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Research Paper

Analysis the Effect of Intellectual Capital on Firm Value with Profitability as Mediating Variable

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ABSTRACT: *The purpose of this study was to determine the effect of intellectual capital on firm value with profitability as mediating variable. The object of this study were manufacturing companies in the pharmaceutical subsector listed on the Indonesia Stock Exchange from 2018 to 2022. The sample were selected using purposive sampling method. The number of sample resulted from this method are 9 companies. Data analysis path analysis. The result of the study indicate that (1) intellectual has a positive and significant effect on profitability, (2) profitability has a positive and significant effect on firm value, (3) intellectual capital has a positive and significant effect on firm value, (4) profitability can mediate the effect of intellectual capital on firm value*

KEYWORDS: *intellectual capital, profitability, firm value*

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I. INTRODUCTION

In business competition at this time, the management of intellectual capital has an important role in the objectives of production activities. The purpose of production activities in business competition has begun to shift, previously the main production activities were only focused on the creation of finished goods, but at present the main focus of production activities in the process of creating finished goods in line with knowledge, and then the creation of goods and services [1], [2].

[3] state that changes in ways of thinking in developing intellectual-based innovations can trigger the emergence of intellectual-based companies. The change in a labor-based business strategy to a knowledge-based business strategy that can later create value in new business processes [4], [5]. Accordance with [6] in a knowledge based business which states that if the knowledge held by the company is managed properly, it can be used as a means to increase income which later affects the value of the company.

In Indonesia, businesses are required to be sensitive to intangible capital owned by the company. This is because intangible capital is a supporting factor to win the competition in business and an inseparable part as a driver of the existence of intellectual property rights (IPR) in business competition. However, businessmen in Indonesia are not yet considerate to use of intellectual property rights (IPR). In the 2017 WIPR entitled Intangible Capital in Global Value Chains, it was found that the real value generated from asset intangibles reached US $ 5.9 trillion in 2014 (an increase of 75% compared to income in 2000).

[7]–[10] assert that intellectual capital, which is proxied by value added intellectual coefficient (ME-VAIC) have a positively significant related effect with firm profitability, and indicate that companies that maintain the reputation of companies tend to use intellectual capital efficiently and use it as a tool to predict company value.

This study aims specifically to determine whether profitability variables can mediate the effect of intellectual capital on firm value. The analysis in this study used 9 manufacturing companies in the pharmaceutical subsector listed on the Indonesia Stock Exchange for period 2018 to 2022. The analysis model uses Statistical Package for Social Science (SPSS).

The results of this study prove that the first, intellectual capital has a positive significant effect on profitability. Second, profitability has a positive significant effect on firm value. Third, intellectual capital has a positive significant effect on firm value. Forth Profitability can mediate the the relationship between intellectual capital and firm value.

II. LITERATURE REVIEW AND HYPHOTESIS DEVELOPMENT

Literature Review

Intellectual capital is closely related to resource-based theory. Wernerfelt (1984) explains that resource-based theory is that a company will gain a competitive advantage if it is able to manage its assets, either tangible assets or intangible assets. [11] in [12] which states that companies can create economic value not only because they have the resources they need, but are able to effectively manage their resources. Another theory related to this research is signaling theory. Corporate reputation and company value variables relate to signaling theory because an action taken by company management can be a guide for stakeholders regarding how management views the company's prospects [13]. This signal is in the form of information about what has been done by management to realize the wishes of the owner.

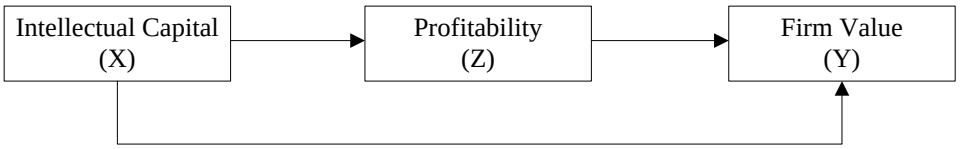

Figure 1. Conceptual Framework

Figure 1 shows that the creation of firm value depends on achieving performance in the form of profitability. The better a company manages and utilizes its intellectual capital, the profit generated by the company will increase. The increase in sustainable profit that occurs will make the company's value in the eyes of investors even better.

Higher intellectual capital in a company positively affects the overall value of that company. Intellectual capital, which includes employee knowledge, intellectual property, information systems, organizational culture, and learning capacity, is considered a unique and valuable resource that can provide a sustainable competitive advantage. Companies that effectively manage and utilize their intellectual capital are likely to show better innovation, operational efficiency, and better strategic decision making, which will ultimately contribute to increasing company profits. This continuous increase in profit will tend to increase investor confidence, so that the level of cash inflows in the future will also increase. Thus the expectations of stakeholders will generally be achieved in the form of an increasing company equity value.

Hypothesis Development

Intellectual Capital and Profitability

Resource-based theory suggests that a company's strategic resources and capabilities, including intellectual capital, can act as a source of competitive advantage that can be maintained in the long term. Intellectual capital, which involves knowledge, skills, expertise and innovative abilities, is a form of intangible asset but has significant value in contributing to organizational performance. Companies that have higher levels of intellectual capital tend to have the potential to achieve greater levels of profitability because of their ability to innovate, increase productivity, and respond more efficiently to market changes. The results of [14] show that intellectual capital has a significant effect on profitability. This is also the same as what was reported by [15] and [16], that optimization and management of intellectual capital and its constituent components have a positive impact on increasing company profitability. Based on the explanation above, the hypothesis of this research can be formulated as follows:

H1: Intellectual capital has a positive and significant effect on profitability

Profitability and Firm Value

Signaling theory suggests that companies use a variety of signals to convey information to external stakeholders about their health and financial prospects. Profitability serves as an important signal of a company's ability to generate positive profits and sustainable financial performance. Companies with higher profitability are considered to be more financially stable, attractive, and capable of generating value in the future, which leads to higher company values. Profitability in the research of [17], [18], and [19] has a positive effect on firm value, whereas in [20] it has no significant effect on increasing firm value and on research by [21] has no effect on increasing company value. [22] investigated the impact of liquidity, leverage, and profitability on firm value in LQ45 indexed companies in Indonesia. The research findings reveal that there is a vital and statistically positive relationship between liquidity, leverage, and profitability and firm value. Based on the explanation above, the hypothesis of this research can be formulated as follows:

H2: Profitability has a positive and significant effect on firm value

Intellectual Capital and Firm Value

Resource-based theory suggests that a higher level of intellectual capital in a company positively affects the overall value of the company. Intellectual capital, which includes employee knowledge, intellectual property, information systems, organizational culture, and learning capacity, is considered a unique and valuable resource that can provide a sustainable competitive advantage. Companies that effectively manage and utilize their intellectual capital are likely to demonstrate better innovation, operational efficiency, and better strategic decision making, which will ultimately contribute to increasing corporate value through improved market performance, financial results, and long-term competitiveness. In research conducted by [23] stated that intellectual capital can increase firm value. This is also the same as [24] which states that intellectual capital has a positive effect on increasing company value. However, this research has different results from the research of [25] which states that intellectual capital has no effect on firm value. This is also supported by research by [26] which states that company value is not affected by the level of company intellectual capital. Based on the explanation above, the hypothesis of this research can be formulated as follows:

H3: Intellectual capital has a positive and significant effect on firm value

The Mediating Role of Profitability on the Relationship Between Intellectual Capital and Firm Value

Resource-based theory states that rare, inimitable, and non-substitutable assets can provide competitive advantage and improve firm performance. In this case, intellectual capital which includes knowledge, innovation, and unique customer relationships helps companies build competitive advantages to increase profitability. Meanwhile, signal theory says that companies use certain actions (signals) to communicate important information to the market, especially when the information is difficult for outsiders to see or measure. In this context, a high level of profitability is a positive signal from the market about the strength of a company's intellectual capital in creating significant added value. Based on these two theories, this hypothesis concludes that a company's intellectual capital has an indirect effect on firm value through increasing profitability. In other words, intellectual capital contributes to increased profitability which in turn increases the value of the company.

The results of this study are consistent with the opinion of [27], namely profitability can mediate the effect of intellectual capital on firm value. These results also support the research of [28], in their research on profitability in mediating the effect of intellectual capital on firm value in banking companies, found that profitability is able to mediate the relationship between intellectual capital and firm value effectively. In addition, [29] and [30] also show that profitability can mediate the effect of intellectual capital on firm value. On the contrary, the results of this study contradict the research of [31] and [32] which reveal that profitability cannot mediate intellectual capital not to firm value. Based on the explanation above, the hypothesis of this research can be formulated as follows:

H4: Profitability can mediate the effect of intellectual capital on firm value.

III. RESEARCH METHODOLOGY

Population and Sample

The population in this study consists of 11 manufacturing companies in the pharmaceutical subsector listed on the Indonesia Stock Exchange from 2018 to 2022. The selection of pharmaceutical manufacturing companies as the research population is based on the knowledge-intensive nature of the industry. Research on intellectual capital should preferably be conducted on companies that have a knowledge-focused approach [33]. Additionally, the pharmaceutical industry sector is actively engaged in exploration and development, application of knowledge, and relies heavily on intellectual capital as a source of innovation and renewal [34].

The sample in this study was determined using purposive sampling method, which is a technique for selecting samples based on specific considerations or criteria. These criteria include: (1) Pharmaceutical subsector manufacturing companies listed on the IDX from 2018 to 2022 being delisted; (2) Companies that provide comprehensive annual reports during the observation period; (3) Companies that have comprehensive data and information related to the variables used in this study. In accordance with the sample selection criteria, only 9 companies from the period 2018 to 2022 met the requirements to be used as the sample for this research. The type of data employed in this study is documentary data in the form of financial reports from manufacturing companies in the pharmaceutical subsector listed on the Indonesia Stock Exchange for the period 2018-2022. The data source for this research is secondary data obtained from annual financial reports of companies accessed from www.idx.com.

Operational Definition

Firm Value

Firm value is defined as the ratio of market value to the replacement value of company assets. A value greater than one indicates that the company holds a favorable worth. Firm value is measured using Tobin's Q, which can be calculated using the formula as follows:

$$Tobin's\ Q = \frac{MVE + Total\ debt}{Total\ asset}$$

Note
tobin's Q = firm value
MVE = market capitalization × number of outstanding shares
Total debt = total company liabilities
Total asset = total company assets

Intellectual Capital

Intellectual capital is a combination of intellectual resources owned by a company that facilitates the growth and success of the company. Intellectual capital is measured using the ME-VAIC method, which can be calculated using the formula as follows:

$$ME - VAIC = HCE + SCE + CEE + RDE + RCE$$

Intellectual capital components in the ME-VAIC method consist of human capital efficiency (HCE), structural capital efficiency (SCE), capital employed efficiency (CEE), innovation capital efficiency (RDE), and relational capital efficiency (RCE) are calculated as follows:

$$\text{HCE} = \text{VA/HC}$$

$$SCE = (VA - HC - R\&D - MAE)/VA$$

$$CEE = VA/CE$$

$$RDE = R\&D/VA$$

$$RCE = MAE/VA$$

the VA calculation in the ME-VAIC method as follows:

$$VA = OP + D + A + HC + MAE + R\&D$$

Note
HC = employee wages and salaries
MAE = marketing and Advertising expenses
R&D = research and development costs
CE = total assets - total liabilities
VA = value added
OP = operational profit
D = depreciation
A = amortization

Profitability

Profitability is the result of a company's ability to generate profit during a specific period of time. Profitability is measured using return on assets (ROA) ratio, which can be calculated using the formula as follows:

$$\text{ROA} = \frac{\text{net profit}}{\text{Total asset}} \times 100\%$$

Analysis Technique

This research was analyzed by using path analysis, the path analysis model developed as the following:

$$Z = \alpha + \beta_1 X + \varepsilon_1$$

$$Y = \alpha + \beta_1 X + \beta_2 Z + \varepsilon_2$$

Information:
Y = Firm Value
α = Constant
β = Regression Coefficient
X = Intellectual Capital
Z = Profitability
ε = Error term

IV. RESULTS

Descriptive Statistics

Descriptive statistics are part of data analysis which provides an initial description of each variable used in the research. The results of statistical analysis aim to provide an overview of the object under study through sample or population data as it is, without conducting analysis and making general conclusions. In this study descriptive statistics can be seen at the minimum, maximum, average and standard deviation values. Descriptive statistics for the assessment are presented in Table 1 below:

Table 1. Descriptive statistics

Variable	N	Min	Max	Mean	Std. D
Intellectual capital (X)	45	1.358	6.475	3.03944	1.103130
Firm value (Y)	45	.923	3.012	1.75518	.575462
Profitability (Z)	45	.616	1.992	1.15318	.336051

Source: Processed Data, 2023

Based on Table 1 the variable intellectual capital (X) has a minimum value of 1.358 and a maximum value of 6.475. The average value (mean) of intellectual capital of pharmaceutical sub-sector manufacturing companies is 3.03944. The standard deviation is 1.103130 which indicates that the deviation that occurs in the intellectual capital variable is very small. These results indicate that the results obtained are good, because the distribution of the data shows normal results and does not cause bias.

The firm value variable (Y) has a minimum value of 0.923 and a maximum of 3.012. The average (mean) value of the pharmaceutical sub-sector manufacturing companies is 1.75518. The standard deviation is 0.575462 which indicates that the deviation that occurs in the firm value variable is very small. These results indicate that the results obtained are good, because the distribution of the data shows normal results and does not cause bias.

The profitability variable (Z) has a minimum value of 0.616 and a maximum of 1.992. The average value (mean) of the profitability of pharmaceutical sub-sector manufacturing companies is 1.15318. The standard deviation is 0.336051 which indicates that the deviation that occurs in the profitability variable is very small. These results indicate that the results obtained are good, because the distribution of the data shows normal results and does not cause bias.

Normality Test

The normality test aims to test whether in the regression model the confounding or residual variables have a normal distribution or not. The results of the normality test can be seen in Figure 1 below:

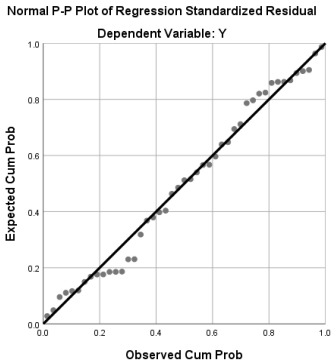

Figure 1. Normal Probability P-Plot Graph

By looking at the normal plot graph, it can be seen that the points spread around the diagonal line, and the spread follow the direction of the diagonal line. The graph above shows that the regression model is feasible because it meet the assumption of normality.

To make sure that the data is normally distributed, the Kolmogorov Smirnov test was used. If the test results show a sig value greater than 0.05, then normality is fulfilled. Conversely, if the sig value <0.05, then normality is not met. The results of the normality test in this study are presented in table 2 below.

Table 2. Kolmogorov Normality Test Results

Unstandardized Residual		**Conclusion**
Test Statistic	.108	Normally distributed
Asymp. Sig. (2-tailed)	.200[c,d]	

Source: Processed Data, 2023

The results of the normality test are as presented in Table 5.3, the value of Sig. Kolmogorov Smirnov by 0.2. This value meets the normality test requirements, that is, if the test results obtain a value of Sig > 0.05, then the assumption of normality is fulfilled.

Multicollinearity Test

The multicollinearity test aims to determine whether there is a relationship between the independent variable or the independent variable. A good regression model is a model where there is no correlation between the independent variables. Multicollinearity test can be done by looking at the tolerance and VIF values. The results of the multicollinearity test in this study are presented in table 3 below.

Table 3. Multicollinearity Test Results

Independent Variabel	Tolerance	VIF	Test Result
Intellectual capital (X)	.329	3.036	Non Multicollinearity
Profitability (Z)	.329	3.036	Non Multicollinearity

Source: Processed Data, 2023

Based on Table 3, it can be seen that the research variables show no multicollinearity because the tolerance value is > 0.1 and VIF < 10.

Heteroscedasticity Test

Heteroscedasticity test is performed to determine whether the regression model has an inequality of variance from the residuals of one observation to another. The results of the heteroscedasticity test in this study are presented in figure 2 below.

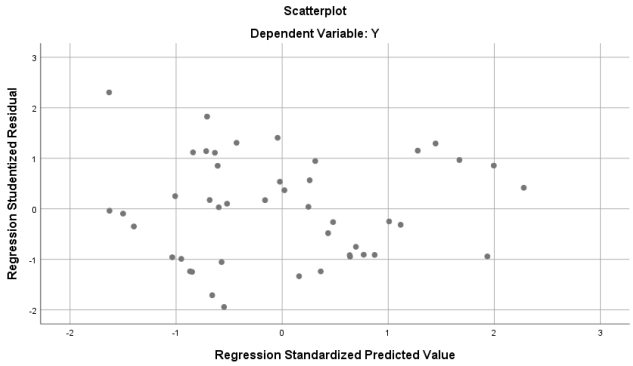

Figure 2. Heteroscedasticity Test Results

In Figure 2 the scatterplot graph, it can be seen that the dots spread randomly both above and below zero on the Y growth and do not form a certain pattern. So it can be concluded that there is no heteroscedasticity in the regression model.

Path Analysis

After testing the suitability of the model (Goodness-of-Fit Model), then the hypothesis can be tested with using the regression model in the analysis path (path analysis) to predict relationship between exogenous variables and endogenous variable. Based on the analysis of the results path Table 4 below presents the coefficients structural transaction standardization path this research. Path coefficient estimation results standard values in Table 4 can depicted as in Figure 3.

Table 4 Standardized Value Path Coefficient

Variable	Coefficient Estimation	S.E	P	Test Result
Intellectual capital to profitability	.819	.027	.000	Significant
Profitability to firm value	.575	.221	.000	Significant
Intellectual capital to firm value	.342	.067	.011	Significant

Source: Processed Data, 2023

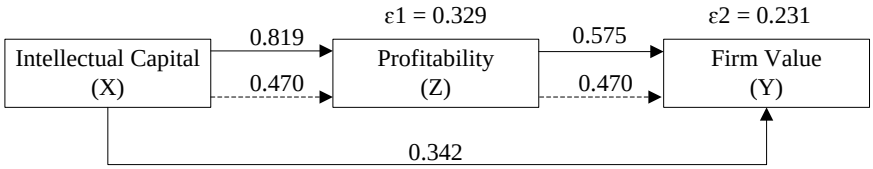

Figure 3. Path Coefficient of Relationship Between Variables

The path diagram in Figure 3 above illustrates the following:

1. Intellectual capital has a positive and significant influence on profitability. This indicates that the more efficient the company's intellectual capital management, the higher the company's profitability.
2. Profitability has a positive and significant influence on firm value. This indicates that the greater the profitability of a company, the greater the value of the company.
3. Intellectual capital has a positive and significant effect on firm value. This indicates that the more optimal a company is in utilizing and empowering its intellectual capital, the greater the value of the company.

Calculation of the Significance of Influence Mediation (Sobel Test)

This study uses the Sobel test to examine the indirect effect or the mediating role of profitability on the relationship between intellectual capital and firm value. The results of the Sobel test found that there is a mediating role of the profitability variable in mediating the relationship between intellectual capital and firm value. The results of the Sobel test in this study are presented in table 5 below.

Table 5 Result of Calculation of Significance Value of Indirect Test (Sobel Test)

Combination of Variables	Test statistic	Std. Error	p-value
The effect of intellectual capital on firm value through profitability	2.592	0.181	0.009

Source: Processed Data, 2023

Table 5 presents the results of calculating the role of the intermediary variable from this research model. Based on the calculation results of the Sobel test in Table 5, it can be explained that the indirect effect of intellectual capital on firm value has a p-value (two-tailed probability) Sobel test of 0.009 <0.05. Thus, the profitability variable in this study is a mediation type. So it can be concluded that the profitability variable successfully functions as a mediating variable that mediates the effect of intellectual capital on firm value.

Hypothesis test

Effect of intellectual capital on profitability

The effect of the standardized beta coefficient of the direct effect of intellectual capital on profitability is 0.819 with a p-value of 0.000 <0.05. This shows that intellectual capital has a positive and significant influence on profitability. Thus hypothesis 1 which states that intellectual capital has a positive and significant effect on profitability is **accepted**.

Effect of profitability on firm value

The effect of the standardized beta coefficient of the direct effect of profitability on firm value is 0.575 with a p-value of 0.000 <0.05. This shows that profitability has a positive and significant influence on firm value. Thus hypothesis 2 which states that profitability has a positive and significant effect on firm value is **accepted**.

The effect of intellectual capital on firm value

The effect of the standardized beta coefficient of the direct effect of intellectual capital on firm value is 0.342 with a p-value of 0.011 <0.05. This shows that profitability has a positive and significant influence on firm value. Thus hypothesis 3 which states that intellectual capital has a positive and significant effect on firm value is **accepted**.

Profitability mediates the relationship between intellectual capital and firm value

The path coefficient value of the influence of profitability in mediating the effect of intellectual capital on firm value is 0.470 and the p-value Sobel test is 0.009 <0.005. This shows that profitability can mediate the relationship between intellectual capital and firm value. Thus hypothesis 4 which states that profitability can mediate the effect of intellectual capital on firm value is **accepted.**

Based on the results of the coefficient analysis path and Sobel Test test above, table 6 the following presents the test results hypothesis.

Table 6 Hypothesis Testing

	Variable	Result
H1:	Effect of intellectual capital on profitability	Accepted
H2:	Effect of profitability on firm value	Accepted
H3:	The effect of intellectual capital on firm value	Accepted
H4:	Profitability mediates the relationship between intellectual capital and firm value	Accepted

Source: Processed Data, 2023

V. DISCUSSION

Effect of intellectual capital on profitability

The results of hypothesis testing show that the proposed first hypothesis is accepted. Thus the hypothesis which states that intellectual capital has a positive and significant effect on profitability empirically can be proven in Manufacturing Companies in the Pharmaceutical Sub Sector, especially in Manufacturing Companies in the Pharmaceutical Sub Sector which are listed on the Indonesia Stock Exchange. This means, the better the processing and utilization of a company's intellectual capital, this will be followed by an increase in profitability. Conversely, if the intellectual capital of a company is not managed and utilized properly, the level of profitability of the company will be smaller.

The results of this study are supported by resource-based theory which focuses on the role of resources in increasing a company's competitive advantage. Resource-based theory asserts that unique, rare, and difficult to imitate resources and capabilities by competitors can be the basis for sustainable competitive advantage. In this case, intellectual capital can be considered as a type of strategic resource that meets these criteria. Intellectual capital that is well managed can provide competitive advantages for companies through product innovation, efficient operational processes, and the ability to adapt to market changes. By focusing on the development and utilization of intellectual capital, companies can build a strong foundation to create competitive advantages that are difficult for competitors to imitate which will ultimately have an impact on increasing company profitability.

The results of this study are consistent with the opinions of [35], namely intellectual capital has a positive and significant effect on profitability. These results also support the research of [36] in their research on intellectual capital in improving company financial performance in banking companies, he found that intellectual capital was successful in increasing company performance effectively. In addition, [14], [15] and [16] also show that intellectual capital has a significant effect on profitability. On the contrary, the results of this study contradict the research of [37] and [38] which reveal that intellectual capital has no effect on profitability.

Effect of profitability on firm value

The results of hypothesis testing show that the proposed 2nd hypothesis is accepted. Thus the hypothesis which states that profitability has a positive and significant effect on firm value empirically can be proven in Manufacturing Companies in the Pharmaceutical Sub Sector, especially in Manufacturing Companies in the Pharmaceutical Sub Sector which are listed on the Indonesia Stock Exchange. That is, the greater the level of profitability produced by a company, this will be followed by an increase in the value of the company. Conversely, if the level of profitability generated by the company is low, the value of the company will be smaller.

The results of this study are supported by signaling theory. Signal theory in the context of the relationship between profitability and firm value refers to the view that the level of corporate profitability can function as an important signal for external stakeholders. A high level of profitability is often interpreted as an indication that a company has good operational performance, efficient management, and promising growth potential. As a positive signal, a consistent level of profitability can attract investors and creditors, increase market perceptions of the company, and ultimately influence the assessment of company value.

The results of this study are consistent with the opinions of [17], [18], [19] that profitability has a positive effect on increasing company value. The greater the profitability generated by a company, the greater the value of the company. However, different results were obtained in the study by [21] and [39] which state that profitability has no effect on firm value.

The effect of intellectual capital on firm value

The results of hypothesis testing indicate that the proposed 3rd hypothesis is accepted. Thus the hypothesis which states that intellectual capital has a positive and significant effect on firm value empirically can be proven in Manufacturing Companies in the Pharmaceutical Subsector, especially in Pharmaceutical Subsector Manufacturing Companies in Indonesia. That is, the better the intellectual capital of a company, this will be followed by an increase in the value of the company. Conversely, if the intellectual capital of a company is not managed and utilized properly, the level of corporate value will be smaller.

The results of this study are supported by the resource-based theory which states that intellectual capital, as a form of invisible asset, can be a strategic resource that contributes to the creation of corporate value. Within this theoretical framework, intellectual capital is considered not only as a cost incurred for the development of knowledge and innovation, but also as an investment that has the potential to generate long-term competitive advantage. Companies that are able to manage intellectual capital effectively and integrate it into their business strategy can create superior products, quality services, and innovations that set them apart from competitors, which in turn can increase company value.

This research is consistent with the research of [40] which states that intellectual capital can increase firm value. This is also the same as the research by [24] and [41] which state that intellectual capital has a positive effect on increasing company value. In contrast, this study has different results from [25] research which states that intellectual capital has no effect on firm value. This is also supported by research by [26] which states that company value is not affected by the level of company intellectual capital.

Profitability mediates the relationship between intellectual capital and firm value

The results of hypothesis testing show that the proposed 4th hypothesis is accepted. Thus the hypothesis which states that profitability mediates the effect of intellectual capital on firm value empirically can be proven in Pharmaceutical Manufacturing Companies, especially in Pharmaceutical Manufacturing

Companies in Indonesia. That is, intellectual capital can affect the value of the company through its influence on profitability. In other words, better intellectual capital can increase profitability, which in turn can contribute to increasing firm value.

These results are in line with resource based theory and signaling theory. Resource-based theory offers a perspective on how intellectual capital can function as an invisible asset that contributes to competitive advantage and, ultimately, enhances firm value. Within this framework, well-managed intellectual capital can lead to increased profitability, which in turn can be a strong signal to stakeholders regarding the quality and financial health of a company. Thus, signaling theory can explain how profitability acts as an intermediary in the relationship between intellectual capital and firm value, articulating how positive financial performance can signal to the market about the competitive advantage generated by intellectual capital.

The results of this study are consistent with the opinion of [27], namely profitability can mediate the effect of intellectual capital on firm value. These results also support the research of [28], in their research on profitability in mediating the effect of intellectual capital on firm value in banking companies, found that profitability is able to mediate the relationship between intellectual capital and firm value effectively. In addition, [29] and [30] also show that profitability can mediate the effect of intellectual capital on firm value. On the contrary, the results of this study contradict the research of [31] and [32] which reveal that profitability cannot mediate intellectual capital not to firm value.

VI. CONCLUSION

This study aims to examine the direct and indirect effects of intellectual capital, profitability and firm value. By using a sample of 9 pharmaceutical sub-sector manufacturing companies listed on IDX for the 2018-2022 period which have gone through various testing processes, this study resulted in the following conclusions (1) intellectual capital has a positive and significant effect on profitability. (2) profitability has a positive and significant effect on firm value (3) Intellectual capital has a positive and significant effect on firm value, and (4) profitability can mediate the effect of intellectual capital on firm value. For further research, researchers can use other variables related to firm value and expand the research object by developing research samples not only in pharmaceutical sub-sector manufacturing companies but to increase the number of samples from other sector companies, so as to allow differences in the results of this study.

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