form of intellectual capital management decisions are owned by company, so that, eventually management will also result in the performance of different intellectual capital (Saleh et al., 2009).

Implementation of intellectual capital has gained attention as the latest development of financial reporting in 2011 by the International Integrated Reporting Council (IIRC) and supported by the Global Reporting Initiatives (GRI), the Integrated Reporting ("The World Has Changed-Reporting Must Too", 2011). Integrated Reporting provides a report that fully integrate financial information and non-financial companies to explain the ability of an organization in the creation of value and maintain its value over the long term (IIRC, 2011). Value creation process described in the Integrated Reporting framework through the concept of capital, where the IIRC divides the capital into six categories (IIRC, 2011), namely intellectual capital, natural capital, financial capital, human capital, social capital and capital plant. However, IIRC is adding the category of capital is adjusted with the use of each company; for example, some companies identify intellectual capital as a fusion between human capital, structural capital and customer capital (IIRC, 2011). The statement indicates that intellectual capital has been fully recognized by the international agencies in the activity of the company. Different types of capital owned by the company including the intelligent capital are then described in the Integrated Reporting through the scope of company business models. Business Model is one of the seven elements of other Integrated Reporting mutually bonded to each other, such as: (1) Overview of Organizational and Environmental Affairs; (2) Corporate Governance; (3) Risks and Opportunities; (4) Strategies and Resource Allocation; (5) Performance; (6) Display Future; and (7) Preparation and Presentation Basics (IIRC, 2011). Business Model describes four main stages that transform various types of capital of the company be the final result of the company's value. These four main stages are input, business activities, outputs and outcomes. Furthermore, the business model and the seven other elements of Integrated Reporting is connected to the four (4) general reporting section (IIRC, 2011), namely: (1) Disclosure of Material Things; (2) Capital Disclosures; (3) Timeframe Short, Medium and Long; and (4) Unification and Separation. Thus, the intellectual capital of the company is described through Business Models were also expressed in these public reporting.

Based on this phenomenon, the issue of intellectual capital is increasingly becoming a topic of interest for the study, because of the challenges for the accountant to identify, measure and disclose in financial reporting (Solikhah, 2010). The existence of Integrated Reporting also requires the company to manage its intellectual capital optimally so that the reporting and disclosure, the company can provide the best overview over the management of intellectual capital. Optimal management of intellectual capital can increase the company's market value as investors tend to give a higher price for shares that the company has the ability greater intellectual capital (Belkaoui, 2003).

In Indonesia, intellectual capital known since issued SFAS No. 19 (revised 2000) on intangible assets. Ulum (2008) stated that intellectual capital is a part of the intangible assets, intellectual capital that can be used as an approach in the assessment and measurement of intangible assets. Intellectual capital in Indonesia is also increasing attention to the frequency of company funds to acquire, develop, maintain or strengthen the intangible resources such as

science and technology, design and implementation of new processes or systems, licenses, intellectual property, market knowledge and brand trade (Thaib, 2013).

However, in terms of intellectual capital management, companies in Indonesia have not been able to manage it optimally. This is evidenced by the research Novitasari and Indira (2009) on the performance of the banking company's intellectual capital in 2005-2007. The results showed that the banking company is a company which in practice with the use of intellectual capital more intensively than other companies (Ulum, 2008), still in the common category of performance in terms of intellectual capital management. This is implying that the banking company in Indonesia has not been able to optimally manage its intellectual capital (Novitasari & Indira, 2009). Pulic (1998) has developed the most popular method in the measurement of intellectual capital, the Value Added Intellectual Coefficient (VAICTM). VAICTM is a method used to measure the efficiency of the added value derived from the company's intellectual abilities. The main components VAICTM owned company that is physical capital, human capital, and structural capital (Pulic & Kolakovic, 2003).

The use of Pulic models (VAICTM) is carried out by several researchers, namely Chen et al. (2005) who found that there is positive relationship between the intellectual capital and the market value of the company's performance. In Indonesia, the results Ulum (2008) showed that there was significant effecting intellectual capital on the financial performance of the company. Furthermore, research by the Son (2012) was able to prove the existence of a significant positive effect between the values of the intellectual capital of the company. Meanwhile, the results Solikhah (2010) showed that there was no positive effecting between the intellectual capitals of a company with its performance.

Inconsistencies results of research on the relationship between intellectual capitals to the value of the company can be explained through a contingency approach. This approach gives the idea that the nature of the relationships that exist in the company's intellectual capital value may be determined by the conditional factors that affect the relationship between the two variables. Contingency approach allows for other variables that act as a moderating factor (Ahadiat, 2008), who used effects of intellectual capital relationship with firm value. Therefore, the authors are interested in doing further research on the relationship of intellectual capital with a market value using the same approach in measuring intellectual capital that is VAICTM. This research study will attempt to modify the Son (2012) which examines the relationship of intellectual capital on firm value with the difference lies in the measurement of the value of the company which will be measured by Tobin's Q. Then, in this study will add a moderating variable is the ownership structure consisting of managerial and institutional ownership has been used in research Gunawan and Mazda (2012). The object of research to be conducted that banking companies listed on the Stock Exchange 2009-2012.

Banking companies have been banking company is a company whose employees are overall more homogeneous compared with other sectors of the company as well as the use of intellectual capital in the banking company categorized intensive (Ulum, 2008). Homogeneity is important to ensure that the measurement of intellectual capital becomes more objective (Solikhah, 2010). The objects of research were selected based on the latest annual report of the company in order to deliver the results of different studies with the years that have been previously studied by several researchers.

## **2. Literature Review and Development Hypothesis**

### *2.1 Theory Resources (Resources-based Theory/RBT)*

Theory resources are a theory that addresses the resources of the company and how the company can manage and utilize its resources (Randa & Ariyanto, 2012). According Solikhah (2010), resource theory is an approach that states that the company will further excel in competition and get a good financial performance in a manner own, control, and utilize strategic assets that are important in the form of superior resources. Wijayanti (2013) states that a resource can be said to be superior or have a competitive advantage if it meets the following criteria (1) These resources enable the company capture a wide range of business opportunities and overcome the challenges, (2) These resources have unique and difficult to imitate and obtainable in the market and only a few players owned by business alone, and (3) these resources can be used by companies to provide benefits for the company.

In conjunction with this research, resource theory explains that the company will gain a competitive advantage by leveraging the resources that meet certain criteria that have been mentioned. Intellectual resources consist of human capital, physical capital and structural capital in three classifications including superior resources. Intellectual capital is related to the knowledge, technology and the formal structure of a company that can provide more value for the company a competitive advantage (Sarwajuwono & Augustine, 2003). Furthermore, Belkaoui (2003) stated that the investor will provide high value to the company that has the capability of intellectual capital is greater.

## 2.2 Agency Theory

Agency theory explained that the agency relationship arises when one or more persons (the principal) employ another person (the agent) to provide a service and then delegate decision-making authority to the agent (Jensen & Meckling, 1976). Analogues are between owners and management companies. According Purwantini (2012), one type of agency conflict that often occurs is the conflict between shareholders and managers. The manager was given the task by shareholders to run the company, in order to achieve the company shareholders, namely to maximize the value of the company (shareholder wealth) to optimize the available resources to the fullest. The emergence of a potential conflict between the two parties because if the manager will act consistent with the objectives of shareholders prosper (Purwantini, 2012). According to Randa and Ariyanto (2012) illustrates the potential conflicts that the presence of a majority shareholder control over corporate policy, will be able to control the whole action of management in running the company, including the harness and leverage the intellectual capital of the company. The conflict between management and shareholders (agency problem) can be minimized with an oversight mechanism that can align these interests so that the resulting agency costs. There are several alternatives to reduce agency cost, including the presence of institutional and managerial ownership (Haruman, 2008).

The company increased managerial ownership to align managers with shareholders footing so that the increase in the percentage of ownership, managers are motivated to improve the performance and increase the prosperity responsible shareholder (Haruman, 2008). The presence of institutional ownership will encourage more optimal surveillance to monitor the management of intellectual capital management so that this mechanism can guarantee an increase in shareholder wealth (Purwanto, 2011). Randa and Ariyanto (2012) add the large shareholders have an incentive to control the management and the power to change so that the poor performance as a whole will be able to improve the management of intellectual capital in enhancing the value of the company.

## 2.3 Intellectual Capital

Intellectual capital can be identified as a set of intangibles (resources, capabilities, and competencies) that drives organizational performance and value creation (Bontis et al., 2000). As a concept, referring to the intellectual capital assets of the non-physical or intangible assets related to the human experience as well as knowledge and technology used that have the potential to advance the organization (Sunarsih & Mendra, 2012). Bontis et al. (2000) adds that intellectual capital is difficult to understand, but once discovered and exploited, it can provide a new resource base organization to compete and win. Sawarjuwono and Augustine (2003) defines intellectual capital as the sum of what is produced by three main elements, namely organizational human capital, structural capital, customers capital related to knowledge and technology that can provide more value for the company in the form of an organization's competitive advantage. Of the various definitions above it can be concluded that the concept of intellectual capital is a resource and knowledge-based companies in the form of intangible assets if used optimally enable the company to execute its strategy effectively and efficiently, so it can be used as added value for the company in the form of the company's competitive advantage.

## 2.4 Hypothesis Development

### 2.4.1 The effect of Intellectual Capital on Firm Value

Resource theory explains that companies managed and exploited intellectual resources that both can achieve competitive advantage and value added (Solikhah, 2010). Vendor who has a competitive advantage will create market perception of the company's high value because it is believed that companies have a competitive advantage to compete and survive in the dynamic business environment (Randa & Ariyanto, 2012). Chen et al. (2005) suggest that investor tend to pay a higher price for shares that the company has the intellectual resources more than companies with low intellectual resources. The price paid by the investor reflects the value of the company. This is evidenced by the results of Chen et al. (2005) which indicates that intellectual capital has a significant impact on financial performance and firm's value. The results of a similar study also evidenced by Ulum (2008) and Son (2012) by using a model that is Public Value Added Intellectual Capital (VAICTM) on banking companies listed on the Stock Exchange. Based on the existing theory and previous research findings, the hypothesis can be formulated as H1: Intellectual capital has a significant effect on firm value.

### 2.4.2 Managerial Ownership Effects to Relationship between Intellectual Capital and Firm's Value

According to agency theory, agency costs caused by the conflict of interest between managers and agents can be reduced by increasing managerial ownership in the company. Managers who have a stake in the company, the company will prosper, because it automatically personal interest will also be fulfilled (Purwanto, 2011). Therefore, managerial ownership will encourage management to improve the performance of the company in an

effort to increase the value of the company (Faisal, 2004). One of the management efforts in improving corporate value by increasing the company's investment in intellectual capital for the good performance of intellectual capital is believed to enhance the company's competitive advantage (Purwanto, 2011). Faisal (2004) research results also showed that the higher the managerial ownership, the more efficient utilization of assets. This indicates that the managerial ownership and the support of the manager, then the intellectual capital held by the company will be managed and used efficiently so that the performance intellectual capital will increase (Novitasari & Indira, 2009). If the performance of intellectual capital increases, this will increase the market's perception of the value of the company (Solikhah, 2010). Based on the above, the research hypothesis is H2: managerial ownership affects the relationship of intellectual capital on firm value.

#### 2.4.3 Institutional Ownership Effects to Relationship between Intellectual Capital and Firm's Value

According to agency theory, in addition to increasing managerial ownership, agency problems can also be reduced by increasing institutional ownership. Increased institutional ownership will lead to more supervisory efforts to reduce opportunistic behavior of managers so that managers will act in accordance with the wishes of the shareholders (Novitasari & Indira, 2009). The greater institutional ownership, the more efficient utilization of company assets and then would then increase the value of the company (Wahyudi & Hartini, 2006). According Novitasari and Indira (2009), institutional investors will prefer and support policies that can improve long-term incentives for the company, one of which is the intellectual capital management policy. Full support and optimal control of institutional shareholders and the efficient management of intellectual capital utilization will increase. Furthermore, Purwanto (2011) stated that intellectual capital managed and utilized optimally believed to be able to generate long-term competitive advantage that is sustainable. With a long-term sustainable competitive advantage, will encourage investors to provide high value to the company, as reflected in higher price of the company's stock (Solikhah, 2010). Based on these descriptions, feed formulation of the hypothesis proposed is H3: institutional ownership affects the relationship of intellectual capital on firm value.

#### 2.5 Theoretical Framework

Salehetal (2009) revealed in managing intellectual capital, it takes over its management policies are strongly influenced by those who have power in proportion to its ownership in the company. According to the agency theory, the principal called that will prosper him with trying to monitor the performance of management in the management of intellectual capital in order to run properly. Based on the theory of resources, companies that manage and exploit intellectual resources that both can achieve competitive advantage and value added (Thaib, 2013). On the basis of competitive advantage and the added value it will award more investors to invest in companies with higher values indicating higher firm (Chen et al., 2005).

This study is uses analysis of value added as an indicator of intellectual capital in dependent variables were measured using a model Pulic (VAICTM). Pulic method measures the intellectual capital on firm value indirectly, necessitating the moderating variable as mediation. Moderating variable used was the percentage ownership structure through institutional ownership and managerial ownership of the firm is proxied by the percentage of managerial ownership.

The dependent variable used is the value of the company is proxied by Tobin's Q. Meanwhile, in this study is using a sample of banking companies listed in Indonesia Stock Exchange. The banking industry has been based on research results Ulum (2008) and Son (2012) who provide empirical evidence that strongly influenced by the banking company's intellectual capital.

Theoretical framework for formulating hypotheses of this study is described in the following Figure.

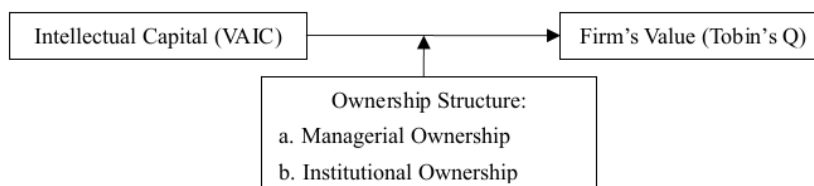


Figure 1. Theoretical framework

### 3. Research Methodology

#### 3.1 Variables and Operational Definitions

The firm's value is measured by Tobin's Q. In this measurement, the value of the company can be viewed in terms of the analysis of financial statements of financial ratios and in terms of stock price changes. Value of the firm as measured by Tobin's Q, is formulated as follows (Suranta & Mas'ud, 2003):

$$Q = \frac{EMV + D}{EBV + D} \quad (1)$$

The performance of intellectual capital is measured by the method VAICTM (Value Added Intellectual Coefficient) developed by Pulic (1998), which is measured by the value added created by the three components, namely value added of capital employee (VACA), value added of human capital (VAHU) and structural capital value added (STVA). And formulation stages VAICTM value calculations are described as follows: (1) Calculate the Value Added. VA was calculated as the difference between output and input. The output consists of the input while operating income consists of the total burden of non-labor expenses. Labor expenses are not included in this calculation because Pulic model, labor is a creator entity value (value creating entity). The following calculation formula VA (Pulic, 1998) that  $VA = OUT - IN$ , (2) Calculating the Value Added Capital Coefficient (VACA). VACA is an indicator for the VA created by 1 unit of capital employed (CE). This ratio indicates the contribution made by each unit of the value added CE organization. Pulic (1998) assumes that if one unit of CE produce greater returns than other companies, it means the company better utilize its CE (Ulum, 2008). VACA calculated with the formula  $= VA/CE$ , (3) Calculate the Value Added Human Capital (VAHU). Pulic and Kolakovic (2003) treats labor as value-creating entity. Therefore, VAHU show added value can be generated with funds spent on labor. This ratio indicates the contribution made by each dollar invested in human capital or human capital (HC) of the value added (VA) organization (Ulum, 2008). Formulation  $VAHU = VA/HC$ , (4) Calculating the Structural Capital Value Added (STVA). This ratio measures the amount of structural capital (SC) is needed to produce 1 dollars of value added is an indication of how successful the SC in value creation. Its formulation is  $STVA = SC/VA$  and (5) Calculate the Value Added Intellectual Coefficient (VAICTM). According Ulum (2008) is indicating the ability of the company's intellectual VAICTM which is the sum of the three previous components, namely VACA, VAHU, and STVA. Formulation to calculate the VAICTM as  $VAICTM = VACA + STVA + VAHU$

Moderating variable is a variable that has the effect of strengthening or weakening the relationship dependent variable and independent variables (Janjua et al., 2013). Moderating variable is the ownership structure consisting of managerial and institutional ownership.

According to Faisal (2004), managerial ownership is a measure of the percentage of ownership of shares held by managers, directors, and the board of commissioners. This variable is measured by the percentage of shares owned by the managerial end of the year (Purwanto, 2011).

Proportion of institutional ownership is ownership of shares held by institutional owners and block holders at the end of the year (Wahyudi & Hartini, 2006). What are meant by the owners are institutional investment firms, banks, insurance companies and other institutions such as companies. Block holders is individual ownership on behalf of individuals in the top 5% but not included in the managerial ownership (Novitasari & Indira, 2009).

#### 3.2 Population and Sample

The population was all banking companies that have gone public and listed on the Indonesia Stock Exchange (IDX). Observation period is 2009 to 2012, which is the latest data company that can provide a current value of the company. Banking companies was selected, because it is the service sector where customer service relies on the intelligence of human capital on the use of intellectual capital intensive companies belonging to banking companies compared with other sectors (Ulum, 2008). Determination of the number of samples is using purposive sampling method, i.e. with certain criteria. Based on the criteria, it is selected 27 companies.

#### 3.3 Analysis Techniques

The analytical method used for the first hypothesis is multiple regressions. As for the second hypothesis is using multiple regression analysis with residual form. Regression test with the overall form of interaction used to test the first hypothesis. While the second and third hypotheses testing are using multiple regressions with residual forms. Janjua et al. (2013) states that the residual test is used to overcome the tendency will be high multicollinearity between the independent variables when using the interaction test and test the difference in absolute value. The analysis aims to examine the effect of residual deviations from a model. The focus of this testing was the discrepancy (lack of fit) resulting from the deviation of the linear relationship between the

independent variables. This mismatch is indicated by the value in the regression residuals. The following regression model is:

$$Q = \beta_0 + \beta_1 \text{VAIC}^{\text{TM}} + \beta_2 \text{MO} + \beta_3 \text{IO} + e \quad (2)$$

$$\text{MO} = a + b_1 \text{VAIC}^{\text{TM}} + e \quad (3)$$

$$|e| = a + b_1 Q \quad (4)$$

$$\text{IO} = a + b_2 \text{VAIC}^{\text{TM}} + e \quad (5)$$

$$|e_1| = a + b_2 Q \quad (6)$$

In equation (4) and (6) if the value of significant and negative (lack of fit occurs), it can be concluded that the managerial and institutional ownership variables are a moderating variable between the variables of intellectual capital on firm value.

#### 4. Analysis and discussion

##### 4.1 Results Descriptive Statistics Analysis

Testing the descriptive statistics of the variable Tobin's Q, VAICTM, MO and IO performed on 27 banking companies listed in Indonesia Stock Exchange are consists of 108 research data during the 2009-2012 periods. Based on the results of corporate data obtained information about the average value of the variable Tobin's Q of 1.099256 and the standard deviation of 0.1284767 with arrange of values from 0.8227 to 1.4987. The lowest value of the bank is owned by Bumi Artha Tbk in 2012 and the highest value of the bank is owned by International Indonesia Tbk in 2010. Intellectual capital variable (VAIC) has an average value of 3.079777 and a standard deviation of 0.9460842 values with a range of values from 0.3217 to 5.2326. The lowest value obtained Agroniaga Rakyat Indonesia Tbk in 2012, while the highest value obtained by Victoria International Tbk in 2011. Statistical tests on variables descriptive of managerial ownership have an average value of 0.12100 and a standard deviation of 0.0403554 values with a range of values from 0.0000 to 0.2170. The highest value obtained bank Capital Indonesia Tbk in 2009. While descriptive test results on institutional ownership have an average value of 0.773935 and a standard deviation of 0.1723184 values with a range of values from 0.3955 to 0.9999. The lowest value of the bank is owned by Capital Indonesia Tbk in 2012.

##### 4.2 Multiple Regression Analysis

Multiple linear regression equations of the model of this study are as follows:

$$FV = 1,108 + 0,032 \text{VAIC} - 1,039 \text{MO} - 0,124 \text{IO} \quad (7)$$

##### 4.2.1 Simultaneous Significance Testing

F statistics test was conducted to test the significance of jointly whether the variables of intellectual capital, managerial ownership and institutional ownership effect in 2009-2012 with a significance level of 5% ( $\alpha = 5\%$ ). Test results obtained by the F count of 5.893 with a significance level of 0.001. This means that the level of significance  $< 0.05$ , so the simultaneously intellectual capital, managerial ownership and institutional ownership have a significant effect on firm value.

##### 4.2.2 Partial Test

This statistic test is done to determine whether each of the independent variables (intellectual capital, managerial ownership, and institutional ownership) is partially significant effect on the value of banking companies listed in Indonesia Stock Exchange 2009-2012. The test results influence intellectual capital (VAIC) on firm value has amounted to 2,536 t,  $\beta$  value of 0.032 and significance value of 0.013. The significance value  $< 0.05$  so that it can be concluded that the intellectual capital and a significant positive effect on firm value at the 5% significance level. This means that H1 is accepted. The influence of managerial ownership to the value of the company has not amounted to -3.331,  $\beta$  value of -1.039 and a significance value of 0.001. The significance value  $< 0.05$  so that it can be concluded that managerial ownership and significant negative effect on firm value partially. The influence of institutional ownership on firm value at t of -1.667, -0.124 and the value of  $\beta$  has a significance value of 0.099. Therefore value of significance  $> 0.05$ , it can be concluded that institutional ownership and no significant negative effect on firm value partially.

##### 4.2.3 Test Coefficient of Determination ( $R^2$ )

Test results on the coefficient of determination banking companies listed in Indonesia Stock Exchange in 2009-2012 showed that the adjusted coefficient of determination ( $R^2$ ) in a sample of 0,121 companies. This suggests that the effect of intellectual capital variables, managerial ownership and institutional ownership has a



contribution of 12.1% to the value of Banks Company's, while the remaining 87.9% are influenced by factors outside the study.

#### 4.2.4 Residual Testing

Residual testing conducted in this study to determine whether a variable can be expressed as a moderating variable or not the focus is incompatibility (lack of fit) resulting from the relationship between the variables independently deviation. Test residual chosen in order to avoid the likelihood of multicollinearity if using other testing methods moderating variable. In this study, residual test performed with path analysis (analyze path) and a significance level of 5% ( $\alpha = 5\%$ ).

Residual testing for the moderating variable Managerial Ownership Structure.

The test results for the moderating variable residual managerial ownership structure obtained results that  $|e| = 7.769$  to  $5.355$  Q.

From the results of the above regression equation obtained significant results. This is evidenced by the significance probability value to firm's value (Q) of the absolute value of residuals of 0.041 which is smaller than 0.05 while the value of the parameter incompatibility negative coefficient (-5.355). Therefore, it can be interpreted that managerial ownership is a moderating variable affecting the relationship of intellectual capital on firm value. This means that H2 (a) is received.

Residual testing for moderating variable Institutional Ownership Structure

The test results for the moderating variable residual institutional ownership structure is obtained regression equation  $|E| = 10.584 + 3.714$  Q.

From the results of the regression equation, the value of the probability of significance for firm value (Q) of the absolute value of the residual of 0.524. This value is greater than 0.05 can be interpreted so that the results are not significant. Meanwhile, the positive value of the coefficient is 3.714 incompatible parameters. This suggests that institutional ownership is not a moderating variable. Therefore H2 (b) is rejected and it can be concluded that the structure of institutional ownership does not affect the relationship of intellectual capital on firm value.

## 5. Discussion of Results

### 5.1 Effect of Intellectual Capital on Firm Value

The results of this study proved that intellectual capital has a positive and significant effect on the value of banking companies listed in Indonesia Stock Exchange 2009-2012. This suggests that the more efficient and effective management and use of intellectual capital will further enhance the company's value. These results are consistent with the results of Chen et al. (2005) and Son (2012) which has shown that intellectual capital is a significant positive effect on firm value. Companies that manage their intellectual resources to the maximum will be able to create greater added value and competitive advantage so as to enhance shareholder value. This is because investors tend to give a higher value to companies that have a high intellectual capital (Chen et al., 2005). The good management of intellectual capital and efficient management of assets reflect the company's good anyway. This is because the better the company in managing the three components of intellectual capital showed the better companies in managing assets (Randa & Ariyanto, 2012). Companies that have been able to manage the assets properly can reduce operating costs so as to increase the added value of the results of the company's intellectual abilities. Murhadi (2009) adds that the company can manage its assets efficiently will have a high growth potential with the value of Tobin's Q is more than 1. In this study, the value of the company is measured using Tobin's Q, so it can be concluded that the management of intellectual capital efficient as assets of the company then the company has the potential to enhance shareholder value. These results support the theory that states that the resources the company will increasingly excels in competition and get a good financial performance in a manner own, control, and utilize strategic assets that are important in the form of superior resources (Solikhah, 2010). The results of this study which proves the influence of intellectual capital on firm value also proves that intellectual capital is a part of strategic assets and resources mentioned in theory superior resources that can enhance the value of the company. If company can manage its intellectual resources properly, value of company will be increase (Sawarjuwono & Augustine, 2003). Therefore, utilization of intellectual capital effectively and efficiently will contribute significantly to the achievement of competitive advantage and will be reflected in the value of the company is high. While the results of this study contradict the results of research Solikhah (2010) which proved that intellectual capital has no significant effect on firm value. The difference lies in the results of these studies used the company object, which Solikhah (2010) is using a manufacturing company in the research object while the object of this research is using banking companies. Not the evidence of the influence of intellectual capital on firm value is due to a manufacturing company engaged in the industry is more focused on increasing competitive advantage through

the use of physical capital and financial capital, so investors will be focused on both the capital to see a competitive advantage in manufacturing companies (Solikhah, 2010).

Meanwhile, the banking company engaged in the field of services, the main focus is knowledge assets, which according to Ulum (2008); the banking company is a company with the most intensive use of intellectual capital. Therefore, the creation of banking firms' competitive advantage lies in the management of intellectual capital that investors will also focus on the use of intellectual capital to see the banking company a competitive advantage.

Based on the research and explanations above, it can be concluded that the management of intellectual capital in banking companies that have been going Public in Indonesia can affect the value of the company. Thus, the more efficient management of intellectual capital in the banking company has increased the value of banks in Indonesia.

#### *5.2 Managerial Ownership Effect on Relationship between Intellectual Capital and Firm's Value*

Test results with a residual path analysis in this study prove that managerial ownership variables are moderating variables that affect the relationship of intellectual capital on firm value. Saleh et al. (2009) and Novitasari and Indira (2009) prove that managerial ownership does not affect significantly the performance of intellectual capital directly. However, the results of this study prove that there is influence of managerial ownership is generated in the form of moderation. Given moderating influence on the relationship between managerial ownership of intellectual capital on firm value is a negative influence. This influence is shown from the results of the regression coefficient is negative on testing managerial ownership on firm value partially. These results are consistent with the results of the research Suranta and Masud (2003) which proved that the greater the level of managerial ownership will decrease the value of the company. However, the results of this study conflict with agency theory which states that increased managerial ownership position can align managers with shareholders and motivate managers to be responsible increase shareholder wealth by increasing performance (Haruman, 2008). The performance improvement in the management of intellectual capital aims to enhance shareholder value. Thus, the higher the managerial ownership should be increasingly efficient use of intellectual capital that leads to the higher value of the company. This theory is supported by the results of research Hartini and Wahyudi (2006) which proved that the significant positive effect of managerial ownership on firm value. The difference in the results of this study with the results of research Hartini and Wahyudi (2006) and agency theory suggests that there are problems in managerial ownership on object of this study. Previously, Wahyudi and Hartini (2006) uses the object all companies listed on the Jakarta Stock Exchange in addition to banking companies, financial institutions and state-owned companies, which proves that with the proportion of managerial ownership, the management at these companies are getting more aggressive to improve performance in an effort to increase the value of the company. However, contrary to banking companies, the presence of the proportion of managerial ownership has resulted in a decrease in the value of the company. One indication that the main cause of this is the opportunistic action that has an equity interest in using his power to control the management of assets of the company policy is intellectual capital. Indicator opportunistic action arises from the findings of the annual financial statements of banking companies show that most banking companies put managerial positions, both positions of directors and commissioner positions to those who have a family status or special relationship (colleagues). This is done to make the business a family dynasty that still has a fairly strong influence on the company. From these findings it can be concluded that the majority of managerial ownership is owned by parties who each have a special relationship. The negative influence of managerial ownership in moderating the relationship of intellectual capital on firm value is due to the tendency of those who have this special relationship in managing and utilizing its power as a shareholder to determine and control the intellectual capital management policy is based on profit or personal gain. This leads to performance management in the management of intellectual capital becomes inefficient resulting in lower competitive advantage and ultimately helped bring down the value of the company. In addition, the placement of positions by those who have a special relationship also affects the market response is assumed that an increase in the proportion of managerial ownership lead to management of intellectual capital is more oriented to the interests of the management so that the interests of outside parties will be ignored. The market will also assume that the proportion of managerial ownership will cause those who have this special relationship will perform a variety of opportunistic actions in the use of intellectual resources of the company. Therefore, the market response will lead to the decline in the market value of the company. Based on the research and explanations above, it can be concluded that the banking companies have gone public in Indonesia; an increase in managerial ownership will only give a negative influence in the management of intellectual capital to enhance shareholder value. This is because the negative influence of managerial positions is occupied by parties who each have a special relationship that is getting a great opportunity for opportunistic action. This leads to negative market response thus lowering the market value of the company.

### 5.3 Institutional Ownership Effect on Relationship between Intellectual Capital and Firm's Value

Test results with a residual path analysis in this study proved that the institutional ownership variable does not a moderating variable that cannot affect the relationship of intellectual capital on firm value. These results are consistent with the results of research and Hartini Wahyudi (2006) which proved that institutional ownership has no effect on firm value. This suggests that the number of large institutional ownership was ineffective in monitoring the behavior of management within the company. This occurs because of the information asymmetry between investors and managers, investors do not necessarily have the information that is fully owned by the manager. In addition, the placement of managerial positions by parties who have a special relationship also led to the management of difficult to control by institutional investors. Meanwhile, the results of partial test of institutional ownership on firm value are not significant. However, based on the regression coefficients, the direction of the relationship of institutional ownership on firm value is a negative relationship. These results are consistent with the results of the research Novitasari and Indira (2009) which proved that the higher institutional ownership the lower the performance of intellectual capital. The lower management of intellectual capital is causing the value of the company will fall. The existence of negative effects generated by institutional ownership is due to the finding that the proportion of institutional ownership on corporate banking in Indonesia is quite high than managerial ownership allows the agency problem between the owner of a majority of the minority owners. Greater voting power owned by the majority shareholder management is used to force a policy of non-optimum with the interests of investors and ignoring the majority of the minority shareholders and ultimately ignore the performance of the company. This finding is supported by the hypothesis developed by Pujiati and Erman (2009), namely the Strategic Alignment Hypothesis. This hypothesis states that the majority of institutional investors has a tendency to compromise or side with the management and ignores the interests of minority shareholders. The notion that management often take actions or policies that lead to non-optimal and personal interests, resulting in a strategic alliance between the majority of institutional investors with management, taken negatively by the market. This has an impact on the company's stock price decline in the stock market. However, because the test results prove that the residual institutional ownership variable is not a variable moderating the relationship of intellectual capital on firm value and the partial results of statistical tests of institutional ownership affects firm value is not significant, the contribution given by the influence of institutional ownership is relatively small and not so significant. This is because the presence or absence of the proportion of institutional ownership, managerial parties in most banking companies has first opportunistic action by using the proportion of managerial ownership to determine intellectual capital management policy in accordance with their personal interests. Allegations of these opportunistic actions are motivated by family status or special relationship (colleagues) in a managerial position, as described in the discussion of the results of the previous hypothesis. Therefore, the results of this study it can be concluded that the institutional party does not have high influence in determining policy on the management of intellectual capital banking company in Indonesia.

## 6. Conclusion and Recommendation

### 6.1 Conclusion

This study examines the effect of intellectual capital on firm value by ownership structure as a moderating variable in the banking companies listed in Indonesia Stock Exchange 2009-2012. Of the three proposed hypotheses, two hypotheses are accepted and the hypothesis is rejected. Several conclusions can be drawn from the results of research that has been done is as follows:

1. Results showed that the variables of intellectual capital, managerial ownership and institutional ownership affect firm value simultaneously.
2. Variables of intellectual capital and a significant positive effect on firm value. Meanwhile, managerial ownership variables is variables moderating the relationship of intellectual capital on firm value, while institutional ownership variable is not a variable moderating the relationship of intellectual capital on firm value.
3. Variable structure partially managerial ownership and significant negative effect on firm value, while the institutional ownership structure variables in partial but significant negative effect on firm value.
4. Based on the adjusted R<sup>2</sup> value, there are other factors outside of the study in addition to the variables of intellectual capital, managerial ownership and institutional ownership affect firm value.

### 7. Limitations

This study has several limitations that may cause disruption to the research results, such as:

1. Study only used data banking company so that research results do not reflect the overall Indonesian Stock Exchange.

2. Research use only during the observation period 2009-2012 to only use the data bit.
3. Every country has different accounting practices. Because Pulic models using data from published financial statements, so that the characteristics and different accounting rules may provide different results in other countries (Tan et al., 2007).

### 8. Suggestion

Based on the conclusions of the analysis of data, it can be proposed some suggestions are as follows:

1. Further studies need to extend the coverage of the company for all types of industries that research results can be generalized.
2. Subsequent research should extend the observation period in order to influence the results of intellectual capital on firm value is more consistent.
3. Subsequent research should separate the moderating variable managerial ownership with the family ownership affects the relationship of intellectual capital on firm value in order to know each contribution generated by the ownership structure.

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# Intellectual Capital, Firm Value and Ownership Structure as Moderating Variable: Empirical Study on Banking Listed in Indonesia Stock Exchange period 2009-2012

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