

**Company's Performance as A Variable Intervening Between Intellectual Capital and Company's Value****Isna Ardila<sup>1</sup>, Irma Christiana<sup>2</sup>**University of Muhammadiyah Sumatera Utara<sup>1,2</sup>Correspondence Email: [isnaardila@umsu.ac.id](mailto:isnaardila@umsu.ac.id)**ABSTRACT**

Intellectual capital is interpreted as intangible assets in the economy and the capital is assumed to be able to generate intellectual wealth. This paper investigates the influence of intellectual capital of the company's value with the company's performance as an intervening variable at the Jakarta Islamic Index in 2014-2017. Samples were taken using the purposive sampling method, obtained 8 companies as samples of the population as many as 30 companies. Sample data as much as 32 data. To analyze data using multiple linear regression, while to determine the influence of mediation using path analysis. The findings of this research that intellectual capital has no effect on the company's performance. The intellectual model, however, affects the value of the company by being mediated by the company's performance as a variable intervening.

Keywords: intellectual capital, company performance, company value

**INTRODUCTION**

Maximizing the welfare of the owner, by increasing the value of the company is the goal of the established company. Company value can provide maximum shareholder prosperity if the company's share price increases. The higher the share price, the higher the shareholder prosperity (Handoko 2010). The market will look at both the company and its prospects if the value of the company is good. This means that the company has succeeded in creating value for shareholders and is an attraction for potential investors, because the company's value illustrates the state of the company

The firm value is the investors perception towards the success level of the company closely related to it's share price. High share prices make the value of the company is high and increases market trust not only on the company performance at the current time period, but also on the company's prospects in the future (Rasyid 2015).

The company's value in this study is proxied as price to book value. Price to book value ratio is the comparison between market price per share and book value per share. "This ratio measures the value that financial markets place on management and corporate organizations as a company that continues to grow (Brigham, E.F., Gapensi 1999). "The price to book value ratio has been commonly used to assess all types of companies because book value can be a rational measure for valuing companies (Christiania, I. 2017).

Along with globalization in the economic sector and increasingly fierce competition brought changes to the current business patterns. In order to stay afloat and continue to grow, forcing companies to change their business patterns, which were formerly based on labour are now based on knowledge. This means that based on knowledge, the company must make maximum use of and intangible assets, namely knowledge in order to increase the value of the company. The importance of the role and contribution of intangible assets can be seen in the comparison between book value and market value in knowledge-based companies (Fajarini, I & Firmansyah 2012). One of them is to evaluate and measure intangible assets using the Intellectual Capital approach.

Intellectual capital owned by the organization (such as culture, management processes, employee competencies, quality standards, etc.) represents a key factor in the formation of company values which is also a key resource to be managed and reported (Guthrie 2000). Intellectual capital is a resource in the form of knowledge available to companies, which in turn will bring future sloppiness to the company, where such knowledge will become the intellectual capital if it is created, maintained and transformed and well managed (Widyaningrum 2004). Intellectual capital is human capital, structural capital or organizational capital and relational capital or customer capital (Bontis 1998).

In Indonesia, the development of the phenomenon of intellectual capital has occurred since the issuance of Statement of Financial Accounting Standards (PSAK) No.19 2009 (revised

2010) concerning intangible assets, implicitly alluded to about the intellectual capital in it. However, the business world has not yet widely introduced the practice of intellectual capital. We can see many companies in Indonesia still as a conventional basis in building and running a business. Human capital, structural capital and customer capital as building blocks of intellectual capital have not been the centre of corporate attention. Actually, intellectual capital can be used to create competitive advantage for companies, because by utilizing intellectual capital, companies can create creative innovations so that the products produced by companies are preferred by consumers.

The failure of the company to embed intellectual capitalise occurred in Panasonic in 2012. The phenomenon of "The Death of Samurai", where Panasonic's management prioritizes their culture which glorifies harmony and consensus is the cause of the fall of the electronics company in the digital era like today (Kaskus 2012). The case that happened to Panasonic implies that intellectual capital is important for the company and is a lesson for other companies that innovation is an important element for companies of intellectual capital.

Value Added Intellectual Capital (VAIC<sup>TM</sup>) is a method that companies can use to measure intellectual capital. Value Added Intellectual Capital (VAIC<sup>TM</sup>) is a measure to assess the efficiency of value added as a result of a company's intellectual abilities. The greater the value of intellectual capital (VAIC), the more efficient use of company capital will be, thereby increasing the value added for the company (Sunarsih 2012). This method was developed by police in 1998. VAIC<sup>TM</sup> is often used to measure intellectual capital because it is considered appropriate as an indicator of these measurements. VAIC<sup>TM</sup> provides a standardized and consistent measurement basis, standard financial figures contained in financial statements (Ulum 2008). The elements that make up VAIC are Value Added Capital Employees (VACA), Value Added Human Capital (VAHU), and Structural Capital Value Added (STVA).

There have been many studies on the effect of intellectual capital on market value, including research conducted by (Belkaoui 2003), (Chen, M.C., S.J. Cheng 2005), (Rubhyanti 2008), and (Yunita 2012), showing that intellectual capital has a positive effect on performance and market value of the company. Meanwhile, research from (Solikhah, Badingatus, Abdul Rohman 2010), (Sunarsih 2012), and (Abdul Basyith 2016) find different results that there is no effect of intellectual capital on firm value.

The variety of results of research that has been done gives a signal that intellectual capital is useful for companies. The difference in research results may be due to other variables that influence or because there are other variables that mediate between intellectual capital and firm value. It is strongly suspected that financial performance is a variable that mediates between intellectual capital and firm value.

One company's achievements or success can be seen from the company's performance because it can be used as a consideration in decision making. Financial performance represents the good and bad of the company's financial situation. The size of the company's performance is reflected in the profits generated. Profitability is the company's ability to achieve in relation to sales, total assets and the companies. Thus, the long term investors will be really consider the profitability analysis, for example, the shareholder will always consider profit that will obviously be accepted in the form of dividen (Rasyid 2015). The results of research from (Simanjuntak, Binsar H 2004) states that profitability affects intellectual capital.

The company's performance in this study is used as an intervening variable because the researchers suspect that the company's value is not solely a result or direct excess of intellectual capital, but there are other factors also contributing to the company's value. Because they want to know is there a role for intellectual capital in increasing the value of the company that encourages researchers to conduct this research. Based on the previous explanation, the researcher formulated the problem as follows: (1) Does intellectual capital affect the company's performance. (2) Does intellectual capital affect the value of the company. (3) Does the company's performance is able to mediate the relationship between intellectual capital and company value.

## **RESEARCH METHODS**

Associative approach as one part of quantitative research is used by researchers in this study. Quantitative research uses numerical data, in the form of combined data between annual data according to the study period. Companies that are incorporated in the Jakarta Islamic Index Islamic shares on the Indonesia Stock Exchange in the 2014-2017 period as many as 30

companies were used as the population in this study. While the total sample of 8 companies was selected based on the purposive sampling method.

The type of data used is quantitative data, and secondary data in the form of company financial statement data are a source of data in this study. Data collection techniques by means of documentation. Data analysis techniques using the linear regression statistical analysis and path analysis are used to test structural equation models.

Research variables and measurement variables used in this study are as follows:

1. Price to Book Value is a measurement of how much the market values the price of a company's stock book. Company value which is proxied by price to book value (PBV) can be measured by the following formula: (Husnan 2015).

$$PBV = \frac{\text{Reguler Closing Price}}{\text{Book Value per Share}}$$

2. VAIC<sup>TM</sup> (Value Added Intellectual Coefficient) indicates the organization's intellectual ability. The VAIC<sup>TM</sup> variable is measured by the formula: (Pulic 1998).

$$VAIC^{TM} = VACA + VAHU + STVA$$

Whereas the stages of measuring VAICTM are as follows:

- a. Calculates Value Added (VA) with the formula

$$VA = OUT - IN$$

Information:

VA = Value Added

OUT = Total sales and other revenue

IN = Other expenses and expenses (other than employed salaries)

- b. Calculating the Value Added Capital Employed (VACA) explains how much added value the company generated from the capital used, measured by the formula as follows: (Pulic 1998)

$$VACA = \frac{\text{Value Added (VA)}}{\text{Capital Employed (CE)}}$$

Information:

VA = Value added

CE = Available funds (equity and net income)

- c. Calculating Value Added Human Capital (VAHU) explains the ability of people in the company to produce the best solution based on the knowledge they have so that it can add value to the company, measured by the following formula: (Pulic 1998)

$$VAHU = \frac{\text{Value Added (VA)}}{\text{Human Capital (HC)}}$$

Information:

VA = Value added

HC = Employee Expenses

- d. Calculating Structural Capital Value Added (STVA) describes the facilities and infrastructure that supports employees to create optimum performance and all organizational capabilities to support employee productivity, measured by the following formula: (Pulic 1998)

$$STVA = \frac{\text{Structural Capital (SA)}}{\text{Value Added (VA)}}$$

Information:

VA = Value added

HC = The difference in value, added value with human capital (employee expenses)

While the intervening variable or the intermediate variable used in this study is company performance. The company's performance is a manifestation of the company's financial condition. The measure of company performance is usually manifested in profitability, growth and shareholder value (Fajarini, I & Firmansyah 2012). Return on equity (ROE) is used as a proxy for financial performance in this study. Return on equity) is the company's ability to generate profits using their own capital, measured by the following formula: (Darmadji, T., & Hendi 2011)

$$ROE = \frac{\text{Earning After Tax}}{\text{Total Equity}} \times 100\%$$

This study will also test the structural equation test using path analysis. In the path analysis, there is a variable that has a dual role, that is, as an independent variable in a relationship, but becomes a dependent variable in another relationship given the tiered causality relationship (Ghozali 2011). Thus, the model of each dependent variable is shown as follows:

$$ROE = \alpha + p2 \text{ VAIC} + e1 \quad (1)$$

$$PBV = \alpha + p1 \text{ VAIC} + p3 \text{ ROE} + e2 \quad (2)$$

$\alpha$  = Konstanta

$p1$  = PBV path coefficient with VAIC<sup>TM</sup>

$p2$  = ROE path coefficient with VAIC<sup>TM</sup>

$p3$  = ROE path coefficient with PBV

$e1$  = Residuals for financial performance

$e2$  = Residuals for the value of the company

## RESEARCH RESULTS AND DISCUSSION

### Results

#### 1. Descriptive Statistics

**Tabel 1**  
**Descriptive Statistics**  
**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Ln_PBV	32	-1.02	4.41	.9442	1.29272
VAIC	32	2.98	61.42	23.2775	17.82089
Ln_ROE	32	1.50	4.91	2.7318	.90369
Valid N (listwise)	32				

#### 2. Hypothesis Testing Results

Hypothesis testing is done with the aim of partially knowing the effect of intellectual capital on return on equity and the effect of intellectual capital and return on equity on firm value. The values of the test results can be seen in table 2 and table 3

**Table 2**  
**Values for partial hypothesis testing**  
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.935	.266		11.039	.000
	VAIC	-.009	.009	-.172	-.955	.347

a. Dependent Variable: Ln\_ROE

**Table 3**  
**Values for partial hypothesis testing**  
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.850	.289		-9.871	.000
	VAIC	.003	.004	.044	.718	.479
	Ln_ROE	1.361	.088	.952	15.448	.000

**Coefficients<sup>a</sup>**

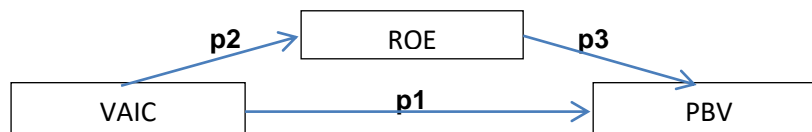
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.850	.289		-9.871	.000
	VAIC	.003	.004	.044	.718	.479
	Ln_ROE	1.361	.088	.952	15.448	.000

a. Dependent Variable: Ln\_PBV

Based on the calculated values in tables 2 and 3 above, it can be concluded as follows: (1) The first regression equation, the standardized beta value of VAIC = -0.172 and significant at 0.347, means that intellectual capital (VAIC) does not affect company performance (ROE). The standardized beta coefficient value -0.172 is the path value (p2). (2) The second regression equation, the standardized value of VAIC = 0.044 and significant at 0.479, means that intellectual capital (VAIC) does not affect the value of the company (PBV). While the standardize value of beta ROE = 0.952 and significant at 0.000, it means that the company's performance (ROE) affects the value of the company (PBV). The standardize beta VAIC 0.044 is the path value (p1) and the standardize beta ROE 0.952 is the path value (p3).

### 3. Path Analysis Test Results

The results of the path analysis in Figure 1 show that VAIC can directly influence PBV and can also affect indirectly, from VAIC to ROE (as an intervening variable) then to PBV.



**Figure 1  
Path Analysis**

**Table 4  
Values for Testing Path Analysis**

Variabel	VAIC			ROE		
	DI	ID	PI	DI	ID	I
ROE	-0.172	-	-0.172	-	-	-
PBV	0.044	0.127	0.171	0.952	-	0.952

Information:

DI = Direct Influence

ID = Indirect Influence

PI = Permanent Influence

Based on the test results of the path analysis can be concluded as follows: (1) The magnitude of the direct influence of intellectual capital on firm value is -0.044. And the magnitude of the direct influence of intellectual capital on company performance is -0,172. (2) The magnitude of the direct influence of intellectual capital on firm value through company performance as an intervening variable is 0.171. (3) The contribution of intellectual capital to company performance is  $(-0,172)^2 = 0.0296$  or 2.9584%. While the amount of intellectual capital contribution to the value of the company is  $(0.044)^2 = 0.0019$  or 0.1936%, and the magnitude of the contribution of company performance to the value of the company is  $(0.952)^2 = 0.9063$  or 90.63%. (4) The contribution of intellectual capital to the value of the company through the company's performance as an intervening variable is  $(-0,172)^2 + (0.952)^2 = 0.9816$  or 98.16%.



## Discussion

### 1. Effect of Intellectual Capital on Company Performance

The test results show that the company's performance is not influenced by intellectual capital. Intellectual property does not affect the company's performance indicates that the company has not used intellectual capital effectively and efficiently, meaning that the amount of intellectual capital issued by the company does not directly affect the company's efforts to produce better performance. Even if the company is able to use intellectual capital effectively and efficiently, the company can make an important contribution to achieving competitive advantage that will appear in good company performance. By utilizing intellectual capital owned, companies can increase ROE by increasing revenue without increasing expenses and costs proportionally or reducing the company's operating expenses (Pramudita 2012).

For this reason, the results of this study are relevant to research that concludes that intellectual capital does not affect company performance (EN Sari 2018), but is not in line with research (Sudibya 2014) and (Sunarsih 2012) which concludes that intellectual capital has a positive effect on company performance.

### 2. Effect of Intellectual Capital on Company Value

The test results indicate that intellectual capital has no effect on firm value. This happens because companies have not been able to manage intellectual property efficiently, so the market is still likely to underestimate intellectual capital. The market is still inclined to judge the aspect of financial wealth compared to the aspect of intellectual property in companies. In addition, the market appreciates other factors such as profit and fundamental factors obtained compared to intellectual capital. Conversely, if a company is able to manage intellectual capital efficiently, it will have an impact on increasing the value of the company, because the company is well appreciated by the market.

The results of this study show results that are not different from previous studies (Aida 2015) which concluded that intellectual capital has no effect on market value. But contrary to the results of research that shows that intellectual capital affects the value of the company (Rubhyanti 2008) and (Sudibya 2014).

### 3. Influence of Company Performance that Mediates the Relationship of Intellectual Capital and Company Value

The path analysis results show that intellectual capital can affect directly to the value of the company and can also have an indirect effect, that is, from intellectual capital to company performance (as an intervening variable) and then to firm value. The magnitude of the direct effect is 0.44, while the magnitude of the indirect effect is -0.164 ( $-0.172 \times 0.952 = -0.164$ ). The value of the direct relationship coefficient (0.44) is greater than the value of the indirect relationship coefficient (-0.164) so that it can be said that the actual relationship is direct.

In other words, the path analysis results show that company performance as an intervening variable is able to mediate the relationship between intellectual capital and firm value even though the direct effect of intellectual capital on firm value is stronger, this is seen in the value of the indirect effect coefficient smaller (-0.164) compared to direct influence (0.44). But as an intervening variable the company's performance is able to provide a high contribution that is equal to 98.16% in achieving good corporate value. . This condition causes investors to give high assessments to companies with high company performance, because it indicates that the company has successfully managed its intellectual property effectively and efficiently. Market response becomes positive and has an impact on increasing the value of the company.

The results of this study are in line with research (Aida 2015) and (Sudibya 2014) which concluded that company performance as an intervening variable is able to mediate the relationship between intellectual capital and market value

## CONCLUSION

Based on the results of research and discussion, it can be concluded the following matters: first, company performance is not influenced by intellectual capital. Second, the value of the company is not affected by intellectual capital, intellectual capital also does not affect the value of the company, and company performance affects the value of the company. Third, the

relationship between intellectual capital and firm value can be mediated by intervening variables, namely company performance.

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