The Role of Corporate Governance in Influencing the Relationship Between Intellectual Capital and Financial Performance in the VUCA Era

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Abstract: This paper examines the ability of corporate governance in moderating the relationship between intellectual capital and financial performance. Resource Based Theory explains how companies use their resources to achieve financial performance, depending on their management. Intellectual capital is measured by the Value Added Intellectual Capital (VAIC) model, which consists of three components (VACA, VAHU, STVA). Financial performance in this paper is measured using Return on Assets (ROA). Corporate governance in this paper includes independent board of commissioners, managerial ownership and institutional ownership. This paper uses secondary data in the form of annual reports of manufacturing companies listed on the Indonesia Stock Exchange. The sample obtained by purposive sampling method amounted to 141. Data analysis was carried out by Moderating Regression Analysis (MRA), previously, the classical assumption test was carried out. The results showed that managerial ownership and institutional ownership were able to moderate the relationship between intellectual capital and financial performance. Meanwhile, the independent board of commissioners is unable to moderate the relationship berween intellectual capital and financial performance. The conclusion is that the amount of share ownership by managerial or institutional is able to control the company's intellectual capital in creating good financial performance. However, the proportion of independent commissioners is not able to influence the relationship between intellectual capital and financial performance. This research is able to contribute to the knowledge that intellectual capital is able to influence the achievement of the company's financial performance, which is influenced by the size of managerial ownership and institutional ownership. The VUCA era which is characterized by volatility, uncertainty, complexity and ambiguity certainly has an impact on the survival of an entity. Entities or companies with good governance will be able to manage their resources well (including intellectual capital) in producing optimal financial performance. Further research is suggested to add control variables such as firm size, or conduct research with the period before, during or after the crisis in a country.

Keywords: Intellectual Capital, Corporate Governance, Financial Performance

1. Introduction

The VUCA (Volatility, Uncertainty, Complexity, Ambiguity) era has characterized the environment in recent years. This era has become new challenges and demands for company managers. The VUCA era was marked by turbulent changes in the primary market, increased uncertainty, increased risk and a growing number of new competitors.

Therefore, company managers must remain focused on the company's long-term mission [1]. According to [2], changing environmental and economic conditions will of course affect the flexibility of the company. Companies must be able to adapt and develop and move quickly in the face of change in order to survive in the competition. Management must manage the company well through technology and company performance aspects [3].

All companies in various fields are deeply affected by the conditions that are volatile, uncertain, complex and ambiguous. For this reason, in achieving good performance, every company must be able to manage resources properly and optimally. The company's performance is the main factor that is considered by potential investors to determine their shares. A company will definitely improve and monitor its financial performance so that the shares in the company are still in demand by investors. according to [4], various studies show that to achieve good performance, intellectual capital can be used as an influential factor. [5], [6], [7] have agreed that intellectual capital stands out as a prime mover, as a strategic asset, for the success of a company.

According to [8] "Intellectual capital is a key element in an organization's future earnings potential, with the close and contingent relationship between investments in R&D, innovation, human resources, and external relations, which can determine an organization's competitive advantage." Most authors state that intellectual capital is a multidimensional concept that is useful for describing the intangible assets of knowledge embedded in a company [3]. [9] found a positive relationship between intellectual capital and financial performance (ROE) and market performance (TQ) of Islamic banks. In conventional banks there is a positive relationship between intellectual capital with operational performance and financial performance. [6] also found three components of intellectual capital and the dimensions of intellectual capital can affect company performance that leads to innovation. In 2019, a similar study was conducted by [7] in Pakistan. In his research it was found that among the three components of value added intellectual coefficient (VAIC), efficiency of capital used (CEE), and efficiency of human capital (HCE) had a significant positive effect and structural capital efficiency (SCE) was found to have a significant negative impact on profitability. bank. In addition, in his research there are other factors that were found to have a significant negative effect on profitability, these factors include GCG (board size and board meetings), credit risk, industry concentration and economic growth. However, in contrast to the results found by [10], where it turns out that the GCG factor has no effect on financial performance and firm value. A similar study in Indonesia conducted by [11] also found that not all indicators of governance mechanisms affect financial performance as measured by ROE and ROA. In this study, it was found that independent commissioners were able to influence financial performance from the use of equity (ROE), but had no effect on ROA. Another mechanism indicator, namely the activity of the board, proved to have no effect on the company's performance (ROE and ROA).

[4] researched more broadly and found that intellectual capital and its components can affect earnings quality through improving financial performance. Similar research has also been conducted in Indonesia by [12] who found that intellectual capital in general affects financial performance. Although not all research hypotheses are supported. Using the VAIC model or the A-VAIC model, the results provide deeper and new insights into how each of the components of intellectual capital efficiency (human capital, structural capital, capital employed, innovation capital) relates to financial performance (return on assets, return on equity, asset turnover, price-to-book ratio).

Various studies have been carried out in various countries, and the results can be concluded that research is still needed on the determinants of the company's financial performance. The findings of previous studies have narrowed that good governance factors and intangible capital factors (such as intellectual capital and social capital) are indispensable for improving company performance in the current VUCA era. Model development, further improvement in measuring intellectual capital is still needed. These factors are indispensable in predicting the company's financial performance [13]. According to [9] financial performance is an indicator of the effectiveness and efficiency of a company to achieve its goals. Effectiveness will be achieved if management is able to properly manage its resources in achieving the goals that have been set. Given this important role, good management of the company must be improved. according to [10] company management that implements a good corporate governance system, of course, will ensure the welfare and provide protection for the company's stakeholders. The role of good governance will greatly impact on optimizing the available resources (various capital, including intellectual capital) to achieve good performance.

The term corporate governance emerged as a tool, mechanism and structure used to examine managerial behavior, limit opportunistic behavior of managers, improve the quality of company information and regulate relations between stakeholders so that their interests can be accommodated in a balanced manner. The purpose of self-serving behavior examination is to create operational efficiency of the company. Various events experienced by the business world in all parts of the world have encouraged good corporate governance practices. For example, the stock market crash in 1929 in the United States, the savings and loan financial crisis, the international credit and commercial scandal, and the Asian crisis in early 1997. According to [14], The issue of corporate governance in Asia became a concern after the 1997 Asian crisis. This issue is also increasingly interesting to be studied by academics, after the Enron case in 2008. [15] argues that corporate governance issues can be investigated for their effect on corporate performance. Quality governance is based on the principles of transparency, stakeholder relations, the board of directors and the company's ownership structure.

Indonesia has been a part of the ASEAN Economic Community since 2015. Therefore, it is necessary to encourage companies to improve business practices in Indonesia in order to have high competitiveness. Efforts to strengthen competitiveness can be carried out by improving governance practices. Good governance is one way to spur financial and operational performance. In addition, good governance also increases investor confidence, while providing access to incoming capital. Aspects of corporate governance are based on theory [16] in order to function as a medium to balance the differences in interests between company managers and other stakeholders. The perspective contained in corporate governance actually contains the paradigm of shareholders and stakeholders

(interested parties). This difference refers to an understanding of the company's conception of the purpose of its formation so that it affects the needs of government apparatus. This perspective changes the company's mindset that companies must pay attention to the interests of stakeholders because their activities will have an impact on the community considering that the company has interests with various parties both in the company's external and internal environment. Thus, the relationship that is built must be based on trust and refers to business ethics in strategic decision making [10].

Based on the description above, it can be said that good governance is very necessary for the company. Good governance can support the optimization of the use of resources aimed at achieving better performance. Therefore, the purpose of this study is to examine the effect of intellectual capital on company performance, and to see how the role of governance (independent board of commissioners, managerial ownership, institutional ownership) in memorizing the relationship between intellectual capital and financial performance.

1.1. Agency Theory

Agency theory has developed since the presence of research from [16], which says agency theory predicts that all individuals play a role in self-interest, and agency theory assumes about agency interactions, that interaction is an agency relationship that arises due to the bond between the agents. investors and company management who are the managers of the company. The point of view of agency relations is the foundation used in studying Good Corporate Governance. Agency theory interpreting humans as individual beings who are always busy with their own interests, have rational dependencies and tend not to want risks to befall humans. Agency theory also interprets good organizing as a problem among organizational members that must be minimized. In addition, in an organization there is often a misalignment between the principal and the agent in making information. In addition, the agency's anchovies also interpret information as the basic material for corporate governance that is traded, this is done so that the company's mechanisms run effectively and agency conflicts can be minimized.

1.2. Resource Base Theory

Resources Based Theory (RBT) is a theory that explains how a company utilizes and manages its resources as well as possible, so that it gains a competitive advantage and can create added value for the company. The better a company is in managing intellectual capital, the company will get added value which will improve the company's performance for the better, so that it will affect the owners of the company's interests [17]. Resources Based Theory was first presented by [18], in his work entitled "A Resource-based view of the frim" which states that if a company can optimally control intellectual capital, then the company will create added value for itself. Thus this theory is to explain how a company creates value added, namely from managing the intellectual capital in the company. Companies that own, and are able to control and can utilize important strategic assets, both intangible assets and tangible assets, it can be said that the company is more victorious in business competition and creates good corporate financial performance.

1.3. Hypothesis Development

Influence of Intellectual Capital on the financial performance. Intellectual capital is an intangible asset and a strategic asset for the sustainability of a company in an era of high competition [19]. A company that has quality human resources and high credibility will be able to make financial statements with high quality accuracy and can minimize the occurrence of fraud, therefore intellectual capital can contribute to improving profitability. Resource Based Theory developed by [20] illustrates that a company that is able to manage its resources properly and correctly, is able to create added value to the company. Based on the resource-based view, intellectual capital should create value for the company. The better a company is in managing intellectual capital, the better the asset management of a company will be. In managing assets well, it will increase the profits obtained from a number of company assets as measured by ROA. This means that intellectual capital can affect the company's profitabiliy (ROA). [9] measured the main components of intellectual capital and their impact on company performance, and the results had a significant positive effect. The results of this study are in line with [12];[3];[9];[7];[21]; [22]which concludes that in general intellectual capital affects the company's performance. The explanation of theoretical logic and previous research can be the background for the hypothesis, H1: Intellectual capital (VAIC) has an effect on the financial performance of manufacturing companies.

Independent commissioners influence the relationship between intellectual capital and financial performance. Independent commissioners are parties who are not affiliated with the company. With the presence of this board will be able to encourage management in making a decision to improve company performance. The independent board of commissioners is very effective and efficient in carrying out the function of supervising the management of a company so that the company has GCG principles [11];[23]. In implementing proper Good Corporate Governance, namely by means of supervision carried out by independent commissioners, it will certainly provide direction for management in decision making, resource management and encourage the achievement of accountability and transparency regarding the company's financial performance. The higher the proportion of the independent board of commissioners, it shows that the board of commissioners who carry out the role of controlling in a company will be better. This supervision is able to encourage the management to decide to optimize intellectual capital in achieving better performance. The more independent members of the board of commissioners, the better the level of integrity in the supervision of the board of commissioners will be [14]. This is in line with research [24] which states that board independence has an effect on financial performance. Stated that the independence of the board is the percentage of the ratio of the number of independent commissioners to the entire board of directors. This means that the more independent the board of directors, the more independence that can be achieved [14]. Previous theories and research underlies the formulation of the hypothesis, H2: Independent commissioners have an effect on the relationship between intellectual capital and financial performance.

The effect of managerial ownership on the relationship between intellectual capital and financial performance. [19] stated that several previous researchers agreed that

managerial ownership is part of corporate governance. Managerial ownership can help resolve conflicts between managers and shareholders. According to [25] managerial ownership motivates managers to monitor the company's performance positively to increase the return on their ownership in the company. [19] also concludes the results of several previous researchers that a high level of managerial ownership contributes to firm performance. It is also found that managers who have higher ownership in the company tend to make investment decisions that focus mainly on long-term business value. The big decisions include investments in long-term projects as well as intellectual capital. On the other hand, managers with lower managerial ownership or no ownership are found to focus on investment decisions that provide a short-term increase in value so that managers can gain personal benefits from the increase. Given the importance of intellectual capital, [26]investigated the relationship between ownership, intellectual capital proxy and firm value. The researchers concluded that there is a direct relationship between ownership and business value. This is supported by the results of research (Ahmed et al. 2019) which states that intellectual capital has been shown to positively affect not only company performance, so it is highly recommended that managers should take the initiative to invest more of their resources in intellectual capital. The explanation of the logic of the theory and previous research underlies the hypothesis, H3: Managerial ownership affects the relationship between intellectual capital and financial performance.

The effect of institutional ownership on the relationship between intellectual capital and financial performance. Institutional ownership is part of the aspect of good corporate governance. Institutional ownership plays a role in controlling management not to carry out activities that will harm the shareholders of the company. Supervision carried out by institutional investors can prevent waste and can utilize the company's resources (one of which is intellectual capital) properly and efficiently. Therefore, the higher the percentage of institutional share ownership, it will create more effective supervision and the impact on financial performance will increase [25]. Large institutional ownership will gain power under tighter control, thus fortifying opportunistic behavior on the part of managers, and for managers who profit opportunistically in the interests of individuals [16]. With supervision and control carried out effectively, it will reduce the occurrence of financial fraud by managers which in the end will have an impact on profits in the company which will reflect the financial statements of a company. [19] concluded, several previous studies found a moderating effect of institutional ownership on the relationship between intellectual capital and financial performance. H4: Institutional ownership affects the relationship between intellectual capital and financial performance.

2. Research Method

2.1. Population and Sample

This study uses the population of manufacturing companies on the IDX (Indonesian Stock Exchange) in 2017-2019. Where in this study uses data from the 2017-2019 financial statements, because this data is the last data that is assumed to be relatively consistent before being affected by the COVID-19 pandemic conditions. The sample in

this research is using purposive sampling method. The sample selection criteria used are: 1) Manufacturing companies that have been listed on the IDX and have also been published through the official website of the Indonesia Stock Exchange http://www.idx.co.id, namely in 2017-2019. 2) Manufacturing companies that provide complete and consistent financial reports during 2017-2019. 3) Manufacturing companies that present their financial statements in rupiah during 2017-2019. 4) During the 2017-2019 range, manufacturing companies did not face a deficit in their financial statements. 5) Completely presented data information includes information on the variables used during the research period. Based on these criteria, 141 sample data were obtained.

2.2. Data Types and Sources

The type of data used is secondary data originating from the documentation of a company which is then processed using quantitative analysis methods with the SPSS 26 program. Where secondary data is data obtained from various sources. The secondary data in this study is the finances of a manufacturing company in the 2017-2019 period that has been registered on the IDX (Indonesian Stock Exchange) obtained from www.idx.co.id.

2.3. Research Variables and Operational Definitions

Company Financial Performance. The company's financial performance is the ability of a company to carry out its operations. Where the measurement of financial performance using ROA will describe the ability of the invested capital as a whole asset is an important thing to note because asset financing is very expensive. Therefore, it is expected to be able to provide optimal results in upholding the operational activities of the company [7]. The company's financial performance is measured through Return On Assets (ROA) with the formula: *Return on Asset = Earning After Tax/Total Asset* (1)

Intellectual Capital. Intellectual Capital is a combination of intangible assets or resources such as technical skills, insightful knowledge, professional skills and expertise in their fields, information, organizational structure, customer relations, databases, innovation, honesty or faith and values [3]. Intellectual capital is often used as the main factor in determining profit in a company. In this study, intellectual capital was measured using the Value Added Intellectual Coefficient (VAIC) method. VAIC is the sum of VACA, VAHU and STVA, which is described by the following formula: VAIC = VACA + VAHU + STVA (2)

Independent Board of Commissioners. The independent board of commissioners is an internal control mechanism whose job is to oversee top management in ensuring that the company implements Corporate Governance. The existence of an independent board of commissioners is expected to create Good Corporate Governance in the company [24]. independent board of commissioners follows: The is formulated as Independent board of commissioner = $\frac{\text{Number of independent commissioner}}{\text{Tabal number of summing in the set of th$ Total number of commissioner (3)

Managerial ownership. Managerial ownership is shareholders who come from the management such as directors and commissioners who actively participate in making company decisions. Managerial ownership is usually measured in percentage terms[25]. So the size of managerial ownership in the company indicates the similarity of interests between shareholders and management so as to reduce agency conflicts that occur in the formulated company. Managerial ownership is as follows [19]: The number of share owned by manager x 100% managerial ownership = (4)Number of shares outstanding

Institutional Ownership. Institutional ownership is the percentage of share ownership in a company owned by outside parties such as government agencies, foreign institutions, legal entities, and trust funds and other institutions and institutions. Where the institutional presence is very meaningful for management monitoring so as not to carry out activities that can harm the owners of the company or shareholders. Institutional ownership is formulated as follows [25]:

institutional ownership = $\frac{\text{The number of share owned by institutional}}{\text{Number of shares outstanding}} \times 100\%$ (5)

3. Results and Discussion

3.1. Descriptive Statistical Data Analysis

Descriptive statistics is a data analysis technique that aims to describe the description of the characteristics of the object being researched in the form of variables, samples or populations that can be seen through the mean, standard deviation, maximum, and minimum values so that they are easier to understand.

| | Mean | Std. Deviation | N |
|-------|----------|----------------|-----|
| ROA | 6.3479 | 5.14943 | 141 |
| IND | 41.4197 | 9.21570 | 141 |
| INS | 63.4316 | 23.40129 | 141 |
| MANAG | 18.5735 | 18.02403 | 141 |
| IC | 2.8430 | 1.87150 | 141 |
| mod1 | 117.6056 | 80.93867 | 141 |
| mod2 | 179.2301 | 166.30348 | 141 |
| mod3 | 89.7783 | 89.24127 | 141 |

Table 1. Descriptive Statistics

Based on the results of the descriptive statistical table, it can be seen that the number of valid data samples studied were 114 samples from 2017-2019. From the results of descriptive statistical tests, it can be seen that all the variables used in the study have an average value greater than the standard deviation. This means that all the variables used in the study have an even distribution of data.

3.2. Classic assumption test

3.2.1. Normality test

| - | e | |
|----------------------------------|----------------|---------------------|
| | | Unstandardized |
| | | Residual |
| N | | 141 |
| Normal Parameters ^{a,b} | Mean | ,0000000 |
| | Std. Deviation | ,95079830 |
| Most Extreme Differences | Absolute | ,049 |
| | Positive | ,041 |
| | Negative | -,049 |
| Test Statistic | | ,049 |
| Asymp. Sig. (2-tailed) | | ,200 ^{c,d} |
| a. Test distribution is Normal. | | |

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Based on the SPSS output in the table above, it can be seen that the significance value of the Kolmogorov Smirnov one-sample test results is 0.200, where 0.073 > 0.05 so that the data can be said to be normally distributed.

3.2.2. Autocorrelation Test

Table 2. Model Summary^b

| | | | | Adjusted R | Std. Error of the | |
|-------|---|-------|----------|------------|-------------------|---------------|
| Model | R | | R Square | Square | Estimate | Durbin-Watson |
| 1 | | .387ª | .149 | .105 | 5.87259 | 1.839 |

a. Predictors: (Constant), mod3, IND, mod2, INS, MANAG, mod1, IC

b. Dependent Variable: ROA

The Durbin Watson value in the table is 1.839, the dl value obtained is 1.6522 and the du value is 1.7988. Based on the results obtained, it can be concluded that dU d (4 - dU). These conditions indicate that the data analysis in this study is free from autocorrelation symptoms.

| Table 3. | Multiple I | Linear Regression | Analysis Results |
|----------|------------|-------------------|------------------|
|----------|------------|-------------------|------------------|

| | | Unstandardized C | oefficients | Standardized Coefficients | | |
|-------|------------|------------------|-------------|------------------------------|--------|------|
| Model | | В | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | -20.586 | 7.709 | | -2.670 | .009 |
| | IND | .340 | .137 | .608 | 2.480 | .014 |
| | INS | .131 | .058 | .595 | 2.241 | .027 |
| | MANAG | .183 | .082 | .641 | 2.243 | .027 |
| | IC | 8.317 | 2.851 | 3.023 | 2.917 | .004 |
| | mod1 | 084 | .049 | -1.321 | -1.705 | .091 |
| | mod2 | 049 | .020 | -1.578 | -2.388 | .018 |
| | mod3 | 067 | .024 | -1.158 | -2.747 | .007 |

Moderated Regression Analysis (MRA). Moderated Regression Analysis (MRA) is a statistical method that explains that a regression equation contains an element of interaction between two or more independent variables. The equation model in this study is as follows: $Y = \alpha \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \beta_4 X4 + \beta_5 X1X2 + \beta_6 X1X3 + \beta_7 X1X4 + e$ ROA= -20,586 + 8,317X1 + 0,340X2 + 0,131X3 - 0,084 X1X2 - 0,049X1X3 - 0,067X1X4 + e

3.2.3. Coefficient of Determination Analysis (R²)

Table 4. The Result of the Coefficient of Determination

| | | | | Adjusted | R |
|-------|---|-------|----------|----------|------|
| Model | R | | R Square | Square | |
| 1 | | .387ª | .149 | | .105 |

Table 5 shows the correlation coefficient R of 0.387. This value indicates a weak relationship between the independent variable and the dependent variable. The Adjusted R Square value of 0.105 indicates the ability of the independent variable to explain the dependent variable by 10.5% while the remaining 89.5%, the variation of the profitability variable is explained by other variables outside the research model.

3.2.4. Model Test.

Table 5 ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | 554.618 | 7 | 79.231 | 3.337 | .003 ^b |
| | Residual | 3157.706 | 133 | 23.742 | | |
| | Total | 3712.325 | 140 | | | |

a. Dependent Variable: ROA

b. Predictors: (Constant), mod3, IND, mod2, INS, MANAG, mod1, IC

The results of the ANOVA test output in table 6 show that the significance value is 0.003. The significance value less than 0.05 indicates that all the determinant variables (intellectual capital, independent board of commissioners, managerial ownership, institutional ownership, and moderating variables simultaneously have a significant effect on profitability.

Based on the output results in the table above, it shows that the intellectual capital variable has a positive effect on profitability with a significance value of 0.004. The independent board of commissioners variable was not proven to be able to moderate the relationship between intellectual capital and profitability as indicated by a significance value of 0.091. The managerial ownership variable is proven to be able to moderate the relationship between intellectual capital and profitability, which is indicated by a significance value of 0.018 and a regression coefficient of -0.049. Institutional ownership

variable is able to moderate the relationship between intellectual capital and profitability, which is indicated by a significance value of 0.007 and a regression coefficient of -0.067.

| | | | | Standardized | | |
|-------|------------|------------------|-------------|--------------|--------|------|
| | | Unstandardized C | oefficients | Coefficients | | |
| Model | | В | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | -20.586 | 7.709 | | -2.670 | .009 |
| | IND | .340 | .137 | .608 | 2.480 | .014 |
| | INS | .131 | .058 | .595 | 2.241 | .027 |
| | MANAG | .183 | .082 | .641 | 2.243 | .027 |
| | IC | 8.317 | 2.851 | 3.023 | 2.917 | .004 |
| | mod1 | 084 | .049 | -1.321 | -1.705 | .091 |
| | mod2 | 049 | .020 | -1.578 | -2.388 | .018 |
| | mod3 | 067 | .024 | -1.158 | -2.747 | .007 |

Table 6. T-Test Statistic

4. Discussion

4.1. Influence of Intellectual Capital on the financial performance of manufacturing companies.

Intellectual capital is an intangible asset and a strategic asset for the sustainability of a company in the VUCA era (Volatility, Uncertainty, Complexity, Ambiguity). A company is required to be able to manage its resources. Companies that have high intellectual capital will be able to minimize the occurrence of fraud, therefore intellectual capital can improve the company's financial performance. This study found empirical evidence that manufacturing companies listed on the Indonesia Stock Exchange have intellectual capital values that can affect the financial performance they produce. These findings are in accordance with the Resource Based Theory which explains that intellectual capital must create value for the company. The sample of manufacturing companies studied in 2017-2019 shows that companies that are getting better at managing intellectual capital show better asset management, so the level of profitability (as measured by ROA) is also getting higher. The results of this study are in line with [9]; [12];[3]; [7]; [21] who found that in general intellectual capital has a positive influence on company performance.

4.2. Effect of independent board of commissioners on the relationship between intellectual capital and financial performance.

The results showed that the independent board of commissioners variable did not prove to be a moderating variable on the relationship between intellectual capital and financial performance. This is possible because the independent board of commissioners is a party that is not directly affiliated with the company. Supervision by an independent board of commissioners on the management of the company is very necessary. However, in making decisions on resource management, it is not necessary to have a large percentage of independent board of commissioners. On average, manufacturing companies in Indonesia have an independent board of commissioners proportion of 41.42%. Almost all companies have almost the same proportion of independent commissioners, but their intellectual capital and ROA values are very diverse. The results of this study are not in line with [14]; [24] which states that the independence of the board has an effect on financial performance. The number of independent commissioners compared to the entire board of directors does not have an impact on the management of intellectual capital in creating good financial performance.

4.3. The effect of managerial ownership on the relationship between intellectual capital and financial performance.

According to agency theory, managerial ownership can be an effective way of aligning the interests of management and company owners, thereby reducing agency conflicts [25]. This study resulted in the finding that managerial ownership is able to moderate the relationship between intellectual capital and the company's financial performance. This means that the size of managerial ownership in a company is able to affect the efficiency of intellectual capital management, so that it affects the achievement of good performance. The results of this study are in line with the findings of [19] and [26] which state that managerial ownership is able to provide a moderating effect on the relationship between intellectual capital and firm performance. However, this study found a negative regression coefficient value which indicates that managerial ownership weakens the relationship between intellectual capital and financial performance. Higher levels of managerial ownership in companies tend to make investment decisions other than intellectual capital, for example investing in other capital in the form of tangible assets that will be easier to measure and control. Higher levels of managerial ownership were found to be more focused on investment decisions that provide increased short-term value.

4.4. The effect of institutional ownership on the relationship between intellectual capital and financial performance.

In addition to managerial ownership, institutional ownership is also part of the aspect of good corporate governance. Institutional ownership plays a role in controlling management not to carry out activities that will harm the shareholders of the company. Supervision carried out by institutional investors can prevent waste and can utilize the company's resources (one of which is intellectual capital) properly and efficiently. Therefore, the higher the percentage of institutional share ownership, it will create more effective supervision and the impact on financial performance will increase [25]. This study found that institutional ownership is able to moderate the relationship between intellectual capital and profitability. Large institutional ownership will have stricter supervisory powers, so that it can control the management for more efficient investment decision making. Large institutional ownership is able to direct the management to optimize intellectual capital in order to achieve a high level of profitability. From the agency theory point of view, institutional ownership can fortify managers' opportunistic behavior [16]. With supervision and control carried out effectively, it will reduce the occurrence of financial fraud by managers which in the end will have an impact on profits in the company which will reflect the financial statements of a company. The results of this study are in line with research conducted by [19] and [25] which found a moderating effect of institutional ownership on the relationship between intellectual capital and financial performance.

5. Conclusion and Suggestion

This study aims to see whether intellectual capital has an effect on financial performance. And to see whether corporate governance consisting of independent commissioners, managerial ownership and institutional ownership is a moderating variable of the relationship between intellectual capital and the financial performance of manufacturing companies in Indonesia. Based on the results of research and analysis that have been carried out, it can be said that in manufacturing companies in Indonesia in 2017-2019, intellectual capital affects the company's financial performance. Thus, manufacturing companies in Indonesia can manage their intellectual capital to achieve excellence in the form of good financial performance. These findings are in accordance with the Resources Based Theory. The variables of managerial ownership and institutional ownership are able to moderate the relationship between intellectual capital and financial performance. The size of managerial ownership and institutional ownership in manufacturing companies in Indonesia is able to play an effective role in managing intellectual capital, so that it has an impact on the company's financial performance. However, the independent board of commissioners variable was found to have no moderating effect on the relationship between intellectual capital and financial performance. This may be due to the fact that the independent board of commissioners is not a party directly affiliated with the company. Limitations. This study has limitations on the low coefficient of determination, namely 0.105 (10.5%). This value indicates the low ability of the determinant variable in explaining variations in the company's financial performance. In addition, this research period ended in 2019, where this period has not yet passed the COVID-19 pandemic period which indicates that economic conditions have changed almost all over the world. Suggestions for further research is to expand the object of research, not only to manufacturing companies, or to test other industrial sectors according to the existing phenomena. Further research can also examine the research period before and during the COVID-19 pandemic, so that it can make an increasingly relevant contribution to the development of science and the development of the business world.

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References

- [1] P. Klarner, G. Probst, and M. Kircher, "The forward-looking board of directors," *Deloitte & Swiss Board Institute*, 2020. .
- [2] M. Iranmahd, M. Moeinaddin, N. Shahmoradi, and F. Heyrani, "The effect of intellectual capital on institutional ownership and firm performance," *Int. J. Acad. Res. Accounting, Financ. Manag. Sci.*, vol. 4, no. 2, pp. 5–12, 2014, doi: 10.6007/IJARAFMS/v4-i2/724.
- [3] A. Buallay, R. Cummings, and A. Hamdan, "Intellectual capital efficiency and bank's performance: A comparative study after the global financial crisis," *Pacific Account. Rev.*, vol. 31, no. 4, pp. 672–694, 2019, doi: 10.1108/PAR-04-2019-0039.
- [4] S. Khajavi, M. H. Ghadirian-Arani, and H. Fattahi-Nafchi, "Intellectual capital and earnings quality: A comprehensive investigation," *Int. J. Learn. Intellect. Cap.*, vol. 13, no. 4, pp. 316–337, 2016, doi: 10.1504/IJLIC.2016.079353.
- [5] S. Nimtrakoon, "The relationship between intellectual capital, firms' market value and financial performance: Empirical evidence from the ASEAN," *J. Intellect. Cap.*, vol. 16, no. 3, pp. 587–618, 2015, doi: 10.1108/JIC-09-2014-0104.
- S. M. Allameh, "Antecedents and consequences of intellectual capital: The role of social capital, knowledge sharing and innovation," *J. Intellect. Cap.*, vol. 19, no. 5, pp. 858–874, 2018, doi: 10.1108/JIC-05-2017-0068.
- [7] M. Haris, H. Yao, G. Tariq, A. Malik, and H. Javaid, "Intellectual Capital Performance and Profitability of Banks: Evidence from Pakistan," J. Risk Financ. Manag., vol. 12, no. 2, p. 56, 2019, doi: 10.3390/jrfm12020056.
- [8] I. I. R. Council, *Capitals Background Paper For <IR>*, no. March. 2013.
- [9] A. Buallay, A. M. Hamdan, S. Reyad, S. Badawi, and A. Madbouly, "The efficiency of GCC banks: the role of intellectual capital," *Eur. Bus. Rev.*, vol. 32, no. 3, pp. 383–404, 2020, doi: 10.1108/EBR-04-2019-0053.
- [10] S. Kurniati, "Stock returns and financial performance as mediation variables in the influence of good corporate governance on corporate value," *Corp. Gov.*, vol. 19, no. 6, pp. 1289–1309, 2019, doi: 10.1108/CG-10-2018-0308.
- [11] R. D. Pratiwi and A. Chariri, "Effectiveness of The Board of Directors and Company Performance: Corporate Governance Perspective in Indonesia," J. Penelitan Ekon. dan Bisnis, vol. 6, no. 1, pp. 17–27, 2021, doi: 10.33633/jpeb.v6i1.4351.
- [12] N. Soewarno and B. Tjahjadi, "Measures that matter: an empirical investigation of intellectual capital and financial performance of banking firms in Indonesia," J. Intellect. Cap., vol. 21, no. 6, pp. 1085–1106, 2020, doi: 10.1108/JIC-09-2019-0225.
- [13] T. M. Shahwan and A. M. Habib, "Does the efficiency of corporate governance and intellectual capital affect a firm's financial distress? Evidence from Egypt," J. Intellect. Cap., vol. 21, no. 3, pp. 403–430, 2020, doi: 10.1108/JIC-06-2019-0143.
- [14] S. M. Zabri, K. Ahmad, and K. K. Wah, "Corporate Governance Practices and Firm

Performance: Evidence from Top 100 Public Listed Companies in Malaysia," *Procedia Econ. Financ.*, vol. 35, no. October 2015, pp. 287–296, 2016, doi: 10.1016/s2212-5671(16)00036-8.

- [15] T. M. Shahwan, "The effects of corporate governance on financial performance and financial distress: evidence from Egypt," *Corp. Gov.*, 2015, doi: 10.1108/CG-11-2014-0140.
- [16] N. Jensen and W. Meckling, "Theory of the firm: Managerial behavior, agency costs, and capital structure," *J. financ. econ.*, vol. 3, no. 4, pp. 305–360, 1976.
- [17] R. Amit and P. J. H. Schoemaker, "Strategic assets and organizational rent," *Strateg. Manag. J.*, vol. 14, no. 1, pp. 33–46, 1993, doi: 10.1002/smj.4250140105.
- [18] B. Wernerfelt, "A Resource-Based View of the Firm Birger," Strateg. Manag. J., vol. 5, no. 2, pp. 171–180, 1984.
- [19] A. Ahmed, M. K. Khurshid, M. Zulfiqar, and M. U. Yousaf, "Impact of Intellectual Capital on Firm Value: The Moderating Role of Managerial Ownership," *SMART J. Bus. Manag. Stud.*, vol. 15, no. 2, p. 28, 2019, doi: 10.20944/preprints201901.0318.v1.
- [20] J. B. Barney, "Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view," J. Manage., vol. 27, no. 6, pp. 643– 650, 2001, doi: 10.1177/014920630102700602.
- [21] Y. Ni, Y. R. Cheng, and P. Huang, "Do intellectual capitals matter to firm value enhancement? Evidences from Taiwan," J. Intellect. Cap., 2020, doi: 10.1108/JIC-10-2019-0235.
- [22] M. Z. Arshad and D. Arshad, "Intellectual capital and SMEs performance in Pakistan: The role of environmental turbulence," *Int. J. Entrep.*, vol. 22, no. Specialissue, 2018.
- [23] C. I. Asogwa, G. N. Ofoegbu, J. I. Nnam, and O. D. Chukwunwike, "Effect of corporate governance board leadership models and attributes on earnings quality of quoted nigerian companies," *Cogent Bus. Manag.*, vol. 6, no. 1, 2019, doi: 10.1080/23311975.2019.1683124.
- [24] M. Prabowo and J. Simpson, "Independent directors and firm performance in family controlled firms: Evidence from Indonesia," Asia. Pac. Econ. Lit., 2011, doi: 10.1111/j.1467-8411.2011.01276.x.
- [25] H. Noradiva, A. Parastou, and A. Azlina, "The Effects of Managerial Ownership on the Relationship between Intellectual Capital Performance and Firm Value," *Int. J. Soc. Sci. Humanit.*, vol. 6, no. 7, pp. 514–518, 2016, doi: 10.7763/ijssh.2016.v6.702.
- [26] C. J. Liang, T. T. Huang, and W. C. Lin, "Does ownership structure affect firm value? Intellectual capital across industries perspective," J. Intellect. Cap., vol. 12, no. 4, pp. 552–570, 2011, doi: 10.1108/14691931111181724.