The Effect of Female on the Board of Directors and Intellectual Capital on the Financial Performance of Companies in Indonesia

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Abstract---The purpose of this study was to obtain empirical evidence of the effect of female gender on the board of directors and intellectual capital on the company's financial performance. This research was conducted on non-financial companies listed on the Indonesia Stock Exchange during the observation period, namely 2016-2020. Determination of the sample is done by purposive sampling technique. The number of samples obtained as many as 395 research samples. Methods of data collection using non-participant observation method. This study uses the data analysis technique used, namely Partial Least Square (PLS) analysis using SmartPLS software. The results of data analysis in this study indicate that female gender on the board of directors has a positive and significant effect on financial performance. Intellectual capital variable has a positive and significant effect on financial performance. This research provides additional insight and knowledge related to Upper Echelon Theory and Resources Based Theory on financial performance. This research can also provide information and understanding about the importance of female gender on the board of directors and intellectual capital on financial performance.

Keywords---board directors, female, gender, intellectual capital, PER, ROA

Introduction

The Board of Directors can make decisions to produce good company performance with certain characteristics. This is in line with the Upper Echelon Theory which explains that the experience, values, and characteristics of the directors will influence how the directors interpret a situation that can affect their decisions (Mason & Hambrick, 1984). This theory explains that the characteristics of top management will be reflected in the decisions made (Lestari & Faisal, 2019). Therefore, the characteristics of the directors must be considered in the director selection process.

The characteristics in this study are the characteristics attached to the board of directors. Gender diversity is a form of diversity that currently makes up most of the discussion when it comes to the question of board diversity (Moreno-Gómez et al., 2018). Kaur & Singh (2019), distinguish two types of characteristics, such as demographic characteristics and professional characteristics. Demographic characteristics are education level, gender, and nationality, while professional characteristics or job-related characteristics are tenures, share ownership, and directorship.

Board gender diversity refers to the representation of female boards in the company. This is motivated by the obstacles that cause discrimination experienced by females to reach council positions (Castro et al., 2021; Ozkan et al., 2017; Guthrie et al., 2012). The invisible barrier faced by females to achieving board positions is known as the "glass ceiling effect" which causes the company's boards to still be dominated by men (International Finance Corporation, 2019). The trend of placing females in top management positions has increased significantly (Kusuma et al., 2018). Female boards are believed to have high prudence, tend to avoid risk, and are more conscientious in
increasing the effectiveness of board performance, helping to strengthen the reputation of the board and improving the quality of decisions that have an impact on company performance (Pham & Hoang, 2019).

Gender affects how to interpret a problem and how to deal with the problem. The presence of a female in an organization can provide its own point of view and the characteristics of each gender. In addition, gender differences are a determinant of leadership ability. Females and men have different experiences and backgrounds that influence how they meet the principal's demands (Sofian & Wijaya, 2020). Gender affects the decision-making process which ultimately affects the company's performance. The proportion of men and female on the board of directors can vary in number (Handayani & Panjaitan, 2019). The advantage of having female representatives on the board of directors is that females tend to be more independent and females have more ability to understand the company's needs related to customers and business opportunities (Fauziah, 2018).

Many studies have been carried out on the presence of a female on the board of directors. Duppati et al. (2020), found that an increase in the number of female directors had a positive impact on company performance. Naseem et al. (2019); Tleubayev et al. (2020), also found a positive influence of female directors on company performance. However, some researchers found different results. Oldford et al. (2020); Kaur & Singh (2019), find that female directors have a negative impact on firm performance. Meanwhile, Thoomaszen & Hidayat (2020); Ionascu et al. (2018); Rafinda, et al. (2017), did not find a significant correlation between female directors and company performance.

The company's progress through improving company performance is not only obtained by relying on tangible assets, it requires synergy with intangible assets to maximize the company's potential. With the development of technology, business people are starting to realize the importance of the company's Intellectual Capital, so that it can improve the company's financial performance. Resources Based Theory reveals that the performance of each company can be distinguished by taking into account the differences in the characteristics of the resources and capabilities of each company (Hitt et al., 2000). Intellectual Capital (IC) meets the criteria as a unique resource that is able to create a company's competitive advantage and can be used to develop and implement strategies so as to improve company performance for the better (Wijayani, 2017).

Ariantini et al. (2017), revealed that Intellectual Capital is an intangible asset in the form of information resources and knowledge that serves to improve competitiveness and can improve company performance. The main goal in a knowledge-based economy is to create value added. To create value-added, it takes the right measure of physical capital (financial funds) and intellectual potential (represented by employees with all the potential and abilities attached to them). Valuable resources can be directed to create competitive advantage so that they can last a long time and are not easily imitated, transferred, or replaced (Simamora & Sembiring, 2018).

Intellectual capital plays an important role in improving financial performance. Effective and efficient management of physical capital is part of the utilization of the company's intellectual capital (Febriany, 2019). Christina (2022), provides evidence that intellectual capital has a positive and significant impact on financial performance. Dunnas et al. (2020); Kurniaiwati et al. (2020), Maqfirah & Fadhlia (2020), also show that intellectual capital has a positive and significant effect on financial performance. In contrast to the research results of Arifulsyah & Nurulita (2020); Pangesti & Sutanto (2020); Yusra et al. (2020), show that intellectual capital has no effect on financial performance. Nazra & Suazhari (2019), intellectual capital has a negative effect on company performance.

Financial performance in this study was measured using the Return on Assets (ROA) and Price Earnings Ratio (PER) variables. ROA is an indicator of the company's effectiveness to earn profits by utilizing company assets. ROA provides a better measure of the company's profitability because it shows the effectiveness of management in using assets to generate income. The higher the ROA value, the better the company's performance, because the higher the rate of return on investment. Therefore, ROA affects dividend policy (Noefiansyah & Idayati, 2019). The increase in ROA indicates the company is considered capable of generating high corporate profits and the impact of the company's stock price increases. The increase in stock prices also has an impact on increasing stock returns.

Price Earnings Ratio (PER) reflects the company's profit growth and is a measure of the relative price of the company's shares. Companies that have a high PER usually have a high growth rate opportunity, so investors are interested in buying shares, and ultimately boosting stock prices (Husnan, 2019). Investors will give a positive response to the increase in stock prices because they will get capital gains as a component of stock returns. This indicates that PER has a positive and significant effect on stock returns.

**Literature Review and Hypotheses Development**

Females have a better understanding of consumers, and markets and have a better ability to make decisions about company needs, as well as the ability to solve problems better than male directors (Post & Byron 2015). In addition
to increasing gender equality efforts, the presence of a female on the board of directors of a company reflects the company's concern for gender equality. According to Oldford et al. (2020), companies that support gender diversity will have more females on the board of directors than companies that do not support gender diversity. The presence of females can improve the company. Thus, it will improve the company's performance (Smith et al., 2006). In line with the research of Duppati et al. (2020), they found that gender diversity as measured by the percentage of female directors had a positive effect on company performance. Likewise, Tleubayev et al. (2020), also found a significant positive impact of female directors on company performance.

**H1: Female on the board of directors has a positive effect on financial performance.**

In accordance with Resource Based Theory, companies that are able to manage intellectual capital well will have a competitive advantage, and are able to create added value that has an impact on financial performance. According to Mercilia & Fidiana (2022), Intellectual Capital is a company asset because it is able to generate competitive advantage and superior financial performance. The better the company in managing the three components of intellectual capital, the better the company in managing assets. Competitive advantage can be achieved with Intellectual capital. Intellectual capital is the company's ownership of various resources in the form of knowledge, employee expertise, and experience, as well as good relations with various parties as part of the process of creating value and achieving competitive advantage (Fatah et al., 2022).

Lestari & Adhariani (2022), intellectual capital has a positive and significant effect on company performance. Mulyawan's (2022), research shows that intellectual capital has a positive effect on company performance. Nurdin & Suyudi (2019), showed that intellectual capital had a positive effect on social performance. Intellectual capital for banking is obtained from how much value added can be generated with the funds spent on labor. The results of research conducted by Rosiana & Mahardhika (2021); Rahma (2018), state that intellectual capital has a significant positive effect on ROA. This means that the better the company in managing its intellectual capital, the better the company's financial performance.

**H2: Intellectual Capital has a positive effect on financial performance**

**Methods**

This research was conducted on non-financial companies listed on the Indonesia Stock Exchange (IDX) that provide financial reports and company annual reports for 2016-2020. The report is obtained by accessing and downloading the official website of the Indonesia Stock Exchange, namely www.idx.co.id, and the official websites of each company under study. The reason for using non-financial companies as research locations is because researchers want to know the gender role of females on the board of directors and intellectual capital in various types of company sectors. The population used in this study are all companies listed on the Indonesia Stock Exchange during the 2016-2020 period. The data collection method in this study used non-participant observation methods, namely the company's financial performance, female gender on the board of directors, and intellectual capital. The analytical technique used to test the variables in this study, namely Partial Least Square (PLS) uses SmartPLS software to test each relationship between variables and analyze each hypothesis.

**Results and Discussion**

**Evaluation of the measurement model or outer model**

1) Convergent Validity

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Convergent validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender &lt; X1 (Gender on the BOD)</td>
<td>Original Sample (O)</td>
</tr>
<tr>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>
The results of the convergent validity test in Table 5.3 show that all values of the outer loading indicator variable have a value greater than 0.50 with a p-value of 0.000 less than 0.05. Thus, it can be concluded that all indicators have met the convergent validity requirements.

2) Discriminant Validity

Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>AVE</th>
<th>AVE Root</th>
<th>Gender on the BOD (X₁)</th>
<th>Intellectual Capital (X₂)</th>
<th>Financial Performance (Y₁)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender on the BOD (X₁)</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>0.634</td>
<td>0.742</td>
</tr>
<tr>
<td>Intellectual Capital (X₂)</td>
<td>0.719</td>
<td>0.848</td>
<td>0.634</td>
<td>1.000</td>
<td>0.707</td>
</tr>
<tr>
<td>Financial Performance (Y)</td>
<td>0.892</td>
<td>0.944</td>
<td>0.742</td>
<td>0.707</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Based on Table 2, it can be explained that the AVE value of the board of directors' gender variable (X₁) is 1.000>0.5 and the correlation of the board of directors' gender variable is greater than the correlation of the board of directors gender variable compared to other variables. The AVE value of the Intellectual Capital variable (X₂) is 0.719> 0.5 and the correlation of the Intellectual Capital variable is greater than the correlation of the latent variable compared to other variables. Furthermore, the AVE value of the Financial Performance variable (Y₁) is 0.892>0.5 and the correlation of the Financial Performance variable is greater than the correlation of the latent variable with other variables (Martinez-Torres, 2006; Itemgenova & Sikveland, 2020; Chowdhry & Titman, 2001).

Thus, all variables in the tested model meet the criteria of discriminant validity. The model is said to be good if the AVE of each variable is greater than 0.50. The output results show that the AVE value of all variables is greater than 0.50 so the model can be said to be valid.

3) Composite Reliability and Cronbach Alpha

Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Composite Reliability</th>
<th>Cronbachs Alpha</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender on the BOD (X₁)</td>
<td>1.000</td>
<td>1.000</td>
<td>Reliable</td>
</tr>
<tr>
<td>Intellectual Capital (X₂)</td>
<td>0.884</td>
<td>0.805</td>
<td>Reliable</td>
</tr>
<tr>
<td>Financial Performance (Y)</td>
<td>0.943</td>
<td>0.879</td>
<td>Reliable</td>
</tr>
</tbody>
</table>
The output results of composite reliability and Cronbach Alpha of the gender variables of the board of directors, Intellectual Capital, and Financial Performance are all above 0.70. Thus, it can be explained that all variables have good reliability.

Evaluation of structural model or inner model

<table>
<thead>
<tr>
<th>Variable</th>
<th>R-square</th>
<th>R-square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Performance (Y)</td>
<td>0.644</td>
<td>0.642</td>
</tr>
</tbody>
</table>

Based on Table 4, the model of the effect of the gender of the board of directors and Intellectual Capital on Financial Performance gives an R-square value of 0.644 which can be interpreted that the variability of the financial performance variable can be explained by the variability of the gender variable of the board of directors and Intellectual Capital of 64.4 percent, while 35.6 percent is explained by other variables outside the studied. To measure how well the observed values are generated by the model as well as its parameter estimates, it is necessary to calculate Q-square (Q2) as follows:

\[
Q^2 = 1 - (1 - (R_1)^2) \\
= 1 - (1 - 0.644) \\
= 1 - 0.356 \\
= 0.644
\]

The value of Q2 has a value with a range of 0 < Q2 < 1, where the closer to 1, the better the model. The results of these calculations obtained the value of Q2 is 0.644 so it can be concluded that the model has good predictive relevance. These results also indicate that the gender of the board of directors and Intellectual Capital simultaneously has an effect on financial performance (Rostami et al., 2016; Farrell & Hersch, 2005; Sila et al., 2016).

Hypothesis testing results

<table>
<thead>
<tr>
<th>Path Coefficient</th>
<th>Path Coefficient Value</th>
<th>t Statistics</th>
<th>P Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender on the BOD (X₁) → Financial Performance (Y₁)</td>
<td>0.492</td>
<td>11,255</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Intellectual Capital (X₂) Financial Performance (Y₁)</td>
<td>0.395</td>
<td>8,318</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

The effect of females on the board of directors on financial performance

The correlation coefficient value is 0.492, so the gender of the board of directors has a positive effect on financial performance. The value of t Statistics is 11.255 (> t-critical 1.96) with a p-value of 0.000 <0.050, then the influence of the gender of the board of directors on Financial Performance is significant. Thus, hypothesis 1 (H1) which states that the female gender on the board of directors has a positive and significant effect on financial performance is accepted.
The effect of intellectual capital on financial performance

The correlation coefficient value is 0.395, so Intellectual Capital has a positive effect on Financial Performance. The t-Statistics value was obtained at 8.318 (> t-critical 1.96) with p-value 0.000 <0.050, then the influence of Intellectual Capital on Financial Performance is significant. Thus, hypothesis 2 (H2) which states that Intellectual Capital has a positive and significant effect on Financial Performance is accepted (Gull et al., 2018; Hadi et al., 2018; Dewi & Candraningrat, 2022).

Conclusion

The research conducted can provide empirical support for the Upper Echelon Theory and Resources Based Theory on financial performance. Upper Echelon Theory explains that in order to understand whether a company's performance is good or not, it is necessary to pay attention to and understand the characteristics of the company's leadership, one of which is the presence of a female. The existence of females has a better ability to make decisions than men. This is supported by the results of this study, where a higher proportion of females will improve company performance. The results of this study also support the theory of Resources Based Theory. This theory states that differences in company performance can be distinguished by taking into account the characteristics of the resources and capabilities of each company. Companies can utilize and manage intellectual capital owned by the company to increase company profits so that company performance is getting better. The results of this study prove the statement that intellectual capital that is managed more efficiently can improve company performance.

Further research can add other variables that are estimated to be able to affect the company's financial performance. This is because based on the results of the R-square measurement in this study, the variability of the financial performance variable can be explained by 35.6% of the variability of other variables outside the variables studied. That is, there are other variables that can affect financial performance such as audit quality, implementation of good corporate governance, capital structure, agency costs, age of the board of directors, board independence, and innovation.

References


