

The Influence of Director Characteristics and Company Performances towards Firm Value

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Abstract

This study aims to investigate the influence of director characteristics and company performance towards firm value. Using a sample of manufacturing firms listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022, this study applies multiple regression to examine the potential positive associations between director characteristics, company performance, and firm value. Director characteristics, company performance, and firm value. Director characteristics are measured by two: the representation of female directors and female educational background, while company performances are assessed by return of assets (ROA) and leverage. Firm value as a dependent variable is represented by Tobin's Q. The findings indicate a positive association between return on assets and leverage to firm value. However, no evidence is found to support the influence of female representation and educational background towards firm value.

Keywords: female directors, education background, female representation, firm performance, Tobin's Q

INTRODUCTION

Previous studies have investigated how the board characteristics influence the firm value (Baliga et al. 1996; Gottesman & Morey, 2010; Darmadi, 2013; Duru et al., 2016; Lindorff & Jonson, 2013; Saleh et al., 2020). Those studies represented how board characteristics have an impact on firm value. Firm value is defined as the ability of firms to fulfill their market targets by using their human and material resources (Le, 2005). Indonesia's gender inequality index is one of the highest of the ASEAN countries according to the United Nations (Bintari, 2022). Male workers are more preferable to work in firms. However female workers are more likely to do auditing, nominating, and corporate governance committees,

although females are less likely to sit on compensation committees than males (Adams & Ferreira, 2009). It is important to have gender diversity on a board because female directors must struggle to get into a boardroom (Usman, Zhang, Farooq, et al., 2018).

Previous studies indicate that firm performance also affects firm value (Supriyadi, 2021; Bon & Hartoko, 2022; Qureshi & Siddiqui, 2021; Sukesti et al., 2021). This can occur because firms which effectively manage their company and have a good performance will give a positive signal to the investor leading to higher firm value (Kartika, 2020).

This study aims to investigate the association between gender diversity, company performance and firm value. Gender diversity is represented by some measurements such as the percentage of female directors, gender dummy, and Blau Index (Brahma et al., 2021).

This study uses 2 particular measurements, i.e., of numbers of female representation and education. Numbers of female representation is less than men on board, though females have fewer attendance problems than men, females are also more likely to monitor performance (Adams & Ferreira, 2009). The educational background shows the ability of the director to manage the company. CEOs with higher education may improve their ability and make high-quality decisions (Bantel & Jackson, 1989). Besides that, Darmadi (2013) proves that CEOs with higher levels of education have higher intellectual competence than CEOs with lower education, which impacts firm performance. Regarding the firm performance, this study uses ROA and leverage. Previous studies showed ROA and leverage significantly affect the firm value (Supriyadi, 2021; Bon & Hartoko, 2022; Qureshi & Siddiqui, 2021; Sukesti et al., 2021).

This study differs from previous research in some ways. First, there is still a lack of literature in Indonesia about gender diversity in boardrooms on firm value. This gender diversity is defined as biological gender. Second, the previous studies focus on the educational

background of board members in firm value which says that CEOs who graduated from prestigious universities show significantly higher profitability for firm performance (Darmadi, 2013). Other previous studies find that busy directors can be harmful to firm performance. This is because busy directors can be distracted and lose their focus (Harymawan et al., 2019).

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Human Capital Theory

Human capital theory can be explained as personal education, experiences, and skills to contribute to the group (Becker, 1964). The firm needs to increase awareness about the presence of female directors in the boardroom because females can contribute to decision-making processes by offering new innovative perspectives and insight for the firm (Dimand et al., 2023; A. A. Zaid et al., 2020; Xie et al., 2020). Furthermore, in line with human capital theory, enhancing female representation in a boardroom is recommended, as females have the capability to enhance the quality of financial disclosure (Ali Aribi et al., 2021).

Agency Theory

Agency theory is a relationship between shareholders and managers in a firm. This theory explains how the board of directors is a trusted source for shareholders to monitor the performance of the firm (Fama & Jensen, 1983). Female directors are considered to be a tool of agency control because female directors are more likely to do auditing, nominating, and participation in corporate governance committees (Amorelli & García-Sánchez, 2021; Vitolla et al., 2020; Wang, 2020; Adams & Ferreira, 2009). Based on A. A Zaid et al. (2020); and Ain et al. (2020), recommend that gender diversity in boardrooms must be enhanced because

gender diversity can solve a complex issue. Another previous study found that females influence market value through a decreased leverage ratio from negative to positive.

Critical Mass Theory

The critical mass theory aims to interrogate gender diversity in boardroom results is that 30% or more female presence can develop firm performance (Shahab et al., 2020; Joecks et al., 2013). Moreover, studies such as those by Lafuente & Vaillant (2019) indicate that a balanced gender diversity ratio in the boardroom correlates with increasing firm performance. The critical mass theory recommended to increasing the presence of female directors in the boardroom because females can give improvement to strategic decision-making based on their experiences, females also can monitor the effectiveness of a firm's activity, as evidenced by studies in developed countries such as Australia, Italy, and United Kingdom (Brahma et al., 2021; De Masi et al., 2021; Saggese et al., 2021; Yarram & Adapa, 2021).

Company Performance

According to Le (2005), company performance is one measurement that shows the ability of the firm to achieve the firm's targets through the effective utilization of both human and material resources. Company performance can be measured by two measurements i.e., fundamental and market-based.

Fundamental measurement is defined as financial accounting-based. Common variables that represent fundamental measurement are return on asset (ROA), return on equity (ROE), return on investment (ROI), and leverage (Hau NGUYEN et al., 2021; Yasmeen et al., 2020, Ali et al., 2020).

Meanwhile, market-based performance uses stock price as an element of measurement. Tobin's Q has emerged as a prominent ratio by scholars to evaluate market efficiency within a company (Butt et al., 2023). Another research says Tobin's Q is one of the measurements that reflects the firm value by assessing whether the market value is overvalued or undervalued (Ali et al., 2020).

Directors' Characteristics

Directors' characteristics, including occupation, tenure, and insider/outsider status (Kesner, 1998). Important things for directors to decide about are age diversity and national diversity. Diversity of directors also helps solve complex problems in the firm (Fernández-Temprano & Tejerina-Gaite, 2020). Besides that, diversity of directorship showed the impacts of firm policy and firm performance (Setiawan & Gestanti, 2022).

Previous studies find that firms led by female directors have better performance than firms led by male directors. Another finding suggests that firms under female directorship can achieve stronger market performance, this is indicated by the improvement in accounting performance, which demands higher transparency (Marpaung et al., 2022).

Hypotheses Development

Company performance towards firm value

Return on asset (ROA) and leverage are accounting performance measurements that are commonly used by researchers (Hau NGUYEN et al., 2021; Yasmeeen et al., 2020, Ali et al., 2020). ROA offers insights into how the firm can effectively use its assets. The ROA ratio serves as an effective mediator for indicating company performance (Sukesti et al., 2021). Previous studies find that higher ROA can be defined as the ability of a firm can manage its

assets and it will increase firm value (Supriyadi, 2021; Qureshi & Siddiqui, 2021; Sukesti et al., 2021).

According to studies by Ali Shatnawi et al. (2021); Park & Lee (2021); and Fama & Jensen (1983), there is evidence of an association of agency theory and firm performance. These studies suggest that managerial decisions as reflected in financial performance can be explained by agency theory.

H1: ROA positively influences firm value

Leverage towards firm value

Leverage can be defined as the ratio of total debt to equity, including short and long-term debt, based on a few studies before, said that leverage has an association with firm value. Firms with large debts still can increase their firm value because firms have a high commitment to clear the debts and increase the firm productivity (Kartika, 2023; Hau NGUYEN et al., 2021; Qureshi & Siddiqui, 2021; Muchia Desda, 2020).

Based on Pucheta-Martínez et al. (2022); Cordeiro et al. (2020); Vitolla et al. (2020), and Usman et al. (2018) it is evident that shareholders play a significant role in influencing firm value, especially in reducing agency costs. Increasing female representation in the boardroom can also contribute to lowering agency costs because females are likely to do monitoring to company performance.

H2: Leverage positively influences firm value

Numbers of female representation

Numbers of female representation are still being investigated by previous studies. Based on Usman, Zhang, Wang, et al. (2018), two or more female directors on a board are

better than none of the female directors on a board. A similar statement was also conveyed by Kabir et al. (2022) that there is a significant influence from the presence of females in the boardroom. This is because females are more careful to manage financial performance than men (Reddy & Jadhav, 2019). Another argument is that female representation must be considered because female directors can give divergent thinking from men (Chen et al., 2019).

The association between numbers of female representation and firm value has a positive impact (Ararat & Yurtoglu, 2021; Belaounia et al., 2020; Greene et al., 2020). This can occur because a higher presence of females in the boardroom often correlates with the increase in profitability of a firm, particularly when the female director has an active role in the boardroom (Ararat & Yurtoglu, 2021).

H3: The number of female representation on board positively influences firm value

The educational background of female directors

The educational background plays a crucial role in increasing firm performance because the educational background can improve every individual's cognitive ability and greater competence to decide on board (Bantel & Jackson, 1989). On the other hand, being a director is complicated, there is no relationship between a director's education major (such as a business) and company performance (Lindorff & Jonson, 201). However, there is a relationship between education level and graduates of prestigious – university qualifications and there is a significant correlation between CEOs' educational background and increasing firm performance (Darmadi, 2013). Based on this argument, directors with prestigious university qualifications may possess valuable networking opportunities and experiences.

Previous studies found a positive correlation between a female director's educational background and market value (Darmadi, 2013; Brahma et al., 2021). This is because to be in

the top management of the firm, the female directors should have higher education (Darmadi, 2013). Thus, in this argument, the hypothesis is:

H4: The level of female director educational positively influences firm value

METHODS

Population and Samples

The population of this study comprises manufacturing firms listed on the Indonesia Stock Exchange (IDX). This study uses a purposive sampling method i.e., 171 manufacturer firms in Indonesia. The firm’s annual report obtained data for Tobin’s Q, ROA, director characteristic measurements, and control variables. The criteria of the sample are manufacturing firms listed on the IDX from 2018-2022 and the manufacturing firm data are available on firm’s annual report.

Table 1. The Samples

No	Description	2018	2019	2020	2021	2022	Total
1.	Manufacturing firms listed on the IDX from 2018-2022	171	171	171	171	171	855
2.	Manufacturing firm data are not available on firm’s annual report	(56)	(41)	(36)	(44)	(38)	(215)
	Data that met the research criteria	115	130	135	127	133	640

Measure of Performance

The majority of previous studies used ROA or Tobin’s Q or both as company performance measures (Brahma et al., 2021; Usman, Zhang, Wang, et al., 2021; Rashid, 2020; Hau NGUYEN et al., 2021). Another previous study also conveyed that many researchers used Tobin’s Q as their firm performance proxy. This is because researchers believe in the significant advantages of Tobin’s Q ratio compared to assessing firm performance through historical financial data. This factor is also of concern to investors (Butt et al., 2023). Based

on these studies, Tobin’s Q is a measure of market-based. Tobin’s Q is calculated by comparing the ratio of the market value firm’s stock with the book value of the firm’s equity, as:

$$Tobin's\ Q = \frac{(stock\ price\ \times\ outstanding\ shares) + DEBT}{TA}$$

Where:

Tobins’s Q : Tobin’s Q Ratio

Stock price : Firm’s stock price

Outstanding shares : Total number outstanding shares of firm

DEBT : Debt

TA : Total asset

ROA (Return on Asset)

ROA is the ratio of a firm’s annual net income to the average total assets during a financial year (Brahma et al., 2021).

$$ROA = \frac{Net\ income}{TA}$$

where:

ROA : Return on asset ratio

Net Income : Total net income of firm

TA : Total asset

Leverage

Leverage is a ratio of a firm’s total debt divided by total assets during a financial year (Brahma et al., 2021).

$$Leverage = \frac{DEBT}{TA}$$

where:

Leverage : Debt ratio

DEBT : Debt

TA : Total asset

Director's Characteristics

To investigate the impact of female directors on firm performance, independent variable measures are numbers of female representation variable is given a value of 1 if there is any female director in the boardroom. The educational background variable is a given value of 1 if the female director has a master or Ph.D. degree or other professional qualifications (Brahma et al., 2021).

Firm Age

Firm age is measured by how long the company has been listed on Indonesia Stock Exchange (IDX).

RESULT AND DISCUSSION

Descriptive Statistic

Initially, 640 manufacturing firms met the research criteria, but this number decreased to 623 during the classical assumption tests. Below is the descriptive statistics of 623 research samples.

Table 2. The Descriptive Sstatistics

	N	Minimum	Maximum	Mean	Deviation Standard
ROA	623	-0.216	1.060	0.050	0.100
LEV	623	0.000	10.823	0.881	1.104
FP	623	0.000	1.000	0.440	0.497
ED	623	0.000	1.000	0.160	0.369
LN_FA	623	0.000	3.810	2.573	1.072
TOBIN'S Q	623	0.033	62.180	2.984	5.710

where:

ROA : Return on Asset ratio

FP : Numbers of female representation

ED : The educational background of female directors

LEV : Leverage (debt) ratio

LN_FA : Ln firm age

Tobin's Q : Tobin's Q ratio

The return on assets (ROA) ratio is obtained from the total net income of the firm divided by the total assets of the firm. The minimum value of the ROA variable is -0.216 and the maximum value is 1.060. The mean ROA variable is 0.050 which explains that the mean net income of the firm in this research data is 5.0% of the firm's total assets. The standard deviation of the return on asset variable is 0.100.

The leverage (debt) (LEV) ratio is obtained from the firm's debt divided by the firm's total assets. The minimum value of the LEV variable is 0.000 and the maximum value is 10.823. The mean of the LEV variable is 0.881 which explains that the mean debt of the firm in this research data is 88.0% of the firm's total assets. The standard deviation of the leverage variable is 1.104.

Numbers of female representation (FP) is a dummy variable of the existence of female directors in the boardroom. The minimum value of this variable is 0.000 and the maximum value is 1.000. The mean of numbers of female representation (FP) is 0.440 which explains that the mean of female representation in this research data is 44% in the firm’s boardroom. The standard deviation of numbers of female representation is 0.497.

The educational background of female directors (ED) is a dummy variable of female directors having master’s degrees, Ph.D., or other professional qualifications in a boardroom. The minimum value of this variable is 0.000 and the maximum value is 1.000. The mean of the educational background of female directors (ED) is 0.160 which explains that the mean educational background of female directors in this research data is 16% in the firm’s boardroom. The standard deviation of the educational background of female directors is 0.369.

Ln Firm Age (LN_FA) is obtained from the log of how many years the firm has been listed on IDX (Indonesia Stock Exchange). The minimum value of this variable is 0.000 and the maximum value is 3.810. The mean of the log firm age variable is 2.573 which explains that the mean of log firm age in this research data is 257.3% of total firms. The standard deviation of the log firm age variable is 5.710.

Fit Model Test and Coefficient of Determination

Table 3. The Coefficient Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.125 ^a	0.016	0.008	5.689312

a. Dependent Variable: TOBIN’S Q

b. Predictors: (Constant), LN_FA, LEV, FP, ROA, ED

Based on the coefficient determination test result, the adjusted R-square (R2) value obtained is 0.008 (0.8%). This means that independent variables in the model of this study can explain 0.8% of the dependent variable while the rest is explained by other variables.

Hypothesis Testing

Table 4 shows the result of the hypothesis testing:

Table 4. The Hypothesis Testing

ROA	0.005**
	2.820
LEV	0.168*
	1.380
FP	0.910
	0.113
ED	0.430
	-0.789
LN_FA	0.697
	0.389
R2	0.008

** Significant at the 0.05 level; * Significant at the 0.1; It is a 2-tailed test.

Hypothesis 1: Return on asset (ROA)

Based on Table 3, the return on asset variable has a p-value of 0.005 and a t-value of 2.820. The p-value is significant at the level of 5% and the coefficient corroborates hypothesis 1, ROA has a positive association on Tobin’s Q. This result showed higher the ROA variable, the higher Tobin’s Q is. This positive association can occur because ROA shows a company’s performance as a financial measurement.

This study is in line with the previous study by Sukesti et al. (2021) that explained that ROA has a positive effect on a stock price which is one of Tobin’s Q ratio equations. Because higher ROA shows how effectively firms manage their assets. Unlike the result of

Kartika et al. (2023), ROA does not affect firm value because there's no impact on market competitiveness with ROA meanwhile there are other variables that are more significantly impactful to firm value.

Hypothesis 2: Leverage

The leverage variable has a p-value of 0.168 and a t-value of 1.380. The p-value is significant at the 10% level and the coefficient corroborates hypothesis 2, leverage has a positive effect on Tobin's Q. This study is in line with the hypothesis because firms with large debts still can increase their firm value through clearing the debts.

This result is supported by a previous study by Kartika (2023), Hau NGUYEN et al. (2021), Qureshi & Siddiqui (2021), and Muchia Desda (2020) stated that firms with large debts will commit to clearing the debts that will increase firm value. Unlike the previous studies, there is no association between leverage and market value. Few researchers recommend that leverage could be combined with another measurement to look up the effect on market value (Bon & Hartoko, 2022; Ali et al., 2020; Ibrahim & Isiaka, 2020; Al-Slehat, 2019).

Hypothesis 3: Numbers of female representation

Number of female representation variables has a p-value of 0.938 and a t-value of 0.077. This study result contradicts the hypothesis because there's no evidence to support the influence of numbers of representation towards market value. This means that the presence of female directors on the board does not affect firm performance measured by Tobin's Q.

This study's results are in line with a previous study by Xing et al. (2021) that explains that females in the boardroom have a difficult time, but the challenges of being female in a leadership position cannot be negligible. Females tend to have difficulties to increase firm performance making investors think twice about investing and this will affect the market

value. A similar statement was also conveyed by Marpaung et al. (2022) that female directors are still facing challenges in making high-risk decisions, and certainly, the firm will lose on various opportunities for further growth. Furthermore, Liu et al. (2020) stated that the quality of female directors more affects firm performance than its quantity.

Hypothesis 4: The educational background of female director

The educational background of the female director variable has a p-value of 0.537 and a t-value of -0.618. This result contradicts the hypothesis because female directors' educational background as master's degrees Ph.D. and other qualifications are not important to increase firm performance measured by Tobin's Q.

This result is supported by a previous study by Lindorff & Jonson (2013) stating that a female director's educational background does not affect firm performance including business education or other background. Interestingly increasing the firm performance may be due to other factors such as environmental factors like luck or the company's timely positioning. Additionally, the CEO's behaviors, the firm will be perceived more positively when its employees report that the CEO possesses good qualities.

CONCLUSION

This study intended to investigate the influence of director characteristics i.e., numbers of female representation and the educational background of female directors and company performance measured by return on asset (ROA) and leverage towards firm value represented by Tobin's Q. The results of this study are (1) Return on asset (ROA) has a positive effect on Tobin's Q; (2) Leverage has a positive association on firm value; (3) Numbers of female representation on board does not affect firm value measured by Tobin's Q; (4) Female director's educational background does not affect firm value measured by Tobin's Q.

The findings of this study differ from another study in developed countries such as the United Kingdom, California, China, and Taiwan stated that there's a positive relationship between director characteristics represented by numbers of female representation and female education background with market value (Brahma et al., 2021; Ain et al., 2020; Greene et al., 2020; Wang, 2020; Usman et al., 2018). It means as a developing country, Indonesia needs to develop female quality not quantity, especially in the boardroom.

This study also has some practical implications. First, manufacturing firms in Indonesia need to develop the quality of female directors and give more attention to the behavior of female directors because focusing on the number of female directors and females' educational background is not adequate to increase firm value. Second, to determine the firm value of manufacturing firms in Indonesia, investors can use return on assets (ROA) and leverage as additional measurements because the higher ROA and leverage the higher firm value measured by Tobin's Q.

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