

# The effect of intellectual capital on stock price and company value in manufacturing companies listed in Indonesia Stock Exchange 2008-2012 with size and leverage as moderating variables

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## ABSTRACT

The intense competition in business world has prompted some companies to perform a variety of innovation in order to give the best value. Many companies have change the mindset of the management to knowledge-based business that becomes essential aspect in increasing the capital. The main purpose of this study is to examine the effect of intellectual capital on the stock price and the value of the company by doing moderation on the variables of size and leverage. Measurement of intellectual capital is using Value Added Intellectual Coefficient (VAIC). The stock price is measured based on the closing price and the company value is measured by using Tobins Q. The population of this study is the manufacturing companies listed on the Indonesia Stock Exchange. These results indicate that (1) intellectual capital can give a positive effect on the stock price (2) size and leverage are not moderating variables on the relationship between intellectual capital and stock price (3) intellectual capital does not have any effect on company value (4) size and leverage are not moderating variables on dealings with the value of the company's intellectual capital.

## ABSTRAK

Tingginya persaingan di dunia bisnis telah mendorong beberapa perusahaan untuk melakukan berbagai inovasi dalam memberikan nilai terbaik. Banyak perusahaan telah mengubah mind set dari manajemen untuk bisnis berbasis pengetahuan yang menjadi aspek penting dalam peningkatan modal. Tujuan utama dari penelitian ini adalah untuk menguji pengaruh modal intelektual pada harga saham dan nilai perusahaan dengan melakukan moderasi terhadap variabel ukuran dan leverage. Pengukuran modal intelektual menggunakan Value Added Intellectual Coefficient (VAIC). Harga saham yang diukur berdasarkan harga penutupan dan nilai perusahaan diukur dengan menggunakan Tobins Q. Populasinya adalah perusahaan manufaktur yang terdaftar pada hasil Indonesia Stock Exchange. Hasilnya menunjukkan bahwa (1) modal intelektual dapat memberikan positif berpengaruh terhadap harga saham (2) ukuran dan leverage bukan variabel moderasi pada hubungan antara modal intelektual dan harga saham (3) modal intelektual tidak berpengaruh pada nilai perusahaan (4) ukuran dan leverage bukan variabel moderasi dalam hubungan dengan nilai modal intelektual perusahaan.

## 1. INTRODUCTION

Investors are willing to pay higher for the shares of the companies that have more intellectual resources than those that have lower intellectual resources. The value of the company will be reflected in the price incurred by the investors. Market value may occur when the influx of intellectual capital concept

that becomes a major factor can increase the value of a company. In accordance with the stakeholder theory, it is explained that the entire activities of the company lead to the creation of value. The ownership and the utilization of the intellectual resources enable the companies to achieve competitive advantage and value added. The investors will give

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more rewards to companies that are able to create added value on an ongoing basis.

The main objective of financial statement is to provide useful information to users. The information provided will be used in the decision making process either by company management or investors. In this case, the company is expected to be able to present a comprehensive and qualified financial statement. The report of the Committee of Trueblood in *Teori Akuntansi* book (Sofyansyah Syafri Harahap: 131) describes the seven attributes and qualities in financial statement, such as relevance and materiality, form and substance, reliability, freedom for bias, comparability, consistency, and understandability. A company has an investment value which is reflected on tangible and intangible assets that can influence the direction of the company.

According to Financial Accounting Standard Regulation in Indonesia (PSAK) No. 19, intangible asset is a non-monetary asset that can be identified and does not have physical form and possessed to be used in producing or delivering goods or services, rented to other parties, or for administrative purposes. The most valuable asset of a company is the asset in the form of human resources, especially intellectual capital. Some companies choose to invest their assets by conducting a number of activities such as employee training, research and development, customer relations and computer and administration systems. Ability, wisdom or high intellectual power possessed by human resources in a company can play a major role to provide distinct value added in managing the company. Intellectual capital has several classifications, such as human capital, structural capital and physical capital.

Tight business competition has prompted companies to be more innovative in order to be able to provide the best value to the society, especially the investors. Developed innovation is one way for the company to keep going concern. To maintain its existence, a company has to quickly change the strategy from labor-based business to knowledge-based business, so that the main focus is to transform the company business into a knowledge-based business. Along with the economic changes with the characteristic of knowledge-based economy by the application of knowledge management, the prosperity of a company will depend on such a creation (Suwarjono 2003 in Ihyaul Ulum 2008). It is a big challenge for the company to be able to manage resources in the form of intellectual capital that is possessed. The future economic benefits arising from an intangible asset may include revenue from

the sale of goods or services, cost savings, or other benefits derived from the use of such assets by entities (PSAK No. 19:17).

The form of intangible assets utilization conducted by the company is knowledge capital, or commonly known as intellectual capital. The discussion on intellectual capital has already been familiar as the intellectual capital has become a valuable asset in the modern business world (Benny 2008). Intellectual capital is considered essential in the disclosing financial statements, but there are still many entities that do not disclose it because it is quite difficult. The difficulty arising in disclosing intellectual capital and other intangible assets in the financial statements is the valuation. Recognition, measurement and the disclosure of intellectual capital have relationship with the valuation on the company performance, because with recognition, measurement and disclosure of intellectual capital, the company management can identify the contributions made by each of its resources (Halim 2012). Recognition, measurement and the disclosure of the company should provide non-financial information relating to intellectual capital and intangible assets so as to be able to find a balanced approach in the valuation.

Intellectual capital within an entity can be attributed to its influence on the company value in the creation of value added. Ni Made and Ni Putu (2011) explained that intellectual capital is a group of knowledge assets which becomes an attribute of organization and contributes significantly to improve the competitive position by adding value to stakeholders. In addition to relate to the company value, intellectual capital is also considered important in initial public offering (IPO). This occurs because of the presence of asymmetric information between company owners and investors.

The aspects of the company's financial performance measurement can be in the form of company size, profitability, company age, type of industry and leverage. This study adds two moderating variables; size and leverage. Size variable, as a moderating variable, is considered capable of distinguishing companies that account for intellectual capital as a means to make improvements in financial reporting. Company size has a conflict of interest, where the larger the company the greater the interest therein, and vice versa (Al Amin 2010). Leverage variable is a variable that reflects the ability of a company to be able to finance the assets owned by using debt.

Some previous researchers have done a lot of tests on capital intellectual. Ulum et al. (2008) and

Benny and Muchamad (2008) provide different results on the effect of intellectual capital on the performance and the value of the company. Those differences attracted the researcher to do testing on the presence of the effect of intellectual capital on the stock price and company value. The inconsistency of the previous researchers is caused by several other variables that have been tested by previous researchers who linked intellectual capital with several variables such as financial performance and the company value using different measurements and samples. A company is said to have stable financial performance when the company is able to manage its intellectual resources effectively and efficiently. The increased financial performance will affect the positive response so that the market value of the company will increase.

The purpose of this study is to examine the effect of intellectual capital on the stock prices and company value by using leverage and size as the moderating variables. Basically, a company requires the role of human resources and knowledge in managing its business. The role of intellectual capital in the organization's financial performance, either in manufacturing sector or non-manufacturing sector, will have an effect on the company. Manufacturing industry is a type of industry that has quite a lot of samples by seeing from the source on the Indonesia Stock Exchange. Given the importance of intellectual capital in the manufacturing sector, the researcher chooses manufacturing companies as the samples in this empirical study.

The previous researches have used very specific companies, such as an empirical study in the automotive electronics, communication and bank as an object of the research. Based on the description, this study took the title; The Effect of Intellectual Capital on Stock Price and Company Value in Manufacturing Companies Listed on The Indonesia Stock Exchange 2008-2012 with Size and Leverage as moderating variables.

## **2. THEORETICAL FRAMEWORK AND HYPOTHESIS**

### **Resource-Based Theory**

Resource-Based Theory (RBT) is an idea developed in the theory of management strategy and competitive advantage of the company that believes that the company will be able to achieve its excellence if the company owns superior resources.

Company is a set of tangible and intangible assets as well as the ability of the company to acquire, manage and maintain its resources. This Resource-

Based Theory (RBT) has outlined how a company can manage and utilize assets such as its resources well so that it can achieve a competitive advantage. A company will achieve a competitive advantage if it has superior resources in it so that the company is able to conduct any business strategy. Excellent resource is a resource that becomes the identity of the company because it is unique and difficult to imitate by its competitors. All resources owned by the company can create value that can make the company performance better.

### **Stakeholder Theory**

Stakeholder theory states that company is not an entity that is used for private purposes but it must be able to provide benefits to its stakeholders (shareholders, creditors, customers, suppliers, government, public, analysts and other parties). The existence of a company is greatly influenced by the support from the stakeholders to the company concerned. The company management is responsible for conducting and reporting such activities to stakeholders.

Stakeholder theory plays an essential role because it is deemed as a consideration for the company management to disclose information in the financial statements. The return reflected in the financial statements is a precise and accurate measurement tool in assessing the company performance as information for investors. The accuracy of value added and return in measuring the performance adds to the strength of stakeholder theory that can control or has the ability to influence the use of economic resources used by the company.

### **Legitimacy theory**

Guthrie et al. (2004) in Setyarini (2011) stated that Legitimacy theory is a theory that encourages companies to make voluntary disclosure as a form of accountability for the social contract owned between the company and the surrounding community. The company tends to do information disclosure when a special need arises to increase its legitimacy. This need arises when the tangible assets owned by the company, which is usually a symbol of success in the traditional economy, is apparently less strong in providing legitimacy status for the company. Strong legitimacy status of the company can be indicated by the public confidence that the company operates in accordance with the user's expectation.

### **Signaling theory**

The company's ability to obtain funds from the

capital market will increase if the company has good financial reporting. The company that has good performance will have strong incentive to report its results to the capital markets. This prompted the company to report its results as a form of competition in the capital market. A company, with usual performance, will stay away from the bad impression of the investors due to the lack of courage to report the results of company performance so that the company is assumed to be normal or even poor performance. The company still reports the performance results to maintain credibility in the eyes of investors.

Signaling theory focuses on the importance of information issued by the company for the investment decision of the parties outside the company. The information that has been announced will be interpreted and analyzed as a good signal (good news) or a bad signal (bad news). If such information is a bad signal there will be a change in the volume of stock trading.

### **Intellectual Capital**

Intellectual capital is an information and intellectual property which are able to find opportunities and management of threats, both from inside and outside the life of the company, with the hope that the company will have endurance and competitive advantage in a variety of condition (Bontis et al. 2000, in Ni Made and Ni Putu 2011). In general, the researchers identified three main constructs of intellectual capital; human capital (HC), structural capital (SC), and customer capital (CC).

### **Stock Price**

Stock is an asset ownership as an instrument of the financial activities of a company. A stock has a value or a price determined at the time the stock is in progress on the basis of supply and demand. The stock price of a company varies depending on how the company sells its shares. When the price has been determined on stock trading, the stock transaction process will run in accordance with the stock price.

There are two types of the prevailing price, i.e. bid and offer. Bid is the stock price which is determined by prospective buyers, while offer is the price which is determined by the shareholders. The stock pricing of the stock that is traded at that time, which has gone through a sale transaction, is applicable stock price. Stock price fluctuations can be caused by two factors: internal factors and external factors. Internal factor is usually influenced by the seller or the ability of a company to handle the

company's performance both in terms of economics and financial management. The external factor can be attributed to the economic conditions that occur in a State.

### **Company Value**

Husnan (2000) in I Gede Cahyadi (2012), argue that company value is the price paid by a potential buyer when the company is sold. The company that offers the shares to the public, the company value will be reflected in its stock price.

The value of the company which is based on the value of the stock market can be influenced by investment opportunities. The investment spending gives positive signal on the growth of the company in the future, so it may result in increased stock price as an indicator of company value (signaling theory). The value of the company is often associated with the stock price. The high price of the stock makes the company value also high. The high value of the company is very good because the company's main goal is to increase the value of the company. Based on the statement, the company value can also be defined as the fair value of the company which describes the perception of investors concerned.

### **Value Added Intellectual Capital (VAIC)**

The method of intellectual capital measurement is classified into two groups; non-monetary measurement and monetary measurement (Suwarjono in I Gede Cahya Putra 2012). Non-monetary measurement model is using the Balanced Scorecard while monetary measurement model is using public model (1998), or commonly known as value added intellectual capital (VAIC). VAIC is an analytical procedure that is designed to enable the management, shareholders and other relevant stakeholders to effectively monitor and evaluate the efficiency of the value-added with the total resources of the company and the individual components of the primary resource.

VAIC measures the efficiency of the three types of intellectual capital components as follows:

1. Human Capital is the flow of intellectual capital that is difficult to measure. Human capital is useful source of knowledge, skill, and competence in an organization or company.
2. Structural Capital is the ability of an organization or company to meet the company's routine process and the structure that support the employee efforts to produce optimal intellectual performance as well as overall business performance, such as company's operational sys-

tem, manufacturing process, organizational culture, management philosophy and all forms of intellectual property owned by the company.

3. Customer Capital is the component of the intellectual capital that provides the real value. Customer capital is a harmonious relationship/ association network owned by a company with its partners, either from reliable and qualified suppliers, from loyal customers who feel satisfied with the company's services, or from the company's relationship with the government and surrounding community.

### **Size**

One of the goals in establishing a company is focused on profit that changes material (economic resources) into goods or services to satisfy consumers. Sudarmaji and Sularto (2007) in Muh al Amin (2010) stated that the size of the company is a scale which can be classified into small and big companies according to a variety of ways including: total assets, sales, and market capitalization. Political cost hypothesis states that big company tends to use methods that can reduce periodic earnings compared with small company. In other words, bigger company is more conservative than the smaller one. Company size also affects the level of income of the company.

### **Leverage**

Leverage is the magnitude of the company's assets that are financed by debt. Leverage results in interest costs that must be paid by the company. On one hand, leverage can increase company's ability to invest in producing information system that can enhance company's competitiveness and excellences. On the other hand, the installments on the loan repayment and interest payment can also limit funding for human resources.

### **The Effect of Intellectual Capital on the Company Value**

Investors are willing to pay higher for the shares of the companies that have more intellectual resources than those that have lower intellectual resources. The value of the company will be reflected in the price incurred by the investors. Market value may occur when the influx of intellectual capital concept that becomes a major factor can increase the value of a company. In accordance with the stakeholder theory, it is explained that the entire activities of the company lead to the creation of value. The ownership and the utilization of the intellectual resources enable the companies to achieve competitive ad-

vantage and value added. The investors will give more rewards to companies that are able to create added value on an ongoing basis.

### **The Effect of Intellectual Capital on the Stock Price**

Investors may see the value of the company based on market capitalization. Market capitalization is a term which means that the overall price of a company's stock is the price that must be paid by someone to buy the whole company (Rousilitah Suhendah 2012). Growing market capitalization can be used as a measurement tool that is critical to the success or failure of a go public company. Market capitalization is calculated using the stock market price components by multiplying the number of shares outstanding with the stock market price. The stock market price usually has a value above the book value of the company's stock because stock market price reflects the investors' expectations on the economic prospects of the company in the future.

The research framework of this study is shown in Figure 1.

## **3. RESEARCH METHOD**

### **Variable Identification**

Based on the limitation of this study, the variables used in this study are as follows:

1. The independent variable in this study is intellectual capital which is proxied with human capital, structural capital, and physical capital.
2. The dependent variables in this study are stock price and company value.
3. The moderating variables are size and leverage.

### **Operational Definition and Variable Measurement**

This study is proxying intellectual capital with human capital, structural capital, and physical capital. The operational definition and the measurement of variables in this study can be described as follows:

1. Value added (VA) is the difference between output and input

$$VA = OUT - IN \quad (1)$$

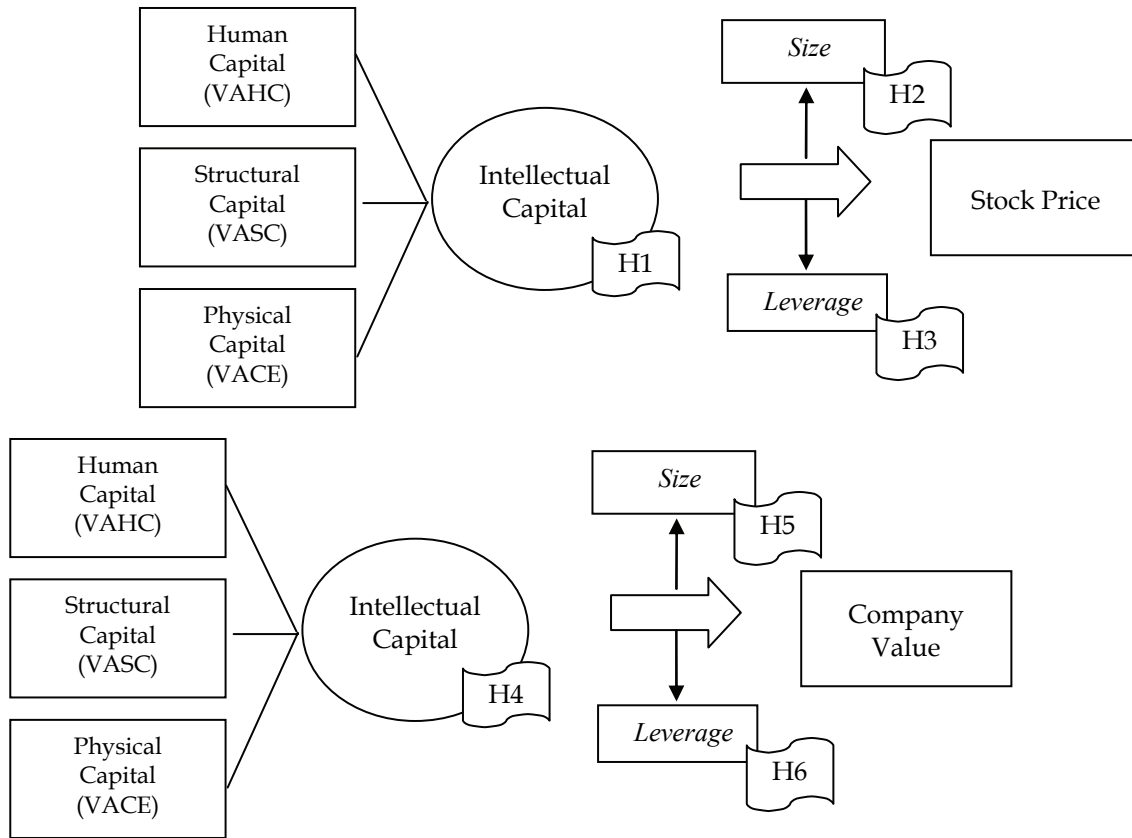
Description:

Output (OUT) : total income and other income

Input (IN) : burden and costs (other than employee expenses)

2. Value Added Human Capital (VAHC) is the capital which is associated with the use of human resources in the company. This variable can be calculated using value added divided by (/) human capital. The measurement scale used is

**Figure 1**  
**Research Framework**



the ratio with the following formula:

$$VAHC = \frac{VA}{HC} \quad (2)$$

Description:

Value Added (VA) : the difference between output and input

Human Capital (HC) : employee expenses

3. Value Added Structural Capital (VASC) is to measure the number of SC required to produce 1 rupiah of the VA and an indication of the success of the SC in creating the value. The measurement scale used is the ratio with the following formula:

$$VASC = \frac{SC}{VA} \quad (3)$$

Description:

Structural Capital (SC) : The difference between value added (VA) and *human capital* (HC)

Value added (VA) : The difference between output and input.

4. Value Added Capital Employed (VACE) – The ratio of VA to CE. This ratio indicates the contribution made by each unit of CE to the value added of an organization. The measurement scale used is the ratio with the following formula:

$$VACE = \frac{VA}{CE} \quad (4)$$

Description:

Value Added (VA) : The difference between output and input

Capital Employed (CE) : Available funds (equity).

5. Value Added Intellectual Coefficient (VAIC™) indicates the organization's intellectual ability. VAIC™ is calculated using the following formula:

$$VAIC = VAHU + STVA + VAC. \quad (5)$$

6. Size

Company size is a scale which is classified into big and small company according to total sales, total assets, and market capitalization. In line with Almilian, Ratnasari and Muh Al Amin (2010), the company size is calculated by the total assets of the company concerned.

7. Leverage

Leverage indicates the proportion of the use of debt to finance the company's investment. The higher the number of leverage, the higher the company's dependence on debt, and this results in the higher the risk that will be faced. And the investors will ask the higher level of profit. Here is the calculation:

$$\text{Leverage} = \frac{\text{TotalLiability}}{\text{TotalAssets}}. \quad (6)$$

#### 8. Company Value

Company value can be calculated by using Tobins Q formula, a ratio between market value of equity plus debt. The Formula of Tobins Q is:

$$\text{Tobins Q} = \frac{\text{MVE} + D}{\text{BVE} + D}. \quad (7)$$

Where :

Tobins Q= Company value

MVE = Market value of equity

D = Book value of total debt

BVE = Book value of equity

#### Population and Sample

The population consists of manufacturing companies listed in Indonesia Stock Exchange. The samples used are manufacturing companies presenting the financial statements in the year of 2008-2012 with the criteria that the companies have positive earnings. The sampling technique used in this study is purposive judgment sampling method by taking into account the criteria in determining the samples. Here are the sampling criteria:

1. The companies analyzed are only manufacturing companies listed on the Indonesia Stock Exchange (IDX) 2008-2012.
2. The companies defined as the study samples are companies that remain listing during the study period.
3. The manufacturing companies have annual reports ended on December 31, and use Rupiah as the reporting currency.

#### Data and Data Collection Method

The method is a quantitative method. The data used are secondary data in which the data used are obtained from the IDX and ICMD. The period of data used is for five years (2008-2012). The sources of research data consist of primary data source and secondary data source. This study uses secondary data source consisting of financial data derived from the annual financial statements of the manufacturing companies 2008- 2012 downloaded from the IDX website (<http://www.idx.co.id>).

#### Data Analysis

##### Descriptive Statistics

Descriptive statistics are used to describe the variables in this study. Statistics will provide an overview of each study variable, the overview among others is the mean of frequency distribution.

#### Multiple Linear Regression Analysis

Multiple linear regression analysis is used to test the effect of independent variable on variable dependent. This study uses intellectual capital as the independent variable which is proxied with human capital (VAHC), structural capital (VASC), and capital employed (VACE). The dependent variable used is stock price and company value.

The equation used in testing the hypothesis in this study is as follows:

$$Y_t = \alpha + \beta \text{VAIC} + \varepsilon_t. \quad (8)$$

Where :

$Y_t$  : Stock price

$\alpha$  : Constant

$\beta \text{VAIC}$  : *value added intellectual coefficient*.

The equation for intellectual capital on the company value is as follows.

$$Y_t = \alpha + \beta \text{VAIC} + \varepsilon_t. \quad (9)$$

Where :

$Y_t$  : Company value

$\alpha$  : Constant

$\beta \text{VAIC}$  : *value added intellectual coefficient*.

#### Moderated Regression Analysis (MRA)

This method is done by adding a multiplicative variable between independent variable and its moderated variable. The equation can be formulated as follows:

$$Y_t = \alpha + \beta_1 \text{VAIC} + \beta_1 \text{Size} + \beta_3 \text{VAIC} \times \text{Size} + \varepsilon_t. \quad (10)$$

Where :

$Y_t$ : Stock price

$\beta_1 \text{VAIC}$  : Intellectual capital

$\beta_2 \text{Size}$  : Size

$\beta_3 \text{VAIC} \times \text{Size}$  : moderation Size.

$$Y_t = \alpha + \beta_1 \text{VAIC} + \beta_1 \text{Lev} + \beta_3 \text{VAIC} \times \text{Lev} + \varepsilon_t. \quad (11)$$

Where :

$Y_t$ : Stock price

$\beta_1 \text{VAIC}$  : Intellectual capital

$\beta_2 \text{Size}$  : Leverage

$\beta_3 \text{VAIC} \times \text{Size}$  : moderation Leverage

$$Y_t = \alpha + \beta_1 \text{VAIC} + \beta_1 \text{Size} + \beta_3 \text{VAIC} \times \text{Size} + \varepsilon_t. \quad (12)$$

Where :

$Y_t$ : Company value

$\beta_1 \text{VAIC}$  : intellectual capital

$\beta_2 \text{Size}$  : Size

$\beta_3 \text{VAIC} \times \text{Size}$  : moderation Size.

$$Y_t = \alpha + \beta_1 \text{VAIC} + \beta_1 \text{Lev} + \beta_3 \text{VAIC} \times \text{Lev} + \varepsilon_t. \quad (13)$$

Where :

$Y_t$ : Company value

$\beta_1 \text{VAIC}$  : intellectual capital

$\beta_2 \text{Size}$  : Leverage

$\beta_3 \text{VAIC} \times \text{Size}$  : moderation Leverage

**Table 1**  
**Results of Descriptive Analysis**

Variables	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Intellectual capital	260	8.6807	.1971	8.8778	2.650695	1.1870292	1.409
Stock price	260	4325	50	4375	752.87	876.790	768760.940
Company value	260	5.4672	.1057	5.5729	1.206035	.8795347	.774
Leverage	260	.8926	.0066	.8991	.478232	.1879307	.035
Size	260	7.4149	10.8885	18.3035	13.781154	1.3870762	1.924

Source: Processed data.

**Table 2**  
**Results of Descriptive Analysis**

Variables	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Intellectual capital	204	8.681	0.197	8.877	2.594	1.173	1.376
Stock price	204	4.325	50	4.375	620.520	829.603	68.8240.881
Company value	204	1.671	0.106	1.776	0.828	0.321	0.103
Leverage	204	0.875	0.006	0.881	0.476	0.195	0.038
Size	204	7.415	10.888	18.303	13.648	1.383	1.913

Source: Processed data.

#### 4. DATA ANALYSIS AND DISCUSSION

##### Descriptive Test

Descriptive analysis is used to provide an overview of the variables in this study. They are the variables of intellectual capital, stock price, company value, and two moderating variables; size and leverage.

Table 1 shows the minimum value of 0.19 and the maximum value of 8.87. Mean value of 2.65 and standard deviation of 1.18. The mean value of the intellectual capital is the average of company's ability to manage its resources in order to provide value added. The dependent variable, stock price, has minimum value of 3.91 and maximum value of 8.38 with mean value of 6.03 and standard deviation of 1.10. When the stock price has the lowest value, this means that the stock price can be said weak, and conversely, when the closing price reaches maximum value, this indicates that the purchasing power of the stock price is high. Size has minimum value of 10.88 and maximum value of 18.30 with the mean value of 13.78 and standard deviation of 1.38. Leverage shows minimum value of 0.006 and maximum value of 0.89 with mean value of 0.47 and standard deviation of 0.18.

Table 2 is descriptive variables after the data outlier. The initial observation data is 260 and reduced to 56, so that the N end becomes 204. The mean for intellectual capital variable shows a value of 2.5949 with standard deviation of 1.376. For the variable of stock price, the highest and lowest values do not change. The mean value of the stock price is 620.52, which means that the companies, on average, have the stock price of about 630 of each

sheet. The variable of company value has the lowest value of 0.1057 and maximum value of 1.776. The average company value shows 0.82 which is still below 1, so it can be said the company, on the observation, still has less good value. Leverage value indicates the maximum value of 0.8815 and minimum value of 0.006. Leverage indicates the mean value of 0.476592 with a standard deviation of 0.1953. Size indicates the mean value of 13.6489 with a standard deviation of 1.3832.

Table 3 shows the value of  $F_{count}$  in the intellectual capital test on stock price is 13.539, with a significance level of 0.000. The data can be said to meet the assessment that fits the data, so that it can be used for further testing. The value of t count is 3.679. This means that statistically intellectual capital can affect the stock price so that the first hypothesis which states that there is an effect of intellectual capital on the stock price is accepted. The value of adjusted R-square is only 0.046, which means that only 4.6% variation in stock prices can be explained by variation in intellectual capital, for the remaining 95.4% is explained by other variables outside the model. Intellectual capital affects the stock price where constant ( $\alpha$ ) with a value of 5.487 is considered constant. Regression coefficient is 0.207, means that any reduction in the intellectual capital variables will result in a change in the stock price.

In the intellectual capital test with size as moderating variable, the value of F count is 21.787, with the significance level of  $0.00 < 0.05$ . Significant value is  $< 0.05$  so that the data can be said to meet the assessment that fits the data so that it can be used for



**Table 3**  
**Results of Multiple Linear Regression Analysis**

	<b>VAIC Stock Price</b>	<b>VAIC Size Mod.size</b>	<b>VAIC Leverage Mod.leverage</b>	<b>VAIC Company Value</b>	<b>VAIC Size Mod.size</b>	<b>VAIC Leverage Mod.leverage</b>
F count	13.539	21.787	5.920	0.140	1.115	1.430
Sig.F	0.000	0.000	0.001	0.789	3.440	0.235
T count	3.679	0.683	-0.17	-0.374	0.415	-0.858
R <sup>2</sup>	0.050	0.203	0.065	0.001	0.016	0.021
Adjusted R <sup>2</sup>	0.046	0.194	0.054	-0.004	0.002	0.006
Constant	5.487	2.140	5.483	0.847	0.204	0.637
Coefficient	0.207	0.023	-0.005	-0.07	0.270	-0.083
Std.error	0.056	0.034	0.306	-0.374	0.012	0.097
Sig.	0.000	0.495	0.986	0.708	0.87	0.392

Source: Processed data.

further testing. The value of t count on intellectual capital with size moderation is -0.305, this means that statistically intellectual capital cannot affect the stock price and the variable of size is not a moderating variable so that the second hypothesis which states there is an effect of intellectual capital, with size moderation, on the stock price cannot be accepted. The value of adjusted R square is 0.194 which means that 19.4% variation in stock prices can be explained by variation in intellectual capital, for the remaining 80.6% is explained by other variables outside the model. The value of size moderation is 0.683 with significance value of 0.495 which is  $> 0.05$ . This means that the value is insignificant, so that variable of size is not a moderating variable.

The next explanation is the testing with leverage variable as the moderating variable, where the value of  $F_{\text{count}}$  is 5.920 with a significance level of  $0.001 < 0.05$ . The significance value is  $< 0.05$  so that the data can be said to fit and can be used for further testing. The value of t count is -0.017 with the significance level of  $0.986 > 0.05$ , this means that leverage variable shows negative value and insignificant so that the hypothesis which states that there is an effect of intellectual capital, with leverage moderation, on the stock price cannot be accepted. The value of adjusted R-square is only 0.054, which means that only 5.4% variation of the stock price can be explained by variation in intellectual capital, for the remaining 94.6% is explained by other variables outside the model. The coefficient value of leverage is negative or -0.005 with the significance of  $0.986 > 0.05$ . This means that the value is not significant and the value for leverage moderation also shows negative number. This means that the leverage variable is not moderation variable and can weaken the relationship between intellectual capital and the stock price.

Next is the intellectual capital test on company value which shows that the value of F count is 0.140 with a significance level of  $0.708 > 0.05$  so that the data can be said not to meet fit assessment data. The value of adjusted R square is only -0.004, which means that only 0.4% and has negative value. The variation of company value can be explained by variation of intellectual capital, for remaining 99.6% is explained by other variables outside the model. Regression coefficient has negative value or -0.007 which means that every increase on intellectual capital will lead to an increase of -0.007 on the company value.

Size moderation on the test of intellectual capital on company value shows that the value of F count is 1.115 with a significance level of  $0.344 \geq 0.05$ . The significance value is  $\geq 0.05$ , so that the data can be said not fit. The result of coefficients moderation is negative and insignificant so that the size variable is not a moderating variable, or in other words, the fifth hypothesis cannot be accepted. The value of adjusted R-square is only 0.002, which means that only 0.2% variation in the company value can be explained by variation in intellectual capital, for the remaining 99.8% is explained by other variables outside the model. Size moderation indicates that the coefficient value is negative or -0.21 and significance  $\geq 0.05$  or 5% ie 0.87, so that the variable of size is not a moderating variable because the significance value is  $\geq 0.05$  or 5% and can weaken with a negative coefficient value. The last testing model is the inclusion of leverage variable as a moderating variable between intellectual capital and firm value which shows that the value of F count 1,430, with the significance level of  $0.235 > 0.05$  so that the data can be said not meet fit data assessment.

Leverage as moderating variable with the

value of  $t_{\text{count}} - 0.858$  is considered not significant. This means that the leverage variable cannot affect the relationship between intellectual capital and company value so that the sixth hypothesis cannot be accepted. The value of adjusted R-square is 0.006, which means only 0.6% of leverage variable can be explained by the variation of intellectual capital, the remaining 99.4% is explained by other factors outside the variables. The leverage moderation shows negative value or -0.083 and not significant because the significance of 0.392 is more than 0.05 or 5%. This means that intellectual capital has no effect on company value and leverage is not as a moderating variable because the negative value will weaken the relationship between independent and dependent variables.

Based on the results of regression testing on intellectual capital variable, it can be seen that intellectual capital can affect the stock price. In this test, the stock price is measured by looking at the closing price. This study is consistent with research conducted by I Gede (2012) which discusses the effect of intellectual capital on the value of the go public banking companies listed on the Indonesia Stock Exchange. The result indicates that intellectual capital has positive effect on company value.

These results also indicate that the value added intellectual capital can affect the stock price, so that it is in accordance with the stakeholder theory. The accuracy of value added and returns in the measurement of performance can strengthen the stakeholder theory. The company that is able to manage the company's value added has an effect on the increase or decrease of the stock price. This may assist investors in analyzing the development of the stock price.

#### **The Effect of Intellectual Capital on Stock Price with Variables of Size and Leverage as Moderating Variables**

The size of a company is a reflection of the company's wealth judged on the basis of the assets owned. The greater the value of the assets owned, the larger the scale of the company. The test result of the second hypothesis, with size as the moderating variable, produces positive effect and not significant so that it can be concluded that size is not moderating variable for the relationship between intellectual capital and stock price.

This result refers to the previous study conducted by Al Amin (2010) that examined the relationship between intellectual capital, with size variable, and the company performance, using empirical study in the companies listed on the Indonesia

Stock Exchange from 2001 to 2010. The result of previous study stated that size, as the independent variable, actually has a significant positive correlation with the company performance, but when the variable is interacted with the variable of intellectual capital; their influence even becomes negative and significant. The result shows that there is no effect of size variable on the value added intellectual capital. This occurs in the third test which proves the existence of the relationship between intellectual capital and leverage as the moderating variable.

The test result shows that leverage has positive and insignificant value. This means that leverage is not moderating variable on the relationship between intellectual capital and stock price. The result can be concluded that the level of reliance of the company on the debt owned will make the intellectual capital generated is not maximized so that the value added will not affect the stock price. If the company is faced with increasing financial needs due to growth in sales, and all funds from internal sources have already been used, then there is no other option for the company to use funds derived from outside of the company, either debt or by issuing new shares.

#### **The Effect of Intellectual Capital on Company Value**

The test result of the dependent variable of company value is consistent with the research conducted by Ni Made and Ni Putu (2011) that tested the effect of intellectual capital on the company value with the financial performance as intervening variable on companies listed in Indonesia Stock Exchange. And the result indicates that intellectual capital has positive effect on the financial performance, but the intellectual capital does not have direct effect on the company value. This indicates that the resources owned by the company will not affect the company value. The research conducted by Ni Made also stated that capital intellectual has indirect effect by adding intervening variable, ie financial performance. This research indicates that the company value does not have any effect because the significance value is more than 0,05, and the intellectual capital has negative value.

#### **The Effect of Intellectual Capital on the Company Value with Size and Leverage as Moderating Variables**

The test by doing moderation of two variables on the relationship between intellectual capital and company value shows that both size and leverage

variables are not moderating variables. This is evidenced by the output generated at each testing of the two variables which is not significant. This research is consistent with the previous research conducted by Noorlaili Soewarno (2011) that tested the effect of intellectual capital on the financial performance with the size of types of industry and leverage as moderating variables. The previous research stated that the company size moderates the relationship between intellectual capital and financial performance of an organization which cannot be proven significantly. Based on the result, it can be known that the company size is not able to moderate the effect of intellectual capital on company value. Leverage is also unable to moderate the relationship of intellectual capital. One of the reasons is the lack of an increase in sales that cannot compensate for the ratio of total debt to the asset values and economic conditions, both external and internal sources of the company.

## 5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

The results of the test are as follows:

1. Intellectual capital has an effect on the stock price, thus affecting the stock price at the time of the closing price.
2. Intellectual capital has no effect on the stock price and size variable is not a moderating variable on the relationship between intellectual capital and stock price.
3. Intellectual capital has no effect on the stock price and leverage variable is not a moderating variable on the relationship between intellectual capital and stock price.
4. Intellectual capital has no effect on the company value so that the value added of intellectual capital will not affect the company value.
5. Intellectual capital has no effect on the company value and size variable is not a moderating variable on the relationship between intellectual capital and company value.
6. Intellectual capital has no effect on the company value and leverage variable is not a moderating variable on the relationship between intellectual capital and company value.

This study has some limitations as follows:

1. Not all secondary data in the form of financial statements taken from ICMD and [www.idx.co.id](http://www.idx.co.id) are reported respectively.
2. The emergence of samples with extreme value on the stock price with great variety of value and range which are quite far away.
3. The f test model in this study indicates that most

of the data does not fit. This is due to the presence of other variables that dominate the variable that will be tested.

The suggestion for further researchers areas the following:

1. Further researchers who will conduct research on the stock price are expected to be careful in taking the sample in order to avoid extreme value at the time of data tabulation.
2. Further researchers are expected to add other variables such as *corporate social responsibility* (CSR), *good corporate governance* (GCG) to the company value or to perform intervening test on the variables of size and leverage.

## REFERENCES

- Benny Kuryanto and M. Safruddin, 2008, 'Pengaruh Modal Intelektual terhadap Kinerja Perusahaan', *Simposium Nasional Akuntansi XI*, Pontianak: 23-24 July.
- Halim Adi Gunawan, 2012, 'Pengakuan, Pengukuran, Dan Pengungkapan Intellectual Capital Terhadap Penilaian Kinerja Perusahaan', *Jurnal Ilmiah Mahasiswa Akuntansi*, Vol. 1, No. 3, Mei, 2012.
- I Gede Cahyadi Putra, 2012, 'Pengaruh Modal Intelektual pada nilai perusahaan Perbankan yang Go Public di Bursa Efek Indonesia', *Jurnal Ilmiah Akuntansi dan Humanika*, Vol. 2 No. 1.
- Ihyaal Ulum, Imam Ghozali, and Anis Chariri, 2008, 'Intellectual Capital dan Kinerja Keuangan Perusahaan; Suatu Analisis Dengan Pendekatan Partial Least Squares (PLS)', *Simposium Nasional Akuntansi 11 (SNA 11)*, 23 - 24 July 2008, Universitas Tanjung Pura Pontianak.
- Muh Al Amin, 2010, 'Pengaruh Firm Size Terhadap Hubungan Intellectual Capital dengan Kinerja Perusahaan', *Jurnal Fakultas Ekonomi*, Vol. 1 No. 2, Universitas Muhammadiyah Magelang.
- Ni Made Sunarsih and Ni Putu Yuria Mendra, 2011, 'Pengaruh Modal Intelektual Terhadap Nilai Perusahaan Dengan Kinerja Keuangan Sebagai Variabel Intervening Pada Perusahaan Yang Terdaftar Di Bursa Efek Indonesia', *Jurnal Simposium Nasional Akuntansi XIV*.
- Noorlailie Soewarno, 2011, 'Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Dengan Ukuran, Jenis Industri, Dan Leverage Sebagai Variabel Moderating', *Majalah Ekonomi*, year XXI, No. 2 August 2011.
- PSAK No. 19 merupakan standar akuntansi keuangan yang diadopsi dari IAS No. 38 tentang Pengakuan Aset Tidak Berwujud atau Intangi-

ble Assets.

Rousilita Suhendah, 2012, 'Pengaruh Intellectual-Capital terhadap Profitabilitas Produktivitas Dan Penilaian Pasar pada Perusahaan Yang Go Public di Indonesia pada Tahun 2005-2007',

*Seminar Internasional dan Simposium Akuntansi Nasional*, 4-5 June 2012, Universitas Muhammadiyah Yogyakarta.

Sofyan Safri Harahap, 2007, *Teori Akuntansi*, Jakarta: PT. Rajagrafindo Persada.