

## **The Strategic Role Intellectual Capital An Intervening Variety Between The Effect Of Financial Performance On Firm's Value**

**Ika Insyiroh<sup>1</sup>, Harmono<sup>2</sup>, Achmad Firdiansjah<sup>3</sup>**

<sup>1</sup> Student in Magister Management Program, University of Merdeka Malang, Indonesia  
<sup>2,3</sup> Lecturer in Economics and Business Faculty, University of Merdeka Malang, Indonesia

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**Abstract:** Firm Value is a description of the level of triumph of the company that is related with stock prices. High stock prices will affect the high firm value as well. This study was conducted to examine the effect of financial performance on firm value with intellectual capital as an intervening variable in manufacturing companies listed on the BEI in the 2015-2017 period. The analysis was performed using financial statement data on the Indonesia Stock Exchange. The technique used in sampling is purposive sampling. So the number of samples obtained was 62 manufacturing companies. The analysis technique used is path analysis. The results of this study indicate that profitability and firm value have a positive and significant effect on intellectual capital, profitability has no effect on firm value but firm size has a positive and significant effect on firm value and intellectual capital has no effect on firm value. This research indicates that the market or investor has not considered the importance of intangible assets in assessing a company. Investors are still focused on physical assets.

**Keywords:** Profitability, Firm Size, Intellectual Capital, Firm Value.

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### **I. Introduction**

At present, business development is experiencing rapid progress and intense competition. Companies try to position themselves to be ready to compete in order to develop and survive. The competition makes the firm to improve performance continuously so that its objectives are achieved. The main purpose of the establishment of the firm is to optimal the company's wealth or value [1]. Firm value is investors' perception of the level of triumph that is often related with stock prices. The reason investors are interested in investing in stocks is to get dividends from the company and get capital gains from the sale.

Some of the factors that influence a firm value are profitability and firm size. Profitability is the company's ability to obtain benefit and show the level of effectiveness of company management [2]. If the company is able to increase profits increases, indicating a good company prospect that can trigger investors to participate in increasing demand for shares. So companies must strive to maximize targeted profits in order to maximize investor prosperity. The results of studies conducted by those that show the results that profitability has a positive impact on firm value. This means that if the firm's profitability increases, the company's value also increases.

The firm size shows the size of a company that can be observed from the level of sales. Big company sales means that the income obtained is also large. So it is believed that companies are vulnerable to bankruptcy and corporate companies are also able to pay dividends. This can make potential investors interested in investing their investment. Therefore, companies must be more careful in financial reporting by maintaining financial performance stability. As for previous studies that found the results that firm size has a significant positive effect on firm value [3].

In order to survive and have high competitiveness, company orientation needs to be more developed, that is, not only oriented to physical assets, but also to non-physical assets. Examples of non-physical assets are innovation, information systems, and human resources owned because they also play an important role in the survival of the company. Intellectual capital is one of the approaches used in the valuation and measurement of intangible assets. The method developed by Pulic to measure intellectual capital is The Value Added Intellectual Coefficient (VAIC<sup>TM</sup>).

Intellectual capital is all company resources that can be used that are used in the process of creating corporate value. The main components of VAIC<sup>TM</sup> are physical, human and structural capital [4]. A company that is able to utilize its intellectual capital efficiently will increase its market value. Previous research shows that intellectual capital has a positive influence on market value [5]

## II. Literature review

### a. Firm value

The purpose of the company is to always grow by increasing the value of the company. The company's sign of growth can be seen from a high valuation by the company's external parties towards assets or stock market growth. According to Harmono, the company's value is an objective value by the market that is oriented towards the company's survival [6].

To analyze whether a particular stock investment is feasible or not, then we need a way to measure it. PER is used by investors to predict the ability of companies to generate profits in the future. Investors can consider this ratio to sort out which stocks can later provide large profits in the future.

### b. Intellectual capital

According to Bontis [7] Intellectual capital includes all the knowledge of employees, organizations, and their ability to create added value and produce sustainable competitive advantages. Value Added Intellectual Capital (VAIC™) is one of the measurements with indirect methods to measure some and how the efficiency of intellectual capital and employee capital creates value based on the relationship of three main components, namely employed capital, human capital, and structur capital.

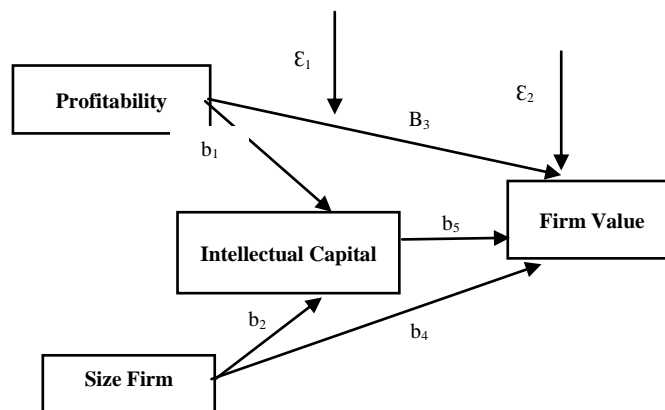
### c. Profitability

Profitability is the company's ability to generate profits with all the capital that works in it [8]. Profitability has an important meaning in business, namely to maintain the survival of the company in the long run because profitability indicates whether the entity has prospects in the future or not.

### d. Bank size

The size of the company is the size of the company seen from the magnitude of the value of equity, value of sales or value of assets [9]. Sales value shows the velocity of money generated by the company. The increase in sales indicates an increase in company revenue. Large-scale companies with positive growth give a sign that the possibility to become bankrupt is small and is considered capable of maintaining business continuity. A consistent level of profitability will be able to survive in business by obtaining adequate returns compared to the risks [10].

### e. Conceptual Framework



**Figure 1:** Conceptual Framework

### f. Hypothesis

The hypothesis tested in this study is

- H1: profitability has a positive and significant effect on intellectual capital.
- H2: company size has a positive and significant effect on intellectual capital.
- H3: profitability has a positive and significant effect on firm value.
- H4: firm size has a positive and significant effect on firm value.
- H5: intellectual capital has a positive and significant effect on firm value.
- H6: Intellectual capital as an intervening variable between the effect of leverage, profitability, and firm size on firm value

**III. Research Methods**

**g. Population and Research Samples**

This research is included in explanatory research. Explanatory research is research that aims to explain the causal relationship between hypothesis testing variables [11]. The study population was conducted at manufacturing companies on the IDX on the grounds that manufacturing companies have high complexity in their business activities, ranging from purchasing raw materials, storage, management to producing finished goods so that it involves all available resources used. Determination of the sample using the purposive sampling method obtained 122 companies in the study period of 2015 - 2017, then there were 366 financial statements.

**Table 1 : Sampling Criteria**

No	Note	Amount
1	Manufacturing companies listed on the IDX	167
2	New manufacturing companies listing in the middle of the research year (2016-2017)	(24)
3	Manufacturing companies that moved business sectors in 2015 - 2017	(2)
4	Manufacturing companies that do not report consecutive financial statements as of December 2015-2017	(7)
5	Manufacturing companies that do not have complete data needed by researchers in the complete financial statements for 2015-2017	(12)
6	Companies that have negative profits and capital	(53)
7	Companies that disclose financial statements in units of dollars	(7)
The selected companies are be the sample		<b>62</b>
Total samples for 2015-2017		<b>186</b>

The data used in this study are secondary data. Secondary data were obtained from annual reports of manufacturing companies in 2015-2017 at [www.idx.co.id](http://www.idx.co.id).

**h. Variable Research**

The variables used in this study are of two kinds namely

**i. Variable Exogenous**

**(a) Profitability**

Profitability can be measured in a way:

$$ROE = \frac{(Net\ income)}{(total\ capital)} \times 100\% \quad (1)$$

**(b) Firm Size**

Firm size can be measured in a way:

$$Size = Ln\ Total\ revenues \quad (2)$$

**ii. Variabel Endogenous**

**(a) Intellectual Capital**

Simply stated, the VAIC calculation steps can be shown as follows: the first stage is calculating the value added (VA) obtained from:

$$VA = Output - Input$$

The second stage is the added value of physical capital (capital employed).

$$VACA = \frac{VA}{CE}$$

The third stage is the added value of human capital.

$$VAHU = \frac{VA}{HC}$$

The fourth stage adds value to the company's ability to meet its routine activities.

$$STVA = \frac{SC}{VA}$$

The fifth step is to calculate the value of intellectual capital by adding up all the indicators of physical capital, human capital and structural capital.

$$VAIC^{TM} = VACA + VAHU + STVA \quad (3)$$

Note:

VA = Value Added

CE = Capital Employed available funds (amount of equity)

HC = Human Capital (expenses incurred in improving the ability of employees)

SC = Structural Capital (VA-HC)

**(b) Firm Value**

Firm value can be measured in a way:

$$PER = \frac{\text{Market price per share}}{\text{Earnings per share}} \quad (4)$$

**i. Analysis Technique**

The data analysis technique used in this study is path analysis using SPSS 21.0 software. Hypothesis testing by t test is if  $p \geq 0.05$  means the hypothesis is rejected (no effect). And if  $p < 0.05$  means the hypothesis is accepted (influential). The regression analysis equation model is formed as follows:

$$Z = b_1X_1 + b_2 X_2 + \epsilon_1$$

$$Y = b_3 X_1 + b_4 X_2 + b_5 Z + \epsilon_2$$

Note:

X<sub>1</sub> = Profitabilitas

X<sub>2</sub> = Size Firm

Z = Intellectual Capital

Y = Firm Value

b<sub>1</sub> = The path coefficient of profitability to intellectual capital

b<sub>2</sub> = Firm size path coefficient of intellectual capital

b<sub>3</sub> = Path coefficient Profitability to firm value

b<sub>4</sub> = Firm size path coefficient of firm value

b<sub>5</sub> = Intellectual capital path coefficient of firm value

ε<sub>1</sub> = Other factors that affect intellectual capital

ε<sub>2</sub> = Another factor influencing company value

**IV. Results and Discussion**

**Table 2: Summary of Coefficients**

Regression	Standardized Coefficients	T hitung	P Value	Description
ROE → VAIC	0.660	11,054	0,000	Significant
SALES → VAIC	0.147	2,460	0,015	Significant
ROE → PER	-0.078	-0,693	0,489	No Significant
SALES → PER	0.299	3,494	0,001	Significant
VAIC → PER	-0.246	-2,174	0,031	Significant

The regression equation analysis model is formed as follows:

$$Z = 0,660X_1 + 0,147X_2 + 0,699$$

$$Y = -0,078 X_1 + 0,299X_2 - 0,246Z + 0,938$$

**j. Profitability on Intellectual Capital**

Statistical test results show that the significance value of ROE 0,000 < 0.05 means that ROE affects VAIC. While the ROE beta coefficient value of 0.660 proves that there is a positive relationship with intellectual capital. So, based on this statistical test ROE has a positive effect on VAIC. The higher the firm's ability to increase profits, the higher the firm's intellectual capital.

The profits obtained by the company can be invested in intellectual capital such as holding training programs to improve employee competency. The results of the increased competence will be applied to daily work such as

how to produce goods to be more efficient and how to deal well with customers so that it can add value added to the company. The results of this study are in accordance with the study [12], [13].

**k. Firm Size on Intellectual Capital**

Statistical test results show that the significance value of SALES  $0.015 < 0.05$  means that SALES has an effect on VAIC. While the SALES beta coefficient value of 0.147 proves that there is a positive relationship with intellectual capital. So, based on this statistical test SALES has a positive effect on VAIC. The higher the company's sales value, the higher the company's intellectual capital.

High sales indicate the acceleration of the company's inventory turnover and also indicate an increase in company revenue. Companies with high incomes have more funds to invest in intellectual capital. So that the management and maintenance of intellectual capital becomes more optimal and will result in higher intellectual capital performance.

The results of this study are in accordance with the study [13], [22], [24]. But contrary to [13] which found that the size of the company had no effect on intellectual capital.

**l. Profitability on Firm Value**

Statistical test results show that the significance value of ROE  $0.489 > 0.05$  means that ROE has no effect on PER. The higher the value of the company's profits will not affect the value of the company. This is due to the increase in profitability alone is not enough to influence the perception of the market on the value of the company as seen from the number of shares purchased.

During the research period, there was global economic turmoil in 2015-2017, namely, firstly, the issue of an increase in the interest rates of the US central bank (The Fed) which made investors / prospective investors prefer investing in the US. The Fed's rising interest rates make Indonesia's interest rates offset by raising domestic interest rates so investors prefer to invest in banking products such as deposits.

Second, the US protects China trade by implementing import tariff policies on China to 25%. This means that if China imports goods it is subject to a tax of 25% which causes higher operational costs and results in a decline in imports. The fall in Chinese imports has an impact on the decline in exports of Indonesian companies, because there are some products exported to China. This makes investors feel panicked about the company's performance in the future.

Third, the decline in unemployment in the US to 4.6% makes the US economy strengthened and has an impact on the strengthening dollar. The consequences of these exchange rate fluctuations can have a negative impact on companies that have a foreign currency debt burden. This will result in an increase in operating costs and a decrease in the price of shares offered. The results of this study contradict with [17]–[19].

**m. Firm Size on Firm Value**

Statistical test results show that the significance of SALES  $0.001 < 0.05$  means that SALES has an effect on PER. While the SALES beta coefficient value of 0.299 proves a positive relationship to PER. So, based on this statistical test SALES has a positive effect on PER. The higher the company's sales value, the higher the company's value can be seen from the purchase of shares.

Big companies can be seen from the level of how big sales. The higher the sales, the more income they receive. Large-scale companies with positive growth give a sign that the possibility to become bankrupt is small and is considered capable of maintaining business continuity. This situation makes it easy for companies to enter the capital market because of the positive response from the market in the form of stock purchases thereby increasing the value of the company.

The results of this study are in accordance with the study [20]. But contrary to [17], [19], [21] who found the results that company size had no effect on firm value.

**n. Intellectual Capital on Firm Value**

Statistical test results show that the significance value of VAIC  $0.031 < 0.05$  means that VAIC influences the PER. While the value of the beta coefficient VAIC  $-0.226$  proves a negative relationship with PER. So, based on this statistical test, VAIC has a negative effect on PER. The higher the company's intellectual capital, the lower the company's value.

This happens because potential investors only see VACA (one component of VAIC) as a consideration in deciding on investments. VACA reflects the company's physical assets in the form of capital. In other words, investors tend to look at physical assets rather than non-physical assets such as the creativity of human resources and supporting tools for company routines. Which non-physical assets are part of other VAIC components, namely VAHU and STVA. This shows that the high value of intellectual capital does not necessarily affect the high value of the company.

The results of this study are in accordance with the study [22]. But contrary to [23] who found the results that company size had no effect on firm value.

**o. The Effect of Profitability on Company Value through Intellectual Capital**

**Table 3: Hypothesis Testing of Company Profitability and Size Against Firm Value through Intellectual Capital**

Variable	Direct Effect	Indirect Effect	Total Effect
Profitability → <i>Intellectual Capital</i> → Firm Value	-0,078	0,66 x (-0,246) = -0,162	-0,24
Firm Size → <i>Intellectual Capital</i> → Firm Value	0,299	0,147 x (-0,246) = -0,036	0,263

Intellectual capital is not able as an intervening variable between the effect of profitability on firm value because the total value is smaller than the direct effect. The ability of the company to obtain high profits, the profits can encourage intellectual capital such as holding employee training programs. So that employees are more creative and skilled and in the future. But the high value of intellectual capital does not make the value of the company increase. This is due to investors looking more at the company's physical assets.

**p. Effect of Company Size on Company Value through Intellectual Capital**

Intellectual capital has the status as an intervening variable between the effect of firm size on firm value because the total value is greater than the direct effect. High company sales indicate that revenue also increased. Companies with high incomes have more funds to invest in intellectual capital. So that the management and maintenance of intellectual capital becomes more optimal and will result in higher intellectual capital performance. But the high value of intellectual capital does not make the value of the company increase. This is due to investors looking more at the company's physical assets.

**V. Conclusions**

To examine the effect of financial performance on firm value with intellectual capital as an intervening variable in manufacturing companies listed on the Indonesia Stock Exchange in the 2015-2017 period. The results of the analysis of this study provide an empirical contribution that profitability and firm size affect intellectual capital. Companies with increased profits and sales have more funds to invest in intellectual capital. So that the management and maintenance of intellectual capital becomes more optimal and will result in higher intellectual capital performance.

Profitabilitas has no effect on company value. That is because the market is more inclined to look at the macro situation rather than the profitability factor of the company. Company size is a major factor in influencing company value. Large-scale companies are easy to enter the capital market because of the positive response from the market in the form of stock purchases thereby increasing company value. Intellectual capital has a negative influence on firm value. This gives an indication that market appreciation in a company is only based more on physical resources owned so that the market does not give a high valuation on the company's intellectual capital.

**VI. Recommendations**

For the company, it is better to optimize intellectual capital owned because intellectual capital consists of three important components that are interconnected and form a synergy to form intellectual capital that will improve company performance.

For further researchers to see the consistency of research results from period to period, researchers should conduct research using other industry sectors by using different financial ratios so that differences and similarities can be identified and to add more complete insights and conclusion.

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