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The Role of Financial Performance as Intellectual Capital Mediation Variable on Company Value in Pharmaceutical Sub Sector Companies

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Abstract

This study aims to determine the effect of intellectual capital on firm value in the pharmaceutical sub-sector listed on the Stock Exchange with financial performance as an intervening variable. The independent variable used in this study is intellectual capital as measured by the value added intellectual coefficient (VAIC). The dependent variable in this study is firm value measured using price to book value (PBV), while financial performance as an intervening variable is measured using return on assets (ROA). The sample used in this study were 8 pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange (IDX) in the 2016-2019 period. This study uses a quantitative approach with hypothesis testing using simple linear regression analysis methods, multiple linear regression analysis. To test the effect of mediation, the Sobel test was used. The results showed that (1) intellectual capital had no significant effect on financial performance. (2) intellectual capital has a significant effect on the level of firm value. (3) financial performance has no significant effect on the level of firm value. (4) Sobel test results show that financial performance cannot mediate intellectual capital on firm value.

Keywords
intellectual capital; financial performance; company value; pharmacy

I. Introduction

In a knowledge-based management system, conventional capital such as natural resources, financial resources and other physical assets becomes less important than capital based on knowledge and technology. By using science and technology, it will be possible to obtain ways to use other resources efficiently and economically, which will later provide a competitive advantage (Rupert, 1998). This makes companies increasingly aware of the importance of knowledge assets (knowledge assets). One approach used in the assessment of knowledge assets is intellectual capital which has become the focus of attention in various fields, both management, information technology, sociology, and accounting (Guthrie & Petty, 2000).

The development of a new "new economy" which tends to be controlled by information and knowledge brings an increase in attention and understanding of the intellectual capital owned by the company. Intellectual Capital (hereinafter abbreviated as IC) (Guthrie and Petty, 2000) is one of the approaches used in valuation and measurement of knowledge assets. The company's goal is to optimize the value of the company. The value of the company is reflected in its share price, the increasing difference between the stock price and the book value of the assets owned by the company indicates a hidden value. This hidden value is believed to be an IC that is recognized and valued by the market. The more appreciation for the company's shares from the investors is believed to

be caused by the IC owned by the company. Therefore, there is increasing recognition of the role of IC in driving the market value of firms (Chen et al., 2005).

(Bukh, Nielsen, Gormsen, & Mouritsen, 2005) defines intellectual capital (IC) as knowledge resources in the form of employees, customers, processes or technology that can be used to help create value and increase competitive advantage for the company. Edvinsson et al. (1997) in Chen et al. (2005) define IC as the difference between the firm's market value and book value. (Belkaoui, 2003) defines IC as special and valuable knowledge possessed by organizations with qualifications as a strategic asset that lies in the potential relationship between IC on the one hand and company performance on the other, so that companies should make IC as the main driver of value creation in order to increase the company's financial performance and market value

The pharmaceutical industry has an important role in contributing to the national economy, so as a capital-intensive industry, the pharmaceutical industry requires large investments in drug discovery and production. In order to get a large amount of investment, the pharmaceutical industry needs to increase the value of its company. In 2016 to 2019 the pharmaceutical industry sector experienced a decline which would result in investors' decisions to invest. Factors that allow for fluctuations in the value of the company are intellectual capital and financial performance. So based on this, researchers are interested in conducting research with the following problem formulation:

1. Does Intellectual Capital affect Firm Value?
2. Does Intellectual Capital affect Financial Performance?
3. Does Financial Performance Affect Company Value?
4. Is Financial Performance an intervening variable between Intellectual Capital and Financial Performance?

II. Review of Literature

2.1 Intellectual Capital

Stewart (1997) defines intellectual capital as "packaged useful knowledge" which is a resource in the form of knowledge available to the company that produces high-value assets and future economic benefits for the company. According to Brooking (1996) intellectual capital is a combination of intangible assets consisting of markets, intellectual property, human resources, and infrastructure that can carry out their functions in the company. According to Bontis (1998) intellectual capital has been identified as a set of intangible assets (resources, capabilities and competencies) that drive company performance and value creation. According to Anggraini, Ali and Azlina, (2018) intellectual capital is a resource in the form of knowledge available to the company which will ultimately bring future benefits to the company, where this knowledge will become intellectual capital if it is created, maintained and transformed and managed properly.

2.2 Firm Value

Gray et al. (1995) stakeholder theory explains that company management must carry out activities that are considered important by shareholders and report these activities to stakeholders. According to Faza and Hidayah (2014) the main purpose of stakeholder theory is to assist management in increasing the creation of company value as a result of the activities carried out and minimizing losses that may arise for company stakeholders. Firm value is a form of company achievement that comes from the level of public trust in the company's performance through a very long process of activities, starting from the establishment of the company to the current state of the company. Margaretha (2005)

explains that the value of companies that have gone public is reflected in the market price of the company's shares. Companies that have not gone public, the value of the company owned will be realized if the company is sold (Rahayu and Sari, 2018). According to Sujoko and Sobiantoro (2007) firm value is an investor's estimate of the level of success of the company which has a close relationship with the price of the shares owned. The market price of company shares formed between buyers and sellers when a transaction occurs is called the market value of the company, because the stock market price is considered a reflection of the actual value of the company's assets (Hermuningsih, 2012).

2.3 Financial Performance

In Darsono & Ashari (2005) there are several ways to analyze financial performance in financial statements, one of which is profitability ratio analysis. According to Harmono (2009), profitability analysis describes the company's fundamental performance in terms of the efficiency and effectiveness of the company's operations in earning profits and is often used as an indicator of the company's fundamental performance representing management performance. Financial performance in this study is proxied by ROA. This ratio looks at the extent to which the investments that have been invested or placed are able to provide return benefits (Fahmi, 2011).

2.4 Framework Research

The relationship between VAIC with financial performance and firm value has been empirically proven by several researchers. Chen et al. (2005) who researched public companies in Taiwan have proven that intellectual capital has an effect on market value and financial performance. Good intellectual capital in the company will improve financial performance so that the market will give a more assessment which in turn will increase the value of the company itself. (Zéghal & Maaloul, 2010) proved that IC positive impact on economic and financial performance, however the relationship between IC and market performance is only significant for the high-tech industry in the UK. Tan et al. (2007), Bontis (2001) and Belkaoui (2003) also prove that IC (VAIC) has a positive effect on the company's financial performance.

As for several previous studies conducted in Indonesia, among others, by Ulum et al. (2008), shows that there is a positive influence of IC (VAIC) on the company's financial performance. On the other hand, Iswati (2006) conducted research on the influence of intellectual capital on the financial performance of banking companies that have gone public on the Indonesia Stock Exchange and found that intellectual capital had no effect on financial performance. Meanwhile, the results of research by Randa and Solon (2012) on manufacturing companies listed on the IDX in 2009-2011 found that IC had a significant and positive effect on firm value. While the different results are shown by the research of Solikhah et al. (2010) found that IC has a positive effect on financial performance and company growth, but has no effect on market value. And the research of Yuniasih et al. (2010) and Widarjo (2011), found that IC has no effect on firm value.

The inconsistency of the results of the research above regarding the influence of intellectual capital on financial performance and firm value, as well as the contribution of intellectual capital that is different for each industry, makes it interesting to review the influence of intellectual capital on financial performance and firm value. According to Sunarsih and Mendra (2012), the inconsistency is caused by another variable that mediates the relationship between intellectual capital and firm value, namely financial performance. Companies that are able to manage their intellectual resources effectively and efficiently

will increase their financial performance. The increased financial performance will be responded positively by the market so that the value of the company will increase.

The company's financial performance is a complete view or condition of the company's finances for a certain period / period of time. Financial performance is a description of the financial condition of a company (Sawir, 2005). Most of the research results, such as the research of Tan et al. (2007) and Chen et al. (2005) showed that Intellectual Capital/IC has a positive effect on the company's financial performance. Companies that are able to manage their intellectual resources are believed to be able to create value added and be able to create competitive advantage by conducting innovation, research and development that will lead to improving the company's financial performance. Based on the description above, the hypotheses developed are:

H_1: Intellectual Capital (IC) has a significant effect on the company's financial performance

Companies are required to be able to optimally manage their physical and intellectual resources in order to create added value for the company. This will automatically affect the decisions of stakeholders on the company. Companies must also carry out good management of their intellectual resources because the better the management of intellectual resources carried out by the company, the market perception of the company will also increase. The market will evaluate companies that manage employee human resources, because the company will be judged to be able to compete and the sustainability of the company is also guaranteed. Increased market perception will increase the value of the company. From the research results (Chen, 2005), it is known that investors tend to pay higher for the shares of companies that have more intellectual resources than companies with low intellectual resources. The price paid by the investor reflects the value of the company. Market value occurs because of the inclusion of the concept of intellectual capital which is the main factor that can increase the value of a company (Abidin, 2000 in Solikhah, 2010). Based on the description above, the hypotheses developed are:

H_2: Intellectual Capital (IC) has a significant effect on firm value

The higher the financial performance which is usually seen with financial ratios, the higher the firm value (Putri, 2015). Through these financial ratios, it can be seen the level of success of the company's management in managing its assets and capital to maximize the value of the company. An increase in financial performance shows the company's prospects are getting better because it means that there is a potential for increasing profits obtained by the company so that it will increase investor confidence and will make it easier for company management to attract capital in the form of shares (Hidayati, 2010).

H_3: The company's financial performance has a significant effect on firm value

In resource-based theory (RBT) there is an assumption that a company can compete competitively if the company can manage and use the resources in accordance with its capabilities. This will work well if the utilization of the resources owned by the company is supported by the company's good intellectual abilities as well. When resources are managed effectively and efficiently, it can encourage increased performance for the company which will be responded positively by stakeholders, one of which is investors. (Belkaoui, 2003) argues that the company's investment in intellectual capital presented in the financial statements results from an increase in the difference between market value and book value. So, if for example the market is efficient, then investors will give high value to companies that have larger IC. In addition, if IC is a measurable resource for

increasing competitive advantages, then IC will contribute to financial performance and increase firm value (Chen, 2005). Based on the description above, the research hypothesis proposed is as follows:

H_4: Intellectual capital has a significant effect on firm value through financial performance

III. Research Methods

The research method uses explanatory research. The sample in this study is the pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange and have company financial statements for the 2016 – 2019 period, amounting to 8 companies. The sample selection in this study used a purposive sampling method with the following criteria: first, pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange that did not experience listing or delisting during the research period from 2016-2019. Second, publishing annual reports and financial reports consistently during the 2016-2019 period. This data can be obtained from the official website of the Indonesia Stock Exchange, namely www.idx.co.id. The type of data in this study is quantitative data. As for the data analysis technique using simple linear regression analysis, multiple linear regression analysis and Sobel test.

IV. Results and Discussion

4.1 Results

Table 1. Coefficient of Determination

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,606[a]	,367	,324	1,76175

a. Predictors: (Constant), Financial Performance, Intellectual Capital

b. Dependent Variable: Firm Value

Source: Data processing with SPSS version 21

Based on the table, it is known that the value of the coefficient of determination shown by R square is 0.367. This shows the variation of the dependent variable or firm value that can be explained by the independent variable, the percentage of which is independent Intellectual Capital and Financial Performance is 36.7% while the other 63.3% is explained by variables other than Intellectual Capital and Financial Performance.

Table 2. Multiple Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,247	1,066		-1,169	,252
	Intellectual Capital	1,317	,369	,535	3,572	,001
	Financaial Performance	2,895	2,076	,209	1,395	,174

a. Dependent Variable: firm Value

Source: Data processing with SPSS version 21

Table 2 is the result of multiple linear regression test which shows the value of the regression coefficient for the Intellectual Capital variable is 1.317 and the Financial Performance variable is 2.895 and the constant value is -1.247. Regression equations that can be formed from this information are:
Y = -1,247+ 1,317 X + 2,895 Z

Table 3. Model F test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52,239	2	26,119	8,415	,001[b]
	Residual	90,009	29	3,104		
	Total	142,248	31			

a. Dependent Variable: firm value
b. Predictors: (Constant), financial performance, Intellectual Capital
Source: Data processing with SPSS version 21

Based on table 3, the calculated F_test is 8.415 with a significance value of 0.001. The calculated F_test is greater than F table, namely 8.415 > 3.33 and the significance test is smaller than 0.05, namely 0.001 < 0.05. So it can be concluded that Ho is rejected and Ha is accepted, which means that Intellectual Capital and Financial Performance simultaneously have a significant effect on Firm Value.

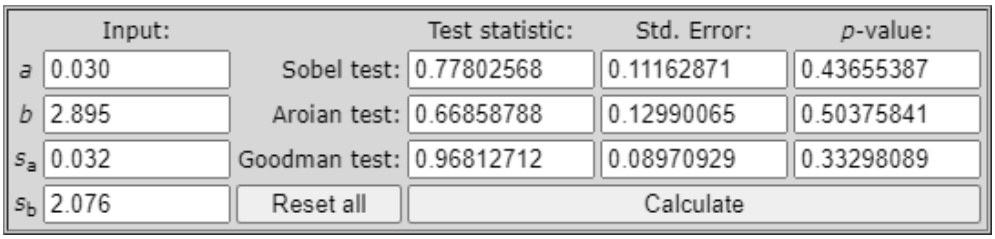

Figure 1. *Sobel test results*

Based on the test results in Figure 1, it can be seen that the t arithmetic value is 0.7780 which means it is smaller than the t table (0.7780 < 2.04227) so that Ho is accepted and Ha is rejected, which means that there is no influence of Intellectual Capital on Firm Value through Financial Performance as intervention variable. And it is known that the p-value of 0.436 > 0.05 means that it is not significant. So, it can be concluded that Intellectual Capital has no significant effect on Firm Value through Financial Performance as an intervening variable.

4.2 Discussion

a. Effect of IC on Financial Performance

The results of the H1 test indicate that intellectual capital as measured by the VAIC indicator has no significant effect on financial performance as proxied by ROA. Acceptance of this hypothesis is supported by a significant value above 0.05. The results of this analysis indicate that the increase in employee expenses without being accompanied by an increase in performance causes employee expenses to increase but net income does not show a significant change. This result contradicts the research conducted by Chen et al. (2005), Tan et al. (2007), Ulum (2008), Zeghal and Maaloul (2010), and Sunarsih and Mendra (2012), which state that intellectual capital has a positive effect on financial

performance. The company's ability to generate profits with the total assets owned by the company will increase if the company uses and makes maximum use of its intellectual capital. Intellectual capital has played an important role in creating value added and contributing to improving the company's financial performance.

b. The Influence of Intellectual Capital on Firm Value

Based on the results of testing the second hypothesis (H2), it shows that intellectual capital has a significant effect on firm value. This happened decision making so that the market does not give a high assessment of companies that have high intellectual capital. Optimal intellectual capital management will have an influence on firm value. In accordance with the Resources Based Theory that companies that can manage their resources including intellectual capital will be able to provide value added and create an increase in company value. The results of this study are in accordance with research (Abidin, 2000 in Solikhah, 2010).

c. Effect of Financial Performance on Firm Value

The third hypothesis (H3) shows that the financial performance variable has a significant effect on firm value. After testing the data obtained a significant value greater than = 5%. This means that H3 is rejected. The results of the study indicate that high ROA does not determine the value of a good company in the eyes of investors. Even though the company's profit is seen in a positive condition, it is not necessarily accompanied by efficient asset management which can cause investors to hesitate to invest. The results of this study contradict research (Putri, 2015) which states that financial performance has a significant effect on firm value.

d. The influence of intellectual capital on firm value through financial performance as an intervening variable

From the results of the Sobel test, the significance value or p value obtained is greater than 0.05 or (0.436 > 0.05). Therefore, the fourth hypothesis which reads "there is an influence of intellectual capital on firm value through financial performance as an intervening variable" is rejected. Financial performance is not an intervening variable on the relationship between Intellectual Capital and Firm Value. This happens because the market or investors have not been able to give more assessments to companies that have managed intellectual capital efficiently to drive financial performance in generating profits. The contribution of financial performance is not able to provide a positive signal so that the value of the company does not experience significant changes. This result contradicts the research of Sunarsih & Mendra (2012) that an increase in stock prices will be able to increase PBV. The market will give a higher assessment to companies that have improved financial performance, the increased financial performance will be responded positively by the market thereby increasing the value of the company.

V. Conclusion

Conclusion

1. Intellectual Capital does not have a significant effect on financial performance
2. Intellectual Capital has a significant effect on Firm Value
3. Financial performance does not have a significant effect on firm value
4. Financial performance is not an intervening variable between intellectual capital and firm value.

Suggestion

The suggestions that can be submitted by researchers are:

1. The company's management is expected to further optimize intellectual capital in order to be able to increase the value of the company in order to maintain the trust of investors. As well as for the financial performance variable (ROA), it is better if the pharmaceutical sub-sector company uses assets efficiently so that the profit generated is more optimal by increasing sales volume and minimizing company expenses.
2. Future research is expected to be able to use intellectual capital measurement using methods other than the VAIC method so that the results can be compared and take into account the proxies of other indicators in determining company value such as Tobin's and Market to Book Value so as to allow broader results.

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