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Board Characteristics, Female Commissioner and Firm Performance of Listed Manufacturing Firms in Indonesia

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Abtract

This study aims to analyze the influence of the characteristics of the board of directors and the role of female commissioners on company performance. The characteristics referred to are the total number of directors, directors of foreign nationality, directors of doctoral degrees, female CEOs, gender diversity, and composition of non-executive directors. This research was conducted on manufacturing companies that went public on the Indonesia Stock Exchange. The number of samples in the natural study were 98 companies for the 2019-2021 research period with a total of 294 data samples and analysis. The data analysis technique used the multiple linear regression method. The results of the study show that the instruction of the number of foreign nationals and CEOs has a significant positive effect on company performance. Other characteristics, namely directory number, doctoral directory number and female commissioners have a significant negative effect on company performance. Meanwhile, gender diversity on the advisory board has no significant effect on company performance. The composition of non-executive directors found different results for the two company performance measures, which had no effect on Return on Assets, but had a significant positive effect on Return on Equity. The results of this study indicate that the characteristics of the board are very important information for investors to be considered in assessing whether a company has good prospects in the future through the Return on Assets and Return on Equity models.

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1. Introduction

Firm Performance, especially Financial Performance, is the main measurement of company performance. Research conducted by Mihail et al. (2022) which also discusses the effect of board characteristics on financial performance on the Bucharest Stock Exchange (BSE) with financial performance measurement parameters, Return on Equity (ROE) and Return on Assets (ROA). This theory is supported by the study Andoh et al. (2023) which also uses the two measurements above to measure firm performance. This study examines the effect of board characteristics on firm performance. These characteristics consist of board size, board nationality, board education, gender diversity, board composition and female CEO. Board Characteristics have different influences on firm performance. When compared to many previous studies, some of the results obtained were consistent and some were inconsistent, so this research really needs to be carried out in order to obtain more accurate results.

The board of directors plays an important role in firm performance. This is related to the decisions made by them. Acquiring companies have larger boards and outside directors with greater influence indicating superior shareholder value creation (Santosa, 2023). Human capital can be defined as the knowledge employees bring with them when they leave the company (Iwamoto & Suzuki, 2019). It includes the knowledge, skills, experience and abilities of people, where some of this knowledge is unique to the individual, some may be general in nature, for example the capacity for innovation, creativity, prior knowledge and experience, capacity for team work, employee flexibility, tolerance for ambiguity, motivation, satisfaction, learning capacity, loyalty, formal training and education (Iwamoto & Suzuki, 2019).

Research conducted by Yan et al. (2021) on US S&P 500 companies, the independent variable board size is the total number of boards of directors obtained a significant negative relationship to ROA and by the study of Muhammad et al. (2020), obtained a significant negative effect on ROE. These findings are inconsistent with the results of Andoh et al. (2023) which has no significant effect between board size and company performance. Mohan & Chandramohan (2018) state that most of the research is oriented towards ascertaining the impact of board size which is an important dimension of corporate governance on company performance. Badu & Appiah (2017) show that the agency perspective describes board size which describes the level of control exercised by management, while some authors argue the opposite.

Board nationality is measured by the number of foreign directors in the annual report (Zaid et al., 2020). Research by Assenga et al. (2018), Tanzanian Firms found that the effect of board nationality on ROE&ROA was not significant, whereas according to Andoh et al. (2023) the relationship between these variables obtained significant positive results. Board education is the ratio between the number of directors with doctoral degrees to the number of directors. The effect of these variables was found to be insignificant to ROA & ROE according to Assenga et al. (2018). Various findings were obtained from other studies, found a significant negative relationship between board education and ROA by Jiyuan & Xu (2022) and also significantly negative with ROE (Andoh et al., 2023).

Board diversity refers to a situation when the Board of Directors have members from different (non-homogeneous) backgrounds, such as differences in age, race/ethnicity, gender, educational background, or work experience. Board Diversity aims to foster a wide spectrum of demographic attributes and characteristics in the boardroom. A simple and common measure to promote heterogeneity in the boardroom – commonly known as gender diversity – is to include women's representation on the board (Anizar et al., 2022). The gender diversity of the board of directors is measured by the number of female directors in the annual report (Santosa, 2023). Gender diversity on the board of directors has no significant impact on a company's financial performance as measured by return on assets and Return on Equity (Wicaksono, 2022). Similar results were found by Jao et al. (2021), where there is no significant effect between gender diversity and financial performance. However, different things can be predicted if women on the board of directors are *risk averters*, it will have a negative influence on the company's financial performance. Board members provide a wider scope of perspective and problem solving so as to increase effectiveness and efficiency in making strategic decisions for the board of directors (Noorkhaista & Sari, 2017).

Board composition is the ratio of non-executive directors, who are not officially registered as members of the company, and do not have any affiliation that affects the independence of their decision-making. Two research results by Assenga et al. (2018) and Andoh et al. (2023) consistently shows an insignificant relationship between board composition and ROA and ROE.

The study by Andoh et al. (2023) also examines the non-linear relationship between board size and firm performance by including a quadratic term for board size (square of board size). This is done whether there is an inverted u-shaped relationship between board size and firm performance. The statistically significant non-linear relationship means that, initially an increase in the number of board of directors increases performance, however, beyond a certain point, further increases in the number of board members increases performance at a decreasing rate. The study found statistically significant non-linear relationship between board size and performance. This affirms the presence of an inverted U-shaped relationship between board size and performance. Thus, this further buttresses the need for firms to take caution in increasing their board sizes because in the long run, the benefits of increasing board size will diminish.

Another role of women on board in this case is the proportion of female commissioners. Research by Mahyuni & Rahmawati (2022) measu-res the proportion of female commissioners is the ratio of number of female commissioners divided by the total number of commissioners. This rese-arch discusses the influence of women in the board of commissioners on financial performance in companies in the agricultural, mining & infrastructure sub-sector industry in Indonesia. The research found that there was a negative and significant relationship to ROA & ROE, the more the proportion of female commissioners, the lower the firm performance. Different results were obtained by the study of Lestari & Mutmainah (2020), where the proportion of female commissioners was not significant to firm performance.

In this study, we will analyze the effect of *board characteristics* on firm performance in listing manufacturing companies in Indonesia in period from 2019-2021. Manufacturing firms were chosen in this study because the contribution of the manufacturing sector to the Indonesian economy is the largest. The board characteristics that will be discussed from this study consist of the influence of board size, board nationality, board education, female CEO, board gender diversity, board composition and square of board size. Apart from that, from the side of the board of commissioners, this study will specifically examine the effect of the number of female commissioners on company performance. From the internal side, the effect of firm size and debt ratio on company performance will also be analyzed. We hope this research will provide more mature and precise results, because in many previous studies, many results were quite inconsistent, so further research were always needed. From this study, the specific results expected are that all board characteristics have a significant influence on firm performance.

2. Hypothesis Development

Number of studies have been conducted regarding the relationship between board size and firm performance. In research conducted by Jao et al. (2021) found a significant positive effect between board size on firm performance, because an increasing number of board sizes, accompanied by varied operational policies and many options, which tend to improve firm performance. This research is supported by Merendino & Melville (2019); Hemza (2020); (Puni & Anlesinya, 2020) which found a significant positive effect between board size on firm performance if the board size level is not too high.

H_1 : Board size has a positive effect on firm performance

The appointment of board members from abroad makes it possible to provide alternatives, including foreign board members who can represent foreign owners with major shares in the company (Mihail et al., 2022). This theory is supported by Andoh et al. (2023) which conducted a study with the result that board nationality had a significant positive effect on firm performance as measured through ROA & ROE.

H_2: Board nationality has a positive effect on firm performance

Knowledge and skills can enhance the director's critical thinking which is essential in carrying out their main role of monitoring, advising, and determining appropriate resources (Assenga et al., 2018). This research is supported by a study by Alfar et al. (2023) which found that PhD holders had a significant positive effect on firm performance. The consistency of the impact of education level was also found in research by (Setiawan & Gestanti, 2022), where education level has a significant positive impact on firm performance.

H_3: Board Education has a positive effect on firm performance

The results of research by Andoh et al. (2023) explained that the presence of female CEOs on the boards of non-financial companies did not show a significant impact on company performance, while for financial companies, their presence seemed to have a positive and significant impact on company performance. This positive relationship can be explained by agency, resource dependence, stakeholder and signaling theory.

Study by Ramdhania et al. (2020) stated that Female CEOs have a significant effect on company value with a confidence level of 90%. The presence of women on the executive board will create better results in increasing the market value of a company. Other research also found a significant positive effect on ROA (Setiawan & Gestanti, 2022) and ROE (Vo et al., 2021). Gender diversity of executives in a company is evidence of the implementation of good corporate governance which has a very large contribution in changing the value of the company

H_4: Female CEO has a positive effect on firm performance

Several studies have shown a positive relationship between board gender diversity and firm performance. Research by Andoh et al. (2023) found that board gender diversity had a significant positive effect on firm performance when measured by ROA. This research is supported by several other studies which obtained the same results, that's Yan et al. (2021) and Arvanitis et al. (2022). Another study by Muhammad et al. (2020), found a significant positive relationship between board gender diversity and firm performance with ROE model.

H_5: Board gender diversity has a positive effect on firm performance

Board composition can also be known as an independent director. Study by Merendino & Melville (2019) obtained a positive and significant influence of independent directors on firm performance, which was corroborated by the results of research by Muhammad et al. (2020) which conducted a study of non-financial company listings in Italy, that independent director's offers access to resources and expert advice. Also supported by research of Potharla & Amirishetty (2021), which obtained significant positive relationship between board composition and firm performance, because more number of independent directors to the board can improve the company's financial performance in the early stages because it utilizes the knowledge and skills of outside directors.

H_6: Board composition has a positive effect on firm performance

Square of board size is a measurement method to examine the non-linear relationship between board size and company performance. Research conducted by Potharla & Amirishetty (2021) which found that increasing board size can improve company performance in the early stages. However, an increase in the number of directors beyond a certain level can cause coordination problems that affect decision making (the inverted u-shaped). This study is reinforced by Andoh et al. (2023) which also found the inverted U-shaped relationship between board size and company performance through measuring the square of board size, where in the initial period of increasing board size there was an increase in the performance of both bank and non-bank companies. However, if the increase in the number of directors exceeds a certain threshold, the company's performance will eventually decline. This is consistent with other studies where square board size is positively significant for ROA (Kalsie & Shrivastav, 2016) and ROE (Krisnadewi et al., 2020); (Sulistyo & Wahyu, 2023).

H_7: Square board size has a positive effect on firm performance

Research by Fitriana & Sugiri (2018) shows that there is a negative relationship between the presence of female commissioners and some acquisitions, due to low trust in women compared to men. On the other hand, the presence of female commissioners is expected to increase shareholder value because it can broaden the perspectives of other members of the directors. Seeing a positive relationship between the presence of female commissioners and company value. A female commissioner is considered capable of influencing the value of the company.

Research by Mahyuni & Rahmawati (2022) which discusses the influence of women on board room on company performance in non-financial companies in Indonesia, gets the result that is a significant negative effect of female commissioners on ROA & ROE, the more the number of female commissioners, the company's performance decreases . Another study by Lestari & Mutmainah (2020), found an insignificant relationship between the number of female commissioners and company performance.

H_8: Female commissioners have a positive effect on financial performance

3. Data and Methods

The data collection method used in this study is the documentation method. This study uses secondary data obtained through the Indonesia Stock Exchange (IDX), www.idnfinancials.com, and the official website of each company that meets the criteria for determining the sample. The secondary data is in the form of annual reports of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2019 - 2021. The population of this research is manufacturing companies. The number of companies is 193 companies and the number of samples is 98 companies and the number of samples is 294 (Table 1).

Table 1. Manufacturing Company Subsector

Sub Sector	Number of Firms	Percentage
Basic & chemical	40	41.84%
Consumer goods	37	37.76%
Various industries	21	20.41%
Total	98	100%

The panel data regression model used consists of two models, namely ROA and ROE, namely:

$ROAit = a + \beta_1 (BSZ)it + \beta_2 (SQBSZ)it + \beta_3 (BCOM)it + \beta_4 (BGEN)it + \beta_5 (BGEND)it + \beta_6 (BNAT)it + \beta_7 (BEDU))it + \beta_8 (FBOC)it + \beta_9 (FSIZ)it + \beta_{10} (DR)it + \varepsilon it$

$ROEit = a + \beta_1 (BSZ)it + \beta_2 (SQBSZ)it + \beta_3 (BCOM)it + \beta_4 (BGEN)it + \beta_5 (BGEND)it + \beta_6$

$(BNAT)it + \beta_7 (BEDU))it + \beta_8 (FBOC)it + \beta_9 (FSIZ)it + \beta_{10} (DR)it + \varepsilon it$

Where : ROA = Return on Assets; ROE= Return on Equity; BSZ = Board Size; SQBZ= Square of Board Size; BCOM= Board Composition; BGEN= Board gender diversity; BGEND= Board gender diversity (female CEO); BNAT= Board nationality; BEDU= Board Education; FBOC= Female commissioners; FSIZ= Firm size; DR= Debt Ratio; α = Constant; β_1- β_{10}= Regression coefficient; ε= error term

The dependent variable in this study is firm performance. firm performance is proxied by measuring Return on Assets (ROA) and Return on Equity (ROE). Independent variables are Board Sixe (BSZ), Square of Board Size (SQBSZ), Board Composition (BCOM), Board Gender Diversity (BGEN), Female CEO (BGEND), Board Educational Qualification (BEDU), Board Nationality (BNAT) and Female Commissioner (FBOC). As the control variable in this study used company size and debt ratio . firm size is proxied by LN Total Assets. The debt ratio is proxied by Total Liabilities divided by Total Assets. For more details, the measurement variables are explained in table 2.

Table 2. Description of Variables

Variabel	Variable	Description	Notation
Dependent Variable	Return on Assets	Net income / total assets	ROA
	Return on Equity	Net income / total equity	ROE
Independent Variable	Board Size	Total number of board members	BSZ
	Square of Board Size	Square of Board Size	SQBSZ
	Board Composition	The proportion of non-executive directors	BCOM
	Board gender diversity	Ratio of number of female directors to total directors	BGEN
	Female CEO	Dummy variable, 1 if CEO female and o if otherwise	BGEND
	Board educational qualification	Ratio of board members with PhD qualification to toal directors	BEDU
	Board Nationality	Ratio of number of foreign directors to total directors	BNAT
	Female Commissioner	Ratio of number Female Commissioner to total board of commissioner	BCOM
Control Variable	Firm Size	Log of total assets	FSIZ
	Debt Ratio	Ratio of total liabilities to total assets	DR

4. Results

The description of the research data is shown in Table 3 .In this research, firm performance is measured by Return on Assets (ROA) and Return on Equity (ROE). The average ROA value is 0.039, meaning that the rate of return from asset utilization is 3.9%. The ideal ROA value is around 5% or more. This explains that the average ability of manufacturing companies in Indonesia, especially for the 2019-2021 period, in utilizing assets to achieve net profit is not optimal and efficient. Meanwhile, if the company's performance is seen from ROE, the results show an average ROE value of 0.058, meaning that the rate of return from the use of own capital by the company is 5.58%. The ideal ROE value is 100%, so it can be said that the average ability of manufacturing companies in Indonesia, especially for the 2019-2021 period, to utilize their own capital to make profits is also not optimal. Board Size (BSZ) has an average value of 4.76, meaning that the average number of directors is 4-5 people. Foreign directors (BNAT) have an average value of 0.09, namely the average proportion of foreign directors on the board of directors is 9.15%. The ratio of board education (BEDU) or directors who have doctoral degrees is an average of only 0.008 or 0.8% of the total directors. The number of female directors (BGEN) obtained an average of 0.085 or 8.5% of the total directors. The number of female CEOs (BGEND) is relatively larger than the other variables, which is an average of 0.1276 or 12.76% of the total directors. The average number of non-executive directors (BCOM) is 0.044 or 4.4% of the total directors. This study also analyzes the role of commissioners on company performance, namely the influence of the presence of female commissioners (FBOC). Research data shows that the average number of female commissioners is 0.1456 or 14.56% of the total commissioners. This study also analyzes the non-linear relationship, namely the square of board size (SQBSZ) between board size and company performance, to see whether an optimum number of board sizes is needed to achieve maximum company performance. From the description data it can be seen that the proportion of board characteristics in terms of foreign citizenship, doctoral education and the number of female directors is relatively small. Shareholders are not interested in some of these characteristics because they may not have an effect. When combined with the average board size and ROE, it can be said that the manufacturing companies listed in Indonesia are not large companies. In other matters. Gender diversity in the case of female CEOs is starting to attract shareholders' interest in making women CEOs, but everything still depends on their experience and competence.

Table 3. Descriptive Statistics

Variabel	Mean	Maximum	Minimum	St. Dev.
ROA	0.0394	0.364	-0.411	0.084
ROE	0.0559	0.645	-0.601	0.137
BSZ	4.765	11.000	2.000	2.160
BNAT	0.0916	0.714	0.000	0.185
BEDU	0.009	0.333	0.000	0.043
BGEND	0.085	1.000	0.000	0.279
BGEN	0.128	0.750	0.000	0.170
BCOM	0.045	0.667	0.000	0.114
SOBSZ	27.357	121.000	4.000	25.747
FBOC	0.146	1.000	0.000	0.195
DR	0.411	0.824	0.021	0.179
FSIZ	28.516	33.881	25.391	1.549

The data used in this study is panel data. The results of the analysis using multiple linear regression analysis are shown in Table 4 and Table 5.

Table 4. Regression Analysis Results - ROA

Variable	Coeffi	Std. Error	t-Stat	Sig.
C	0.260	0.154	1.694	0.092
BSZ	-0.033	0.007	-4.575	0.000**
BNAT	0.032	0.016	1.983	0.049*
BEDU	-1.378	0.056	-24.590	0.000**
BGEND	0.038	0.006	6.416	0.000**
BGEN	-0.014	0.015	-0.916	0.361
BCOM	0.035	0.028	1.243	0.215
SOBSZ	0.002	0.000	4.685	0.000**
FBOC	-0.061	0.007	-9.104	0.000**
DR	-0.141	0.022	-6.449	0.000**
FSIZ	-0.002	0.006	-0.280	0.780

Note: ** significant 1%, * significant 5%

Tables 4 and 5 show the relationship of board characteristics to ROA and ROE as a measure of firm performance. Based on the results of the study it was found that most of the independent variables have the same effect on ROA & ROE. Board size, board education, female commissioner and debt ratio have a significant negative effect on firm performance. Meanwhile, board nationality, female CEO and square board size have a significant positive effect on firm performance. Others, namely gender diversity and firm size, were found to have no significant effect on firm performance. One difference that was found was the effect of board composition which had no significant effect on ROA, but on ROE it had a significant positive effect.

Table 5. Regression Analysis Results - ROE

Variable	Coeffi	S.E	t-Stat	Sig..
C	0.471	0.269	1.753	0.081
BSZ	-0.050	0.005	-9.426	0.000**
BNAT	0.083	0.027	3.118	0.002**
BEDU	-3.469	0.189	-18.342	0.000**
BGEND	0.070	0.006	11.608	0.000**
BGEN	0.011	0.017	0.649	0.517
BCOM	0.079	0.031	2.574	0.011*
SOBSZ	0.003	0.000	8.193	0.000**
FBOC	-0.149	0.010	-15.090	0.000**
DR	-0.213	0.032	-6.608	0.000**
FSIZ	-0.005	0.010	-0.486	0.627

Note: ** significant 1%, * significant 5%

5. Discussion

Effect of Board Size on firm performance

The results showed that Board Size has a significant negative effect on company performance. These results are inconsistent with the initial hypothesis, but are still consistent with research by Yan et al. (2021), where it was found that fewer directors can make activities and operational costs more efficient. So it can be said that manufacturing companies have the principle of cost-effectiveness. These results are also consistent with research by Muhammad et al. (2020) which found that board size has a significant negative effect on firm performance in the ROE model. However, several other studies have obtained inconsistent results with the results of this study, so it can be said that the relationship between board size and company performance is dynamic and further research is needed.

The effect of Board Nationality on firm performance

The results of the study show that Board Nationality has a significant positive effect on firm performance, which is consistent with the initial hypothesis These results are also consistent with the results of a study by Andoh et al. (2023) which obtained similar results. This result indicates that the presence of foreign board members is seen to lead to increased oversight of company managers, commitment to corporate transparency, better corporate governance, increased board independence and is also seen as a link to the external environment for financial resources.

Effect of Board Education on firm performance

The results of the study show that Board Education has a significant negative effect on firm performance, which is inconsistent with initial hypothesis. However, the results of this study are still relatively consistent with research conducted by Jiyuan & Xu (2022) in China, where none of the characteristics related to the educational background of the board of directors has a direct significant influence on firm performance. And only when lagged factors are taken into account, does the level of board of directors have a significant correlation with firm performance. When a new director takes office, the first two to three years will have a significant negative impact, however, the next four years and beyond will have a significant positive effect. This research is also consistent with the study of Andoh et al. (2023) taking into account the lagged factor, it can be seen from the ROE size that Board Education has a significant negative effect on ROE, while ROA is not significant.

The influence of Female CEO on firm performance

The results of the study show that Female CEO has a significant positive effect on firm performance. These results are consistent with research conducted by Setiawan & Gestanti (2022) in the ROA model, while for the ROE model, these results are inline with the results of research by Vo et al. (2021). The results of this study prove that even though companies led by female CEOs tend to avoid risk, they can still manage the firm's assets and assets efficiently. These results show that although companies led by female CEOs tend to be risk averse, they can still manage assets efficiently and can generate higher returns on assets than companies led by male CEOs. Return on assets increases because female CEOs can increase sales and reduce firm operating costs. Therefore, female CEOs tend to increase the level of firm sales. Second, female CEOs are more prudent and monitoring, meaning that they can reduce possible losses and increase costs. Reducing costs and losses will increase firm profits. These results indicate that there is an error in process information and bias by male CEOs, namely they take higher risks but lower returns (Setiawan & Gestanti, 2022).

The effect of Gender Diversity on firm performance

The results of the study show that Gender Diversity has no effect on firm performance. The results of this study compared with previous studies obtained varied results. These results are consistent with the study conducted by Jao et al. (2021) on the ROA model, which explains that the presence of women in top management is still considered trivial because it is considered that men are more worthy of holding important positions in the company. And also women tend to invest in financial matters in smaller amounts compared to men on the grounds that time tends to avoid risk. These considerations make the percentage of women holding positions lower than that of men. These results also support the research by Andoh et al. (2023) on ROE models. While these results are not in line with the initial hypothesis, researched by Yan et al. (2021) and Arvanitis et al. (2022) which found a significant positive relationship with ROA, as well as results by Amedi & Mustafa. (2020 which found a significant positive relationship with ROE. These results explain that there are differences in output depending on the characteristics of the sam-ple. In this study, it was found that the presence of women on the board of directors had no significant effect on firm performance.

Effect of Board Composition on firm performance

The results of the study show that the Board Composition has no effect on firm performance when measured by Model 1 ROA. However, if measured by the 2 ROE model, positive and significant results are obtained. The results of previous studies also found different relationships. If we look at the insignificant relationship to ROA, these results are supported by two previous studies, namely by Assenga et al. (2018) and Andoh et al. (2023) each research location in Tanzania and Ghana which are both located in Africa. Data from the listing firm in Ghana explains that 74% of the number of directors are non-executive directors. The research explains that there are two main things that most determine the influence of non-executive directors, namely the level of independence and competence, because these two things are the benchmark for the efficiency of the monitoring system for firm management. In other studies by Merendino & Melville (2019), Muhammad et al., (2020) and Potharla & Amirishetty (2021) supports the results on ROE which is significantly positive.

The research is in Italy, Jordan and India respectively. This research looks at differences in culture and background that can improve monitoring systems and transparency in management. These varied results show that the characteristics of the number of non-executive directors in each country may vary, resulting in different effects. In this study, the number of non-executive directors was only 51 out of 294 data or 17% of the total data. Thus, it is still necessary to carry out further observations on the relationship between non-executive directors and firm performance.

Effect of Square of Board Size on firm performance

The results showed that the square of board size has a significant positive effect on firm performance. The results of this study are in line with those conducted by Kalsie & Shrivastav (2016) for the ROA model and Krisnadewi et al. (2020) for the ROE model. This suggests that increasing board size can indeed contribute to creating higher efficiency through the expertise they have in carrying out monitoring and decision-making roles. Many board sizes also play a role in helping solve more complex problems. The banking industry tends to have larger boards than non-financial companies. However, free riding problems can also arise with large boards. In addition, problems can also occur related to coordination, as well as the additional time needed when drawing up agreements that involve more people. So, there is a trade-off between diversity and coordination. So if this is not implemented properly, adding a board size will actually reduce performance and efficiency, so every firm needs to determine the optimal number of board sizes so that operations can run efficiently and effectively.

Effect of Proportion of Female Commissioner on firm performance

The results showed that the Proportion of Female Commissioner has a significant negative effect on firm performance. The results of this study support the research by Mahyuni & Rahmawati (2022) where the greater the proportion of women on the board of commissioners, the lower the firm's performance. This happens because one of the experience factors that can influence standard monitoring of firm management. (Lestari & Mutmainah, 2020) found slightly different results, which found an insignificant relationship between the number of female commissioners and firm performance. This means that there is no significant effect from the addition of women as commissioners, because there is a strong and transparent monitoring system at the firm from the start, so that control is almost entirely held by the board of directors and firm management.

6. Conclusion and Suggestion

Conclusion

The results showed that Board Nationality, Female CEO, Board Composition by proxy (ROE) and Square of board size had a significant positive effect on firm performance. Board Size, Board Education, and Proportion of Female Commissioner have a significant negative effect on firm performance. Meanwhile, Gender Diversity and Board Composition by proxy (ROA) have no effect on firm performance. The results of this study indicate that the board characteristics and proportion of female commissioner are very influential on the performance of a firm.

Suggestions

This research is limited to manufacturing companies. Future researchers are expected to be able to add or use other independent variables and add moderating variables that can affect firm performance. Replacement of firm performance variable calculations with other calculations in order to make comparisons.

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