Do Intellectual Capital in the Relationship between Governance and Corporate Financial Performance, Strengthening or Weakening?

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ABSTRACT
This study aims to identify and analyze the role of intellectual capital as a moderating variable in the relationship between governance and firm financial performance. Using panel data regression, this study analyses 412 observation units from 103 manufacturing companies listed on the Indonesia Stock Exchange during 2018-2021. The results show that, partially, both governance and intellectual capital have no significant effect on financial performance. However, when the governance variable has interacted with intellectual capital and a moderation test is conducted, it is found that the interaction variable has a significant effect on financial performance with a positive coefficient. This indicates that intellectual capital acts as a pure moderator variable of the positive effect of governance on financial performance. This result implies that in the absence of high intellectual capital, governance proves to be inefficient in its efforts to improve the firm's financial performance.

INTRODUCTION
In agency theory, it is explained that the relationship between company members is based on a contract (Hamdani, 2016). Previously, Jensen and Meckling (1976) defined agency relationships as contracts between managers (agents) and owners or investors (principals) that can cause agency costs. So the concept of good corporate governance developed as a system that is expected to minimize these agency costs as well as be able to minimize conflicts that arise due to differences in interests between agents and principals. One of the roles of corporate governance is to manage conflicts between principals and agents (Kyer, 2020). Therefore, good corporate governance must have a strong internal mechanism to manage various interest groups to reduce high agency costs (Fama, 1980).

Leblanc (2007) argues that corporate governance relates to the mechanism by which principals exercise control over company insiders and management in such a way that their interests can be protected. When a company has a weak governance mechanism structure, the company's inability to overcome agency conflicts becomes higher (Core et al, 1999). The implementation of good corporate governance based on agency theory can be explained through how the company's management relationship as an agent is morally responsible for optimizing the principal's profits and will get compensation according to the contract in return (Wardoyo et al., 2022).

In its efforts to improve financial performance, companies need to strengthen good governance mechanisms, as a basis for managing the resources and risks owned by the company to run more effectively and efficiently to strengthen the company's competitiveness on an ongoing basis (Ansori, 2015). According to Nuhu et al. (2020) to ensure the efficiency of the company's economic performance can be seen from the amount of agency costs. Agency costs are costs that are induced internally by the company as a result of the agency relationship and must be paid to the agent. The lower the agency costs borne by the company, the better the financial
Performance of the company (Wijaya, 2021). Thus, to achieve optimal financial performance, companies need to strengthen their governance mechanisms. Because good corporate governance practices lead to reduced agency costs and improved financial performance (Arora & Sharma, 2016).

Previous research examining the relationship between governance and financial performance has been conducted by Shahwan (2015) who failed to prove a positive relationship between governance practices and financial performance. Meanwhile, Manzaneque et al (2016) and Orindaru et al., (2021) show the opposite result. Meanwhile, Hilaliya and Margaretha (2017) and Sueyoshi et al. (2010) found an insignificant relationship between governance and corporate financial performance. Nevertheless, Bocean and Barbu (2007) suggest in the implications of their findings the importance of improving the implementation of good governance for companies to produce better economic (financial) performance.

The various findings indicate that previous studies that examine the relationship between governance and corporate financial performance are still inconsistent. The diversity and inconsistency of existing empirical results are thought to be due to the existence of other variables that can affect the relationship between governance and financial performance that are not included in the test model. It is explained in the resources-based theory that the performance of each company in the same industry can be different due to differences in the quality of input resources (Marzo, 2014). Resources-based view considers intellectual capital as a strategic asset to optimize firm performance (Nkundabanyanga et al., 2014). Furthermore, Sullivan (2000) defines intellectual capital as knowledge that can be utilized in the input process and can be realized into economic benefits. Through good intellectual capital management, the company’s competitive advantage can be maintained so that business sustainability is more assured (Akpinar & Akdemir, 2014).

The use of intellectual capital for efficient management of the company has been studied by Guthrie et al. (2012). The results were supported by the findings of Fathi et al. (2013) which showed a significant positive relationship between the efficiency of value added from the structural capital component and three financial performance measures (ROE, ROA, GR). Structural capital is one component of intellectual capital. Roos et al (1997) divided intellectual capital components into human capital, relational capital, and structural capital. Regarding the role of intellectual capital in managing the company, Jensen and Meckling (1976) stated that agency conflicts can be reduced by the collective power of strong governance along with the efficiency of intellectual capital (Khan & Ali, 2017).

Based on the explanation above, it is known that intellectual capital has a direct influence on financial performance, it can also have an indirect effect by showing the role of interactions that strengthen the influence of governance on financial performance. To test these theoretical arguments empirically, in addition to testing the effect of governance on financial performance, this study also examines the role of intellectual capital as a moderating variable in the relationship between governance and corporate financial performance. The addition of this moderation test is a novelty that is expected to be able to answer the inconsistencies in the results of previous studies. Thus, the results of this study can have implications for the company’s consideration in using intellectual capital components when forming a governance structure to improve its financial performance.

Agency Theory
Agency theory is a theory that explains how the relationship between capital owners and company management (Shoimah et al., 2021). This theory was first introduced by Alchian & Demsetz (1972) and Jensen & Meckling (1976). Agency theory is an important theory that is the basis of various organizational theories (Kusmayadi et al., 2015). Alchian & Demsetz interpret the company as a nexus of contracts (a series of contracts). By further emphasizing the contract issue, agency theory, and contract incompleteness theory were developed. In agency theory, it is explained that the relationship between company members is based on a work contract (Hamdani, 2016). Jensen and Meckling (1976) suggest that the contract between managers (agents) and owners or investors (principals) that can cause agency costs is commonly called an agency relationship. This is where the concept of good corporate governance emerges as a system that is expected to minimize conflicts that arise due to differences in interests between agents and principals while minimizing agency costs.

The form of the agency relationship can be reflected in an employment contract. The employment contract is a set of rules that have been agreed upon by the principal and agent regarding the profit-sharing mechanism in the form of profit (return) and risk (risk) (Lesmono & Siregar, 2021). This work contract will regulate the proportion of utility of each member of the company by taking into account overall benefits. The implementation of good corporate governance is one of the factors to achieve an optimal work contract. This can be explained by how the company management relationship as an agent is morally responsible for optimizing the principal's profits and will get compensation according to the contract in return (Wardoyo et al., 2022).

Resource-based Theory

Resource-based theory is a theory that discusses how companies can optimize their performance through the use of competitive advantages from their resources. This theory was first pioneered by Penrose (1959) who argued that the nature of the resources of each company is unique and heterogeneous. The uniqueness of these resources can create a competitive advantage, through the creation of added value in the form of better company performance (Ulfa, 2014). According to the resource-based theory view, in business competition, a company can perform well financially and outperform other companies when the company has a way to master and utilize strategically important assets both tangible and intangible (Wernerfelt, 1984). One of the resources owned by the company in the form of intangible and disclosed strategic assets of the company is intellectual capital.

Resource-based view views intellectual capital as an important asset to maintain and create opportunities for organizational growth. According to Huang and Lui (2005), intellectual capital components can better explain variances in corporate financial performance. Meanwhile, the OECD (2006) revealed that intellectual capital management is closely related to corporate governance mechanisms. According to Grant (1996), in the absence of high intellectual capital, governance tends not to increase firm growth. Previously, Jensen and Meckling (1976) stated that agency conflicts can be reduced through the collective power of strong corporate governance and intellectual capital efficiency. Based on this explanation, it can be concluded that intellectual capital has a role that can strengthen the governance mechanism in its efforts to produce high financial performance.

To test these theoretical arguments empirically, the hypotheses proposed in this study are as follows:
H1: governance has a positive effect on corporate financial performance.
H2: intellectual capital strengthens the positive influence of governance on corporate financial performance.

METHOD

This research uses a quantitative approach. Quick & Hall (2015) define research with a quantitative approach as research that is structured by quantifying data to be generalized. This research begins with an explanation of the sample and data sources, variable definitions and measurements, and analysis techniques.

Sample and Data Source

The population in this study are all Manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2018-2021. Data is obtained by downloading the company's annual report file that has been published on the IDX website or directly through the website of each company. The initial research sample was 672 observation units. This study then applies sample selection with criteria: 1) Manufacturing companies listed on the IDX consecutively during the 2018-2021 period with complete annual reports. 2) The company uses rupiah currency units in its financial statements. After applying these sampling criteria, a final sample of 412 observation units from 103 Manufacturing companies in Indonesia was obtained.

Variable Definition and Measurement

The independent variable in this study is corporate governance. Corporate governance is proxied and measured using the Corporate Governance Index (CGI) of Manik et al (2019) which consists of 32 indicator item statements and each indicator has been adjusted to the conditions of companies in Indonesia. The preparation of indicator items is based on the general principles and guidelines of the OECD (2006). CGI assessment uses dummy measurement, by giving a score of 1 for each indicator item available in the sample corporate governance mechanism and 0 if it is not available. Furthermore, the dependent variable of this study is the company’s financial performance measured using the Tobin’s Q proxy. As stated by Chung and Pruitt (1994), Tobin’s Q is obtained through the ratio of the sum of the stock market capitalization value and total debt to the company’s total assets. There are two control variables used in this study, namely the capital intensity ratio measured by the ratio of total assets to total sales and leverage measured by the ratio of total loans (debt) to total assets.

Analysis Technique

This research was tested using panel data regression analysis. So before conducting regression analysis to test the hypothesis, it is first necessary to determine the most appropriate regression estimation model through the Chow test, Hausman test, and Lagrange multiplier test. Data processing in this study used the help of Eviews-12 software. The panel data regression model is represented through the following equation model:

\[ PER_{it} = \alpha + \beta_1(CGI_{it}) + \beta_2(CIR_{it}) + \beta_3(LEV_{it}) + E_{it} \]  

(1)

To determine the position of intellectual capital as a moderating variable in the relationship between governance and financial performance, an equation model is
created which contains elements of governance interaction with intellectual capital. The following is a regression model to test the moderating variable:

\[ \text{PER}_{it} = \alpha + \beta_1 (\text{CGI}_{it}) + \beta_2 (\text{CIR}_{it}) + \beta_3 (\text{LEV}_{it}) + \beta_4 (\text{VAIC}_{it}) + \beta_4 (\text{CGI} \times \text{VAIC}_{it}) + E_{it} \ldots (2) \]

Description:

\( \text{PER} \): Financial Performance (as measured by Tobin’s Q)
\( \alpha \): Constant
\( \beta \): Regression Coefficient
\( \text{CGI} \): Corporate Governance Index Score
\( \text{CIR} \): Capital Intensity Ratio (Total Asset : Total Sales)
\( \text{LEV} \): Leverage Ratio (Total Debt : Total Asset)
\( \text{VAIC} = \text{Value Added Intellectual Capital} \)
\( \text{CGI} \times \text{VAIC} = \text{Interaction antara tata kelola dan modal intelektual} \)
\( E \): Error rate

RESULTS AND DISCUSSION

Table 1 presents the results of descriptive statistics. Tobin’s Q as a proxy for financial performance (FP) has an average value of 1.8908 with a maximum value of 19.2655 and a minimum value of 0.0808. The governance variable (CG) is the ratio of the total CGI score, so when a maximum value of 1 is obtained, it means that there are manufacturing companies in the 2018-2021 sample period that fulfill all indicator items (100%) from various aspects of the CGI. The minimum value of CG of 0.4375 means that the sample companies can fulfill the lowest CGI of 43.75%, while overall the average company can fulfill CGI is 0.7657 (76.57%).

Furthermore, the capital intensity ratio variable has an average value of 2.2211, with a minimum value of 0.1438 and a maximum of 50.634. The leverage variable has an average value of 0.4746 with a minimum value of 0.0034 and a maximum of 2.8998. Meanwhile, the intellectual capital variable has an average value of 2.6958 with a minimum value of -12.1194 and a maximum of 20.6185. The results of the financial performance variable (FP), capital intensity ratio (CIR), and intellectual capital (IC) show varying minimum and maximum data. This can be seen from the existence of an average value that is smaller than the standard deviation value. The governance (CG), and leverage (LEV) variables show a small variation value. This can be seen from the average value which is greater than the standard deviation value.

Table 1. Analysis Statistic Descriptive

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std.dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP</td>
<td>0.0808</td>
<td>19.2655</td>
<td>1.8908</td>
<td>2.3623</td>
</tr>
<tr>
<td>CG</td>
<td>0.4375</td>
<td>1.0000</td>
<td>0.7657</td>
<td>0.112</td>
</tr>
<tr>
<td>CIR</td>
<td>0.1438</td>
<td>50.634</td>
<td>2.211</td>
<td>4.7702</td>
</tr>
<tr>
<td>LEV</td>
<td>0.0034</td>
<td>2.8998</td>
<td>0.4746</td>
<td>0.3133</td>
</tr>
<tr>
<td>IC</td>
<td>-12.1194</td>
<td>20.6185</td>
<td>2.6958</td>
<td>3.0380</td>
</tr>
<tr>
<td>CG*IC</td>
<td>-7.9533</td>
<td>18.0412</td>
<td>2.1051</td>
<td>2.3522</td>
</tr>
</tbody>
</table>

Source: Data processed by researchers (2023)

Description: FP = Financial Performance, CG = Corporate Governance, CIR = Capital Intensity Ratio, LEV = Leverage, IC = Intellectual Capital. CG*IC = Interaction between Governance and Intellectual Capital.
Before testing the hypothesis, researchers first conducted a classic assumption test. From the test results, it is evident that the data is normally distributed and there are no outliers, as well as no multicollinearity, heteroscedasticity, and autocorrelation problems. So that testing can be continued at the regression analysis stage. Since this study uses panel data regression analysis in testing the research hypothesis, before conducting regression analysis, a series of tests must first be carried out to determine the most appropriate regression estimation model.

Based on the equation model determination test that has been carried out, the results show that the Random Effect Model (REM) is the best model for estimating the company's financial performance in this study. Based on the results of the analysis using the REM model contained in Table 2 below, shows that the probability value for the governance variable is 0.8251 (>0.05), meaning that governance has no significant effect on the dependent variable of financial performance. Meanwhile, for the two control variables, namely the capital intensity ratio, and leverage, the probability value for the capital intensity ratio variable is 0.3222 (>0.05), meaning that partially the capital intensity ratio does not affect financial performance. The leverage variable has a probability value of 0.0026 (<0.05) which means that partial leverage affects financial performance.

Furthermore, for the role of the intellectual capital variable, the result obtained for the probability value is 0.1046 (>0.05), meaning that directly intellectual capital does not affect the company's financial performance. However, when the intellectual capital variable interacts with other independent variables used in this study, namely corporate governance, the test results show that this interaction variable has a probability value of 0.0417 (<0.05). This indicates that the role of intellectual capital in this study is as a pure moderating variable that can strengthen the effect of governance on the company's financial performance.

### Table 2. Panel Data Regression Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Regression Model</th>
<th>Coefficients</th>
<th>t</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Random Effect Model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_cons</td>
<td></td>
<td>1,1762</td>
<td>1.10</td>
<td>0.2698</td>
</tr>
<tr>
<td>Corporate Governance</td>
<td></td>
<td>0.2970</td>
<td>0.22</td>
<td>0.8251</td>
</tr>
<tr>
<td>Capital Intensity Ratio</td>
<td></td>
<td>-0.0144</td>
<td>-0.99</td>
<td>0.3222</td>
</tr>
<tr>
<td>Leverage</td>
<td></td>
<td>0.7747</td>
<td>3.03</td>
<td>0.0026</td>
</tr>
<tr>
<td>Intellectual Capital</td>
<td></td>
<td>-0.2233</td>
<td>-1.63</td>
<td>0.1046</td>
</tr>
<tr>
<td>Corporate Governance*Intellectual Capital</td>
<td></td>
<td>0.3578</td>
<td>2.04</td>
<td>0.0417</td>
</tr>
<tr>
<td>Number of Obs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>412</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>3.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td></td>
<td>0.0043</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-Square</td>
<td></td>
<td>0.0292</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data processed by researchers (2023)
namely the board composition index, audit committee index, remuneration committee index, shareholder rights index, financial and audit relationship index, and disclosure index used as a proxy for governance in the sample data of this study did not succeed in proving the relationship between governance and financial performance.

The findings in this study do not support the research results of Drobetz et al. (2004) and Orîndaru et al. (2021). However, the results of this study support the research of Sueyoshi et al. (2010) and Shahwan (2015) who found an insignificant relationship between governance and corporate financial performance. This insignificant relationship between governance practices and financial performance can be influenced by the interdependence that underlies the corporate governance mechanism. As in companies that do not form a remuneration committee, the duties and functions of remuneration are the responsibility of the board of commissioners directly. The presence or absence of audit committee members with accounting/finance backgrounds can also affect the success of corporate governance in its efforts to improve financial performance. Because audit committee members with an accounting/finance background are considered more reliable and qualified as an extension of the board of commissioners in terms of supervision (Wardi, 2019).

When the supervisory function runs well, business activities and operations can run more efficiently, which in turn will affect the company's financial performance. As stated by Nuryana and Surjandari (2019), the existence of an audit committee and a large number of commissioners can improve the supervisory function, by providing advice and input to the board of directors for the good of business management (improving management performance). Meanwhile, improved management performance will have a positive effect on the company's financial performance (Goel, 2018). In addition, Haji and Ghazali (2013) also revealed that independent audit committees with accounting/finance backgrounds are expected to be more sensitive in detecting managers' opportunistic behavior that can reduce the company's financial performance.

The results of this study provide evidence that the application of governance has not been able to achieve optimal work contracts and efficient company performance as in agency theory. So that corporate governance does not have a meaningful influence on financial performance. Elsayed and Wahba (2013) reveal that the relationship between governance mechanisms and financial performance is not monotonous. This is due to the interaction of different governance mechanisms which can replace or complement each other. Therefore, the high and low role of governance in influencing the company's financial performance is determined both by the governance component itself and other factors outside the governance component.

Of the two explanatory control variables analyzed, the capital intensity ratio proved to not affect financial performance. Meanwhile, the leverage variable is proven to have a significant positive effect on financial performance. This result is in line with the research of Lesmono and Siregar (2021) and Elsayed & Paton (2005). A possible explanation is that higher leverage can increase pressure on managers (agents) to reduce their opportunistic behavior and moral hazard so that it can ultimately increase firm value, especially financial performance. This argument is in line with the use of the control hypothesis by Jensen (1986) which suggests the role of leverage as a monitoring function in companies with low governance practices. Leverage can act as a potential disciplining mechanism to solve agency problems, especially in companies in developing countries (Shahwan, 2015).
The Effect of Governance on Corporate Financial Performance with Intellectual Capital as a Moderating Variable

Based on the test results on the interaction variable of governance and intellectual capital, it is known that intellectual capital is significantly able to moderate (strengthen) the positive effect of governance on corporate financial performance. So it can be concluded that the second hypothesis of this study is accepted. If the partial test of governance has not been able to significantly affect financial performance, it is known that after adding the interaction variable between governance and intellectual capital in the equation model, the coefficient of the interaction variable is positive and the t-statistic probability is 0.0417 (<alpha 0.05). This implies that in the absence of high intellectual capital, the governance variable proves to be inefficient in improving the company's financial performance.

Meanwhile, partially, the direct effect of the intellectual capital variable on financial performance is insignificant. So it can be interpreted that intellectual capital in this study is a pure moderating variable. Pure moderation is a type of moderating variable where the coefficient of the moderating variable (intellectual capital) is directly insignificant, but the coefficient of the interaction variable (intellectual capital and governance) is significant. Pure moderation is a variable that moderates the relationship between predictor variables and affected variables whereas pure moderation variables interact with predictor variables without being predictor variables (Solimun, 2010).

If in the direct effect, it is known that governance does not affect financial performance, this result does not support the findings of Hamdani (2016) which states that the implementation of good corporate governance is one proof that the company achieves an optimal work contract. In agency theory, it is explained that the relationship between company members is based on a work contract (Hamdani, 2016; Florencia & Susanty, 2019). However, it should be understood that the variance of corporate financial performance and the basis of the governance mechanism itself are complex. Elsayed and Wahba (2013) and Wahba (2015) reveal the complexity and non-monotonous nature of the relationship between governance mechanisms and financial performance. So interacting governance variables with intellectual capital to predict financial performance as a novelty in this study is a good and appropriate step.

Based on testing the regression model with the addition of intellectual capital as a moderating variable, significant results were obtained from the interaction variable (governance and intellectual capital) on the company’s financial performance. With this result, the question of why the results of previous studies related to the effect of governance on financial performance still tend to be inconsistent can be answered. The interaction component of governance and intellectual capital proved to be able to explain the variance of financial performance better than the direct effect of governance on financial performance.

The results of this moderation test successfully prove the validity of the resource-based theory that views intellectual capital as a strategic asset to optimize firm performance. At the same time, it supports the statement of OECD (2006) which reveals that the management of intellectual capital is closely related to governance mechanisms, as well as supporting Grant’s (1996) opinion which states that governance tends not to be able to increase company growth significantly if it is not balanced with good intellectual capital management.
CONCLUSION

Based on the data analysis process and discussion in this study, the conclusions that can be obtained are first, governance has no significant effect on financial performance. However, when governance has interacted with intellectual capital, it is proven that intellectual capital can be a pure moderating variable that strengthens the positive effect of governance on financial performance. This suggests that in the absence of high intellectual capital, governance is unable to efficiently improve the company’s financial performance. Second, of the two control variables analyzed in this study, capital intensity is shown to not affect financial performance while leverage is shown to have a significant positive effect on financial performance.

The use of the Corporate Governance Index (CGI) as a proxy for governance in this study is considered less able to explain the variance of the company's financial performance so that the results obtained are not significantly influenced. Suggestions for future research are that when using the CGI proxy to measure corporate governance, each aspect (sub-index) of CGI needs to be tested for its effect on financial performance or other dependent variables that can be used in research. This is done so that researchers can find out which aspects significantly affect and which do not affect the company's financial performance. Thus, the evaluation and improvement of governance mechanisms can be more focused on aspects of governance components that are weakly indicated to affect company performance.

Reference
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industry's recovery. Sustainability (Switzerland), 13(12), 1–22. https://doi.org/10.3390/su13126781


