

## CHARACTERISTICS OF A GOOD BOARD OF DIRECTORS FOR INDONESIAN SOEs PERFORMANCE

Dian Kusuma Wardhani<sup>1\*</sup> and Wiwik Supratiwi<sup>2</sup>

<sup>1</sup> Department of Business and Finance, Vocational School, Diponegoro University, Semarang, Indonesia, 50241

<sup>2</sup> Department of Accounting, Faculty of Economics and Business, Airlangga University, Surabaya, Indonesia, 60286

---

### ABSTRACT

**Introduction/Main Objectives:** This research aims to empirically show the positive influence of the board of directors' characteristics on company performance, proxied by female directors, political connections, economic and/or business educational backgrounds, and education levels. **Background Problems:** Essential characteristics are required to produce quality strategies because they directly affect the performance of SOEs, and Regulation PER-8/MBU/08/2020 of the Minister of SOEs restructures the BOD to increase the proportion of women. **Novelty:** This research measures SOEs' performance from their financial, administrative, and operational aspects. It comprehensively assesses the dual function of SOEs as public servants and producers of state profits. **Research Methods:** A total of 245 Indonesian state-owned enterprises were examined between 2014 and 2019 using panel regression with the random effect model. The companies' performance data were obtained from the Information Management and Documentation Officer (PPID) of the Ministry of SOEs of the Republic of Indonesia (RI). **Finding/Results:** The results show that female directors and political connections positively influence the performance of SOEs. According to the robustness test, directors with economic and/or business education backgrounds positively influence the financial performance, and the higher the education level is, this negatively influences the performance of SOEs. **Conclusion:** Essentially, this research supports the plan of the Minister of SOEs to increase the proportion of women on the boards of directors. The findings also prove that political connections strengthen the personal qualities of SOE directors, whether they are female or not.

---

### ARTICLE INFO

#### *Article information:*

Received 23 April 2022.  
Received in revised version 30 October 2022.  
Received in revised version 21 November 2022. Accepted 28 November 2022

#### *Keywords:*

female directors, political connections, education background, education level, company performance

#### *JEL Code:*

G3, H1

---

\* Corresponding Author at Department of Business and Finance, Vocational School, Diponegoro University, Semarang, Indonesia.

E-mail address: diankusumawardhani@lecturer.undip.ac.id , Orcid ID 0000-0002-6194-1133 (author#1 & corresponding author), wiwik\_s@feb.unair.ac.id (author#2)

## INTRODUCTION

The injection of state capital participation (PMN) funds did not improve the negative performance of several Indonesian SOEs (Idris, 2019). This failure was attributed to the boards of directors' inability to choose strategies related to asset management and the effective use of the PMN (Arbar, 2020). According to the upper echelon theory a company reflects its board of directors (Hambrick & Mason, 1984). This means that the strategic quality of SOEs reflects the values and cognition of the boards of directors that shape and influence their management's mindset to achieve high performance (Cheng et al., 2010; Hambrick, 2007). Therefore, essential characteristics such as the level of education, a degree, female directors and political connections are required to produce quality strategies because they directly affect the performance of SOEs (Abatecola & Cristofaro, 2018; Cheng et al., 2010).

According to certain studies, female directors have a dominant effect because they have strong conservatism to retain earnings management, and communication excellence for strategic decision-making and performance improvement (Bennouri et al., 2018; Conyon & He, 2017; Fan et al., 2019). Additionally, they are critical of company reports that increasingly demonstrate management's excellence in delivering maximum performance (Harjoto & Rossi, 2019; McGuinness et al., 2017; Nekhili et al., 2017).

The Minister of SOEs' Regulation PER-8/MBU/08/2020 restructures the boards of directors to increase the proportion of women on them (Mahrofi, 2020; Pratama, 2020). According to Pucheta-Martínez & Gallego-Álvarez (2019), this effort needs support because female directors positively affect company performance. Moreover, this shows that there is no glass ceiling in Indonesian SOEs because

women are capable of occupying top management positions.

Since 2017, the Board of Directors of Perum Peruri has been led by a female President Director, Dwina Septiani Wijaya, whose leadership has improved the company's performance, which had declined in the previous three years (Bureau of Communications of Perum Peruri, 2019). Dwina Septiani Wijaya worked on the assignment of the government and Bank Indonesia and developed Peruri's business line in the digital world. Furthermore, Dwina Septiani Wijaya acquired PT Cardsindo Tiga Perkasa, expanded its international market, and won an IDR 255 billion tender to print Peruvian sol banknotes (Ananda, 2020). Consequently, this strategy made Peruri's performance soar high in 2019, with a net profit of IDR 652.784 billion (Perum Peruri, 2019).

This positive effect supports the upper echelon theory that female directors' cognitive abilities open new ways for interpreting better strategic decisions through digital innovation and business development to produce high performance (Hambrick, 2007). In contrast, Lim et al. (2019) stated that the strict supervision of female directors disrupts communication between managers and reduces company performance. Additionally, Saleh et al. (2021) found that female directors have no influence because their appointments are not based on merit but as compensation for the replacement of their male relatives.

Pucheta-Martínez & Gallego-Álvarez (2019) did not address the negative performance of SOEs for two reasons. First, their sample comprised of public companies in countries with a one-tier board system, while Indonesia adheres to a two-tier board. Second, not all Indonesian SOEs are listed on the capital market, meaning that the performance measurement of Tobin's Q is irrelevant. Therefore, this research fills the gap

by exploring previous findings on the influence of female directors. Also, it analyzes the characteristics of the boards of directors in other two-tier board systems that affect the strategy's quality and high-performance's implementation in the SOE samples.

Previous research only measured the performance of Indonesian SOEs using ROA and ROE, which only show the financial aspect (Astami et al., 2010; Harymawan et al., 2020). In comparison, this research measures SOEs' performance from their financial, administrative, and operational aspects, based on a copy of the Decree of the Minister of SOEs Number KEP-100/MBU/2002. It comprehensively assesses the dual function of SOEs as public servants and producers of state profits. Specifically, this research obtains empirical evidence supporting the upper echelon theory that boards of directors' characteristics positively affect companies' performance. Additionally, political connections and the education of directors determine the acceptance of information, their mindset, and interpretive abilities that affect the strategy's quality in facing business complexities (Altuwajiri & Kalyanaraman, 2020; Elsharkawy et al., 2018; Pucheta-Martínez & Gallego-Álvarez, 2019; Sharma et al., 2020).

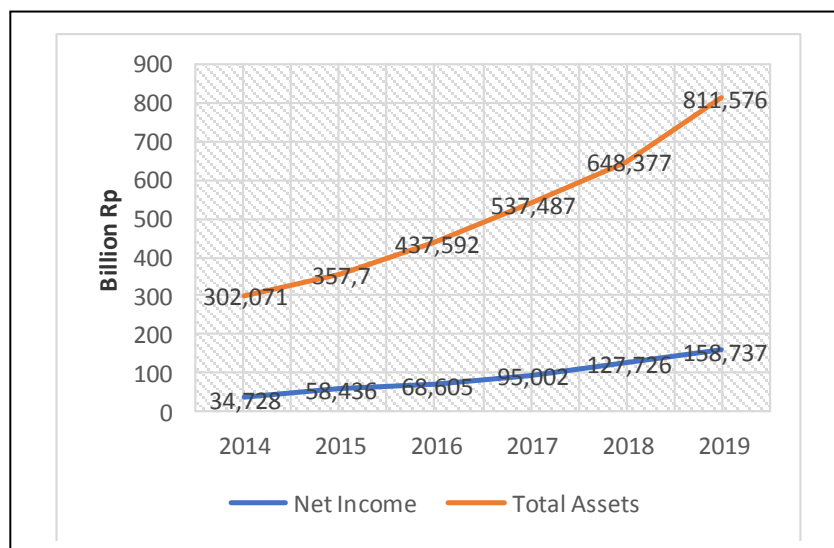
Directors that have previously worked or held positions in the executive or legislative institutions closely relate with the government and are politically connected (Wu et al., 2018). The positive influence of these connections is shown by PT Semen Baturaja Persero Tbk in Table 1. The work experience enables the directors to better understand the effect of government policies to promote performance on the company's operations (Zhang, 2017).

This finding strengthens the upper echelon theory that previous work experience in executive or legislative institutions influences the selection of directors' strategies in working and facing problems to create higher performance (Abatecola & Cristofaro, 2018). Political connections could have a negative effect because they open the risk of corruption, influencing operations and resulting in performance inefficiency (Chancharat et al., 2019; Chong et al., 2018). The negative effect could be even stronger because some Indonesian businesses have political influence (Harymawan Nasih Madyan et al., 2019). In contrast, Bertrand et al. (2018) shows that performance remains the same even when the company is led by politically connected directors.

**Table 1.** The Influence of the Board of Directors' Political Connections on Performance Scores of PT Semen Baturaja Persero Tbk

Year	Political Connected Directors (%)	Performance Score		
		Finance	Administration	Operational
2014	40	60.89	13.05	13.05
2015	40	62.18	13.32	13.32
2016	40	63.55	13.62	13.62
2017	0	57.18	12.25	12.25
2018	0	47.60	10.20	10.20
2019	0	49.19	10.54	10.54

Source: Ministry of SOEs, Processed Data (2021)

**Figure 1.** Net Income and Total Assets of PT TWC for the 2014 - 2019 period

Source: 2014-2019 PT TWC Annual Report, Processed Data (2020)

This research divides the educational construct into economics and business and the directors' level of education. Directors with economics and/or business education backgrounds have sufficient knowledge to read and analyze financial statements appropriately, resulting in better decisions (Elsharkawy et al., 2018). Also, they ensure the company's cash is not abused by investing the surplus for performance's maximization (Mun et al., 2020). This is evidenced by PT Taman Wisata Candi Borobudur, Prambanan & Ratu Boko (TWC) (Persero), which always performs positively because its directors have a solid education in economics and business (Figure 2).

Highly educated directors are needed in

business because they think critically, create innovation, and pay a lot of attention to R&D. This gives companies a competitive advantage to produce higher long term performance (King et al., 2016), as shown by PT Kawasan Industri Wijayakusuma (KIW) (Persero) in Table 2. Based on the upper echelon theory, this finding explains that the level of education illustrates the directors' intellectual abilities. Therefore, it determines their managerial skills and strategic choices for achieving a competitive advantage and superior performance (Hambrick, 2007). According to Nakavachara (2020), the directors' technical skills in managing company resources result in superior performance, but a higher level of education does not guarantee these abilities.

**Table 2.** The Influence of Education Level of Directors on PT KIW Performance Score

Year	Level of education	Performance Score		
		Finance	Administration	Operational
2014	Master	65.45	14.03	14.03
2015	Bachelor	51.10	10.95	10.95
2016	Bachelor	64.33	13.79	13.79
2017	Bachelor	60.97	13.07	13.07
2018	Bachelor	62.93	13.49	13.49
2019	Bachelor	56.77	12.17	12.17

Source: Ministry of SOEs, Processed Data (2021)

This research uses the size of the firm, the size of the board of directors, and leverage as control variables (Harymawan et al., 2020; Pucheta-Martínez & Gallego-Álvarez, 2019). Observations were conducted between 2014 and 2019 due to the change of government and the many restructurings of SOEs' directors that could affect performance. The results found a positive influence of female directors and political connections on SOEs' performance. An economics and/or business educational background positively affects financial performance, while the education level negatively influences SOEs' performance. Furthermore, this research supports the plan of the Minister of SOEs to increase the proportion of women on the boards of directors. The plan considers political connections as well as educational backgrounds in economics and/or business to strengthen the quality of the SOEs' directors. The rest of this study is structured as follows. Section 2 discusses the literature review. Section 3 provides the methodology. Section 4 presents the empirical analysis. Finally, Section 5 offers the conclusion.

## LITERATURE REVIEW

### 1. Upper Echelon Theory

Hambrick & Mason (1984) developed the upper echelon theory, stating that a corporation reflects its board of directors, which is a collection of individuals with various characteristics. The different characteristics provide various management perspectives reflected in the choice of strategy. The quality of this strategy choice also directly determines the level of company performance (Abatecola & Cristofaro, 2018). Therefore, better characteristics of the board of directors result in superior performance because of high-quality strategy choices (Kaur & Singh, 2018).

Companies with a large board of directors have authority or conditions where they have

high freedom in the management of the company while the quality and characteristics of the board of directors are vital because they affect the selection of information, the views when responding to information, and how the board decides on the meaning of any information they receive (Abatecola & Cristofaro, 2018; Hambrick, 2007). These characteristics assist the board of directors to process information effectively and to deal with ambiguity and complex company operations to produce quality strategies to obtain optimal performance (Saeed & Ziaulhaq, 2019).

This theory emphasizes that a rational board of directors makes decisions based on reasoning and social experience (Elsharkawy et al., 2018). For large companies, attention to the board of directors' characteristics has a greater positive effect because it ensures the implementation of complex corporate strategies (Hambrick, 2007). Therefore, it is important to know the characteristics of the members of the board of directors, such as their level of education, if they hold a degree, are there female directors and do any of the members have political connections, to ensure they produce quality strategies and high performance in today's complex business conditions (Abatecola & Cristofaro, 2018; Cheng et al., 2010).

### 2. Hypothesis Development

#### 2.1. Female Directors

The upper echelon theory explains that the personal characteristics of female directors influence the selection of management strategies. In this case, the quality of these strategies directly impacts company performance (Hambrick, 2007; Hambrick & Mason, 1984). They provide a new way of thinking that brings in the dynamics of strategic decision-making, resulting in better performance than homogeneous boards of directors can offer (Lim et al.,

2019). Previous research has proven that female directors have superior communication skills, are oriented toward a high output, and are critical of the reporting quality, thereby improving company performance (Bennouri et al., 2018; Cheng et al., 2010; Pucheta-Martínez & Gallego-Álvarez, 2019).

The development of the upper echelon theory states that female directors affect the choice of management strategy, where the strategy's quality will impact the resulting company performance (Hambrick, 2007; Hambrick & Mason, 1984). Positive findings by previous studies, supported by the upper echelon theory, show that the cognitive abilities of female directors open new ways to interpret the process's management by producing better strategic decisions, thereby increasing corporate performance (Abatecola & Cristofaro, 2018; Hambricks, 2007). Based on this idea, the first hypothesis is:

H<sub>1</sub>: The proportion of women on the board of directors has a positive influence on company performance.

### 2.2. Board of Directors Political Connection

Directors who worked or served in executive or legislative institutions are stated to be politically connected (Wu et al., 2018). In the upper echelon theory, political connections include the construct of work experience (Hambrick & Mason, 1984). Politically connected directors have easier access to government-controlled resources and better knowledge of government policies (Sharma et al., 2020; Wu et al., 2018). This connection makes them select a company strategy based on their work experience (Hambrick, 2007; Hambrick & Mason, 1984). Furthermore, proximity to the government ensures that the company's strategy runs effectively to achieve superior performance (Abatecola & Cristofaro, 2018). Referring to the findings of the positive effects of previous

studies and the rationale for the upper echelon theory, the second hypothesis of this study is formulated as follows:

H<sub>2</sub>: The proportion of political connections that the members of the board of directors have positively influences company performance.

### 2.3. Board of Directors Education

A background in economics and/or business is the preferred education for directors. According to the upper echelon theory, the characteristics of an economics and/or business education is reflected in the firm's financial performance (Abatecola & Cristofaro, 2018; Hambrick & Mason, 1984). This theory explains that an educational background in economics and/or business helps directors process financial information effectively to produce quality strategies (Hambrick, 2007). Good strategies balanced with best management practices are guaranteed to produce optimal performance (Cheng et al., 2010). Elsharkawy et al. (2018) show that directors with economics and/or business education backgrounds have sufficient knowledge to read and analyze financial statements properly, meaning that the quality of their financial strategies is better. Furthermore, Morresi (2017) mentioned that economic and/or business knowledge promotes the business ability of the directors toward higher performance. If the financial strategy is balanced with practical financial management, then directors with a background education in economics and/or business can be a guarantee to produce optimal company performance. Therefore, the third hypothesis is:

H<sub>3a</sub>: The economics and/or business educational background of the board of directors' members positively influences company performance.

The directors' education levels affect a company's performance because they show the

members' level of intellectual ability. In this case, higher education increases comprehensive and critical thinking. Cheng et al. (2010) stated that higher education levels significantly affect a person's intellect and competence, thus enabling him/her to produce higher performance. Hence this enables directors to manage their business's operational risks and create innovations to improve its performance (King et al., 2016). In line with this, Altuwaijri & Kalyanaraman (2020) show that highly educated directors have better asset management skills. They are able to create effective and profitable strategies, making them valuable resources for the company. The upper echelon theory explains that the education level normally determines the level of intellectual thinking. This determines the directors' managerial skills and ability to achieve a competitive advantage through their chosen strategy to produce superior performance (Hambrick, 2007). Therefore, the last hypothesis is:

H<sub>3b</sub>: The education level of the board of directors' members positively influences their company's performance.

## METHOD, DATA, AND ANALYSIS

### 1. Data and Sample

This research's intent was to compare the performance of the SOEs with and without a proportion of female directors. The research sample comprised Indonesian SOEs, and the study period was between 2014 and 2019. This period was chosen because there was a change in the Indonesian government in 2014 and 2019. Furthermore, there were many restructurings of the directors of SOEs that affected the SOEs' performance. The initial research population was 684 observations, but 108 financial industries were excluded. This was due to the strict supervision of the financial authorities, making it difficult to compare financial and non-financial

industry reports (Formigoni et al., 2020). Also, 17 state-owned enterprises with losses were excluded from the observations, as this study was to be conducted on SOEs that were in a positive financial condition and hence relevant for comparison (Pan & Tang, 2020). Companies that did not publish annual reports or provide the research information needed were also excluded, resulting in 245 observations. Data on the characteristics of the boards of directors were obtained from the annual reports published on the official website of each SOE. Furthermore, each company's performance data were obtained via email from the Information Management and Documentation Officer (PPID) of the Ministry of SOEs of the Republic of Indonesia (RI).

## 2. Operational Definition and Variable Measurement

### 2.1. Dependent Variable

Company performance was measured by the total value of the financial, operational, and administrative aspects based on a copy of the Decree of the Minister of SOEs Number KEP-100/MBU/2002 (table 3). This measurement was chosen because it is a statutory regulation to comprehensively assess SOEs' performance. In this case, the SOEs are development agents responsible for generating profits and serving the public (Harymawan et al., 2020).

**Table 3.** SOE Performance Level

Category	Score	Value Range
Healthy	AAA	NT > 95
	AA	80 < NT <= 95
	A	65 < NT <= 80
Unhealthy	BBB	50 < NT <= 65
	BB	40 < NT <= 50
	B	30 < NT <= 40
Not healthy	CCC	20 < NT <= 30
	CC	10 < NT <= 20
	C	NT <= 10

Source: Ministry of SOEs (2002), Processed Data

## 2.2. Independent Variable

Chen et al. (2021) state that female directors are measured by percentage. This measurement was chosen to reflect the change in the proportion of female directors during the research period.

Political connections were measured using the ratio of the number of politically connected board members to the total number of members on the company's board of directors (Hu et al., 2020). According to Wu et al. (2018), this is the proportion of the board of directors that have worked or served in executive or legislative institutions at the central and regional levels. This data were obtained from information provided about the work experience of the board members in the directors' profiles in the annual report. Work experience or positions as members of the army or police are excluded because they are categorized as military connections (Harymawan, 2018).

The measurement of the directors' educational background in economics and/or business was adopted from Mun et al. (2020) using the percentage of members. The percentage was chosen to facilitate the comparison of the board of directors with people with an economics and/or business education who work for state-owned enterprises.

The education level was measured using the average educational level of the board of directors (Kuo et al., 2018). The calculation was based on points awarded for the level of education, where 4 = doctoral degree, 3 = a master's, 2 = undergraduate, and 1 = others and lower secondary school.

$$EDU = \frac{\text{the total value of the education level of the board of directors}}{\sum \text{the board of directors}}$$

## 2.3. Control Variable

Firm size was measured by the natural logarithm of total assets (Pucheta-Martínez & Gallego-

Álvarez, 2019), while leverage used the debt ratio (total debt divided by total assets) (Harymawan et al., 2020). The size of the board of directors was measured by calculating the total number of directors for each company (Conyon & He, 2017).

## 2.4. Empirical Model

The research used panel regression with a random effect model. Winsorizing was carried out at the 1% and 99% levels to overcome outliers and make the sample free from bias, which would affect the results (Pan & Tang, 2020). The research regression model is:

$$FP_{i,t} = \alpha + \beta_1 DW_{i,t} + \beta_2 KP_{i,t} + \beta_3 BUS_{i,t} + \beta_4 EDU_{i,t} + \beta_5 BS_{i,t} + \beta_6 FS_{i,t} + \beta_7 LEV_{i,t} + \varepsilon$$

FP<sub>i,t</sub> = company i's performance in year t.  $\alpha$  = constant.  $\beta$  = regression coefficient. DW = female directors of the company i in year t. KP = political connection of directors. BUS = the economics and business education background of the directors. EDU = education level of the board of directors. BS = size of the board of directors. FS = firm size. LEV = leverage of company i in year t.  $\varepsilon$  = error term.

## RESULT AND DISCUSSION

### 1. Descriptive Statistics

Table 4 shows that FP had a mean of 82,066 (min 32,300; max 100,00), meaning that the observed companies were in the healthy category. DW showed a mean of 0.080 (min 0.000; max 0.667), meaning the proportion of female directors under observation was 8%. Moreover, KP had a mean of 0.088 (min 0.000; max 0.500), implying 8.8% of the directors were politically connected. Similarly, BUS had a mean of 0.623 (min 0.000; max 1.000), meaning that there were 6.23% of directors with an



economic and/or business education. EDU showed a mean of 2.797 (min 2,000; max 3,500), meaning that the directors of the observed companies had a bachelor's level education.

## 2. Pearson Correlation Test

A Pearson test was conducted to determine the direction and linear relationship between the two variables studied (Harymawan Nasih Ratri et al., 2019). Table 5 shows a correlation between FP and KP, BS, and LEV. The results showed that SOEs with numerous directors, many of whom were highly politically connected, produced better performance, while higher leverage reduced a company's performance.

## 3. Best Model Selection

This research used panel data with three regression models, including common effects (CE), fixed effects (FE), and random effects (RE) (Latimaha et al., 2019). The best model was selected by using the Chow, Hausman, and Lagrange Multiplier (LM) tests. In Table 6, the Chow test shows a p-value of 0.000, meaning that FE was better than CE. Moreover, the Hausman test p-value of 0.130 meant that RE was better than FE, while the p-value of the LM test was 0.000, which meant that RE was better than CE. Based on the results of the three tests, RE was selected as the best model for testing the hypotheses.

**Table 4.** Descriptive Test Results

Variable	Average	Minimum	Maximum	Standard Deviation
FP	82,066	32,300	100,000	10,762
DW	0.080	0.000	0.667	0.130
KP	0.088	0.000	0.500	0.128
BUS	0.623	0.000	1,000	0.239
EDU	2,797	2,000	3,500	0.280
BS	4,971	2,000	11,000	1,675
FS	29,294	24,898	33,922	1,861
LEV	0.500	0.078	0.997	0.239

Source: Processed Data (2021)

**Table 5.** Pearson Correlation Test Results

	FP	DW	KP	EDU	BUS	FS	BS	LEV
FP	1,000							
DW	0.079 (0.219)	1,000						
KP	0.253*** (0.000)	0.264*** (0.000)	1,000					
EDU	0.003 (0.958)	0.003 (0.965)	-0.045 (0.484)	1,000				
BUS	0.034 (0.597)	0.115* (0.072)	-0.036 (0.571)	0.250*** (0.000)	1,000			
FS	-0.013 (0.835)	-0.131** (0.040)	-0.073 (0.251)	-0.043 (0.501)	0.097 (0.130)	1,000		
BS	0.171*** (0.007)	-0.007 (0.915)	0.066 (0.306)	0.041 (0.527)	0.021 (0.740)	0.557*** (0.000)	1,000	
LEV	-0.248*** (0.000)	-0.011 (0.860)	-0.236*** (0.000)	0.274*** (0.000)	-0.095 (0.138)	0.196*** (0.002)	0.107* (0.096)	1,000

Notes: The research sample included 245 non-financial state-owned enterprises. The \*, \*\* and \*\*\* signs are significant at the 10%, 5% and 1% levels.

Source: Processed Data (2021)

**Table 6.** Best Model Selection

Test	Sig	Criteria	Description	Decision
Chow	0.000	< 0.050	The fixed effect is better than the common effect	<i>Fixed effect</i>
Hausman	0.130	> 0.050	The random effect is better than the fixed effect	<i>Random effect</i>
LM	0.000	< 0.050	The random effect is better than the common effect	<i>Random effect</i>

Source: Processed Data (2021)

#### 4. Hypothesis Testing and Discussion

Table 7 shows a panel regression analysis with a random-effects approach processed using the Stata version 14 application. The first hypothesis was that the proportion of women on the board of directors would positively influence a company's performance. The hypothesis testing results showed that the p-value of DW was positive and significant at 10%. This meant that female directors and company performance had a unidirectional relationship. Therefore, the first hypothesis (H1) was accepted as the proportion of women on the board of directors did positively affect company performance.

The second hypothesis was that the proportion of politically connected board members positively affected company performance. The p-value of KP was positive and significant at 5%. Therefore, the second hypothesis (H2), that the proportion of politically connected members of the board of directors would positively influence company performance was also accepted.

The results of the BUS p-value were not significant at all levels, meaning that H<sub>3a</sub> was rejected. This finding proved that the board of directors' economics and/or business educational background did not influence the company's performance. Conversely, the p-value of EDU was negative and significant at 5%. This showed the negative effect of the education level of the

board of directors on the company's performance, meaning that H<sub>3b</sub> was rejected.

**Table 7.** Panel Regression Analysis Results with Random Effect Approach

Description	Coef (z)
Constant	85,684*** (5,650)
Female Directors (DW)	8,083* (1,860)
Political Connection (KP)	11,385** (2,520)
Education Level (Baskaran et al.)	-5,856** (-2,440)
Economics and Business Education Background (BUS)	3,940 (1,270)
Firm Size (Utami et al.)	0.230 (0.470)
Board of Directors Size (BS)	0.904* (1,700)
Leverage (Lev)	-6,519* (-1,710)
Prob > chi2	0.000
R <sup>2</sup>	0.084
N	245

Notes: Signs \*, \*\* and \*\*\* indicate significant at the 10%, 5% and 1% levels.

Source: Processed Data (2021)

The R<sup>2</sup> value of 0.084 meant that female directors, political connections, economics, business educational background, education level of directors, board of directors' size, firm size, and leverage all explained the SOEs performance by 8.4%. The remaining 91.6% would be explained by other variables outside this research model.

### 5. The Influence of Female Directors on Company Performance

The findings showed that the proportion of women on the board of directors positively influenced Indonesian SOEs' performance. This is line with Lim et al. (2019), Bennouri et al. (2018), Cheng et al. (2010), and Pucheta-Martínez & Gallego-Álvarez (2019). SOEs female directors bring new perspectives, and their representation is important because they are oriented toward high results and have very good communication skills. Additionally, they think critically about the reporting quality, and produce better management strategies that create better performance (Bennouri et al., 2018; Chen et al., 2021).

This finding supports the upper echelon theory that female directors influence the choice of management strategy (Hambrick & Mason, 1984). Also, women's cognitive abilities open up new ways of interpretation by producing better strategic decisions to improve corporate performance (Abatecola & Cristofaro, 2018; Hambrick, 2007). According to the upper echelon theory, female directors have personal constructs that prefer relational relationships (Chadwick & Dawson, 2018). These constructs

make them more empathetic, they always exchange information, and consider the thoughts of other parties during strategic planning (Hoobler et al., 2018; Low et al., 2015). Consequently, high-quality decisions are made, and good work collaboration is fostered (Post, 2015). These quality strategic decisions result in high performance, indicating the positive influence of female directors on performance (Table 8).

Based on the findings, the plan by the SOEs' minister to increase the proportion of women on the boards of directors needs support. Ullah et al. (2019) showed that women-led SOEs have better accounting performance because their close monitoring limits the opportunistic opportunities of the directors under them. Furthermore, their persistence in maintaining a competitive advantage improves the public image of the SOEs.

The findings show that female directors of Indonesian SOEs have improved their companies' performance. The result strengthens the role of women and eliminates the glass ceiling in SOEs. This belief is strengthened by the Srikandi SOEs community, spearheaded by 11 female directors (Srikandi BUMN, 2021). The community is a forum to support each other and

**Table 8.** Positive Influence of Representation of Female Directors on SOEs Performance

No	Company	Year	Female Directors (%)	Performance Score
1	Perum LKBN ANTARA	2016	0	93.50
		2017	0	84.06
		2018	25	94.51
2	PT Berdikari (Persero)	2017	0	32.30
		2018	33	77.00
		2019	33	78.75
3	PT Sucofindo (Persero)	2017	0	93
		2018	0	94
		2019	20	95
4	PT Waskita Karya Tbk	2016	17	82.75
		2017	0	80.75
		2018	0	80.50

Source: Processed Data (2021)

build personal and professional capability. Additionally, it makes all parties aware of competency and performance-based career development regardless of gender. The existence of this community shows that female directors of SOEs have a good work ethic, the ability to build networks, and good self-actualization. Therefore, the proportion of female directors positively influences company performance.

#### **6. The Influence of the Board of Directors' Political Connections on Company Performance**

The proportion of political connections of the board of directors positively influenced the performance of state-owned enterprises. These results support the upper echelon theory because political connections are a construct of work experience (Hambrick, 2007; Hambrick & Mason, 1984). According to this theory, politically connected directors are outsiders appointed by the Minister of SOEs as directors. They bring their cognition, values, and knowledge from their previous work experiences to create new perspectives for the SOEs' strategic decision-making. These decisions are better because they are created from the broader knowledge of the boards of directors. The decisions complement the limitations of the insider directors who have only pursued a career in the SOEs (Hambrick & Mason, 1984).

This finding supports Wu et al. (2018), who state that politically connected directors have better knowledge of government policies. They have been in a policy-making environment and know the best practices for companies, in line with government regulations. Also, Sharma et al. (2020) stated that political connections give directors easier access to government-controlled resources, because they are close to their managers. In line with this, access to and knowledge of the political connections of

directors motivates SOEs directors to use their facilities to maximize performance (Sharma et al., 2020; Wu et al., 2018). Therefore, the higher the proportion of political connected members there are on the boards of directors, the higher the performance of the SOEs is.

#### **7. The Influence of Board of Directors' Education on Company Performance**

The board of directors' economics and/or business educational backgrounds does not influence their company's performance. The upper echelon theory explains that directors with these backgrounds are expected to have better cognitive abilities for formulating policies to produce higher financial returns (Hambrick & Mason, 1984). SOEs' performance is measured from the financial and administrative aspects or the achievement of community services. Also, it is measured from the operational aspect through the successful implementation of government duties. Therefore, directors with educational backgrounds in economics and/or business cannot sufficiently accommodate all the work targets to produce a higher performance. In line with this, Kanakriyah (2021) states that directors with educational backgrounds in economics and/or business only have financial expertise. Managerial and technical skills related to operations are also needed to achieve a higher performance. These skills are obtained from work experience and an understanding of the company's business operations.

SOEs with economically educated directors and below-average businesses have above-average or higher performance (see Table 9). This shows that directors with economics and/or business education backgrounds have not contributed optimally to the improved performance. Based on the upper echelon theory, Abatecola & Cristofaro (2018) showed that the many responsibilities of the board of directors (profit

producers and development agents) could be a management obstacle. Therefore, they cannot optimize their financial expertise and fail to achieve higher performance. Their lack of managerial and technical operational skills and their many responsibilities, make their cognitive abilities ineffective. As a result, they do not affect the performance of SOEs.

The higher education level negatively affects the performance of SOEs. PT Len Industri (Persero) in Table 9 shows that the directors' education levels reduced the company's performance. Nakavachara (2020) shows that having a higher education does not guarantee that directors have better managerial and company management skills. SOEs' directors with higher education (master's/doctoral) are rigid because they lack corporate experience (Laucereno, 2021). This is exacerbated by the lack of communication between the board of directors, the absence of highly educated directors, and their short tenure (Lee et al., 2021). Consequently, these conditions create a conflicting mindset for solving problems between directors

with a bachelor's and a master's or doctoral degree. Therefore, it becomes an obstacle to producing good strategic decisions (Urquhart & Zhang, 2021).

The upper echelon theory states that higher education is the capital for directors to better understand governance and become innovation-oriented. Therefore, they formulate the best strategy to achieve a high performance (Hambrick & Mason, 1984). Based on these findings, SOEs require directors with superior competence in strategic management and policy formulation to produce a higher performance. However, higher education levels do not guarantee that directors have these advantages (Hambrick & Mason, 1984; Lee et al., 2021; Nakavachara, 2020; Urquhart & Zhang, 2021). Education related to corporate management should be conducted after the recruitment of the directors. This ensures that highly educated directors have the same mindset as the company's expectations. As a result, their cognitive abilities create business opportunities and innovations for higher performance.

**Table 9.** Performance Comparison of State-Owned Enterprises

No	Company	Year	FD (%)	EDU	BUS (%)	KP (%)	Score Per Aspect			Total Score	Category
							Fin	Adm	Op		
1	PT Adhi Karya (Persero) Tbk	2014	0	S1	33	0	55.08	11.81	11.81	78.70	Healthy
		2017	0	S1	83	0	49.85	10.68	10.68	71.21	Healthy
2	PT ASDP Indonesia Ferry (Persero)	2015	33.33	S1	40	40	40.02	12.00	28.01	80.03	Healthy
		2019	0	S1	100	17	38.08	11.42	26.65	76.15	Healthy
3	PT Biro Klasifikasi Indonesia (Persero)	2016	0	S2	100	0	42.75	12.82	29.93	85.50	Healthy
		2018	0	S1	50	0	44.80	13.44	31.36	89.60	Healthy
4	PT Indonesia Asahan Aluminium (Persero)	2016	0	S2	75	0	49.34	10.58	10.58	70.50	Healthy
		2017	0	S1	50	25	59.70	12.80	12.80	85.30	Healthy
5	PT Len Industri (Persero)	2014	25	S1	50	25	58.10	12.45	12.45	83.00	Healthy
		2016	0	S2	75	25	44.44	9.53	9.53	63.50	Unhealthy
6	PT Pelayaran Nasional Indonesia (Persero)	2014	0	S1	83	17	50.09	10.73	10.73	71.55	Healthy
		2019	0	S1	50	17	67.20	14.40	14.40	96.00	Healthy

*Notes:* FD = percentage of female directors. EDU = average level of education of directors. BUS = percentage of directors with economic and/or business education. KP = percentage of directors connected to politics. Fin = finance. Adm = administration. Op = operational.

*Source:* Processed Data (2021)

## 8. Robustness Test

The robustness test proved the durability of the main model's results. The companies' performance was measured by their financial, administrative, and operational aspects separately. This aimed to determine the effect of the independent variables on each performance aspect, to obtain more detailed results. Also, panel data regression with random effects models and control variables were maintained.

Referring to Table 10, female directors, political connections, and education levels show the same results as the main model. Different results are shown by an economics and/or business education background, which positively influences SOEs' financial performance. This finding supports Elsharkawy et al. (2018) and Morresi (2017) that directors with economics and/or business education backgrounds have the knowledge to read and analyze financial statements properly. Therefore, the quality of their financial strategies is better. Furthermore,

these results support the upper echelon theory in that an economics and/or business educational background helps directors to process financial information effectively. As a result, they improve the quality of their companies' strategies and performance (Hambrick, 2007; Hambrick & Mason, 1984).

Based on the main model and robustness test findings, the plan by the Minister of SOEs to increase the proportion of women on the boards of directors is the right step. Additionally, it is recommended to consider politically connected directors because, based on Table 9 and the results in Table 10, companies that have female directors and board members with political connections can optimize their performance. Directors with an economics and/or business education background improve SOEs' financial performance. These results support and strengthen the findings of the main model and prove their robustness.

**Table 10.** Robustness Test

Description	(1)	(2)	(3)
Constant	65,113*** (0.000)	12,824*** (5,530)	16,605*** (4,070)
Female Directors (DW)	6,484** (2,080)	1,342** (1,830)	1,835* (1,840)
Political Connection (KP)	6,176* (1,870)	1,866*** (2,610)	2,153** (2,040)
Education Level (Baskaran et al.)	-6,198*** (-3,420)	-0.908** (-2,400)	-1,437** (-2,400)
Economics and Business Education Background (BUS)	5,050** (2,140)	0.574 (1,180)	0.683 (0.870)
Firm Size (Utami et al.)	0.021 (0.060)	0.036 (0.490)	0.118 (0.960)
Board of Directors Size (BS)	0.227 (0.550)	0.159* (1,920)	0.053 (0.370)
Leverage (Lev)	-2,683 (-0.880)	-1,155* (-1,940)	-0.982 (-0.900)
Prob > chi2	0.000	0.000	0.003
R <sup>2</sup>	0.012	0.092	0.042
N	245	245	245

Note: models (1), (2), and (3) show performance measurement in financial, administrative, and operational aspects. Signs \*, \*\* and \*\*\* indicate significant at the 10%, 5% and 1% levels.

Source: Processed Data (2021)

## CONCLUSION AND SUGGESTION

This research empirically proves the positive influence of the boards of directors' characteristics on SOEs performance. The findings show that female directors and political connections have a positive influence, while the level of the members' education negatively affects performance. Furthermore, an economics and/or business education background positively influences financial performance.

This research has implications in three ways. The first implication is the support for the upper echelon theory. Positive findings on female directors, political connections, and an economics and/or business education background influence the choice of strategic decisions, thus improving performance. Second, this research supports the Minister for SOEs' plan to increase the proportion of women on the boards of directors by showing the positive influence of female directors. Third, it supports the development of research related to the characteristics of the boards of directors. The findings show that female directors and political connections positively affect the performance of SOEs with a two-tier board management system.

However, this research was limited by the number of SOEs and their lack of a response to requests for them to publish their annual reports. In this research, the proportion of female directors was 8% or 20 observations in the entire sample. Therefore, further research should examine more SOEs with a sample of more than 30 female politically connected directors who are highly educated in economics and business. Also, identify which positions on the boards the female directors occupied and sharpened the performance of. It is expected to enrich the perspective and contribute more to improving the negative performance of the SOEs.

## REFERENCE

- Abatecola, G. Cristofaro, M. (2018). Hambrick and Mason's "Upper Echelons Theory": evolution and open avenues. *Journal of Management History*.
- Altuwajri, B. M. Kalyanaraman, L. (2020). CEO education-performance relationship: Evidence from Saudi Arabia. *Journal of Asian Finance, Economics and Business*, 7(8), 259-268.
- Ananda, A. (2020). Biro Komunikasi Perum Peruri. Retrieved from: <https://www.cnnindonesia.com/ekonomi/20200108190904-92-463601/peruri-cetak-uang-peru-dibayar-rp255-miliar>
- Arbar, T. F. (2020). Disentil Sri Mulyani, 2 dari 7 BUMN Tekor Mulai Cetak Laba. Retrieved from: <https://www.cnbcindonesia.com/market/20200627142307-17-168484/disentil-sri-mulyani-2-dari-7-bumn-tekor-mulai-cetak-laba>
- Astami, E. W., et al. (2010). The effect of privatisation on performance of state-owned-enterprises in Indonesia. *Asian Review of Accounting*, 18(1), 5-19. doi:10.1108/13217341011045971
- Baskaran, S., et al. (2020). Earnings management: a strategic adaptation or deliberate manipulation? *Journal of Financial Crime*.
- Bennouri, M., et al. (2018). Female board directorship and firm performance: What really matters? *Journal of Banking & Finance*, 88, 267-291.
- Bertrand, M., et al. (2018). The cost of political connections. *Review of Finance*, 22(3), 849-876.
- Bureau of Communications of Perum Peruri. (2019). Peruri Torehkan Laba Bersih Konsolidasian Rp288 Miliar pada 2018 [Press release]. Retrieved from: <https://www.peruri.co.id/press-release/206/peruri-torehkan-laba-bersih-konsolidasian-rp288-miliar-pada-2018#:~:text=Peruri%20Torehkan%20Laba%20Bersih%20Konsolidasian%20Rp288%20Miliar%20pada%202018,-11%20June%202019&text=Jakarta%20%E2%80%93%20Pada%202018%20Perusahaan%20Umum,yang%20mencapai%20Rp3%20C48%20triliun.>

- Chadwick, I. C. Dawson, A. (2018). Women leaders and firm performance in family businesses: An examination of financial and nonfinancial outcomes. *Journal of Family Business Strategy*, 9(4), 238-249.
- Chancharat, S., et al. (2019). Board structure, political connection and firm performance: Evidence from Thailand.. *International Journal of Business and Society*, 20(3), 1096-1111.
- Chen, R., et al. (2021). Do female directors enhance R&D performance? *International Review of Economics & Finance*, 74, 253-275.  
doi:<https://doi.org/10.1016/j.iref.2021.03.003>
- Cheng, L. T., et al. (2010). Management demography and corporate performance: Evidence from China. *International Business Review*, 19(3), 261-275.
- Chong, L.-L., et al. (2018). Corporate risk-taking and performance in Malaysia: the effect of board composition, political connections and sustainability practices. *Corporate Governance: The International Journal of Business in Society*.
- Canyon, M. J. He, L. (2017). Firm performance and boardroom gender diversity: A quantile regression approach. *Journal of Business Research*, 79, 198-211.
- Elsharkawy, M., et al. (2018). Now you see me: diversity, CEO education, and bank performance in the UK. *Investment Management and Financial Innovations*.
- Fan, Y., et al. (2019). Women on boards and bank earnings management: From zero to hero. *Journal of Banking & Finance*, 107, 105607.
- Formigoni, H., et al. (2020). Board of directors characteristics and disclosure practices of corporate social responsibility: a comparative study between Brazilian and Spanish companies. *Social Responsibility Journal*.
- Hambrick, D. C. (2007). Upper echelons theory: An update. In: Academy of Management Briarcliff Manor, NY 10510.
- Hambrick, D. C. Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review*, 9(2), 193-206.
- Harjoto, M. A. Rossi, F. (2019). Religiosity, female directors, and corporate social responsibility for Italian listed companies. *Journal of Business Research*, 95, 338-346.
- Harymawan, I. (2018). Why do firms appoint former military personnel as directors? Evidence of loan interest rate in militarily connected firms in Indonesia. *Asian Review of Accounting*.
- Harymawan, I., et al. (2019). The role of political connections on family firms' performance: Evidence from Indonesia. *International Journal of Financial Studies*, 7(4), 55.
- Harymawan, I., et al. (2019). CEO busyness and firm performance: evidence from Indonesia. *Heliyon*, 5(5), e01601.
- Harymawan, I., et al. (2020). How does the presidential election period affect the performance of the state-owned enterprise in Indonesia? *Cogent Business & Management*, 7(1), 1750330.
- Hoobler, J. M., et al. (2018). The business case for women leaders: Meta-analysis, research critique, and path forward. *Journal of management*, 44(6), 2473-2499.  
doi:10.1177/0149206316628643
- Hu, Y., et al. (2020). The agency cost of political connections: Evidence from China's File 18. *Pacific-Basin Finance Journal*, 64, 101426.
- Idris, M. (2019). Daftar 7 BUMN yang Tetap Rugi Meski Sudah Disuntik PMN. Retrieved from:  
<https://money.kompas.com/read/2019/12/21/142657926/daftar-7-bumn-yang-tetap-rugi-meski-sudah-disuntik-pmn?page=all>
- Kanakriyah, R. (2021). The impact of board of directors' characteristics on firm performance: a case study in Jordan. *The Journal of Asian Finance, Economics and Business*, 8(3), 341-350.
- Kaur, R. Singh, B. (2018). CEOs' characteristics and firm performance: a study of Indian firms. *Indian Journal of Corporate Governance*, 11(2), 185-200.
- King, T., et al. (2016). What's in an education? Implications of CEO education for bank performance. *Journal of Corporate Finance*, 37, 287-308.
- Kuo, H.-C., et al. (2018). The role of education of directors in influencing firm R&D



- investment. *Asia Pacific Management Review*, 23(2), 108-120.
- Latimaha, R., et al. (2019). Examining the Linkages between Street Crime and Selected State Economic Variables in Malaysia: A Panel Data Analysis. *Jurnal Ekonomi Malaysia*, 53(1), 59-72.
- Laucereno, S. F. (2021). Erick Mau 'Didik' Komisaris BUMN yang Nggak Pengalaman di Korporasi. Retrieved from <https://finance.detik.com/berita-ekonomi-bisnis/d-5523520/erick-mau-didik-komisaris-bumn-yang-nggak-pengalaman-di-korporasi>
- Lee, T., et al. (2021). Does TMT composition matter to environmental policy and firm performance? The role of organizational slack. *Corporate Social Responsibility and Environmental Management*, 28(1), 196-213.
- Lev, B., & Zarowin. (1999). P14\_Boundaries\_Financial\_Reporting\_1.pdf
- Lim, K. P., et al. (2019). Women directors and performance: evidence from Malaysia. *Equality, Diversity and Inclusion: An International Journal*.
- Low, D. C., et al. (2015). Board gender diversity and firm performance: Empirical evidence from Hong Kong, South Korea, Malaysia and Singapore. *Pacific-Basin Finance Journal*, 35, 381-401.
- Mahrofi, Z. (2020). Erick Thohir akan perbesar komposisi perempuan di jajaran direksi BUMN. Retrieved from: <https://www.antaraneews.com/berita/1796885/erick-thohir-akan-perbesar-komposisi-perempuan-di-jajaran-direksi-bumn>
- McGuinness, P. B., et al. (2017). CSR performance in China: The role of board gender and foreign ownership. *Journal of Corporate Finance*, 42, 7299.
- Morresi, O. (2017). How much is CEO education worth to a firm? Evidence from European firms. *PSL Quarterly Review*, 70(282).
- Mun, S., et al. (2020). The impact of CEO educational background on corporate cash holdings and value of excess cash. *Pacific-Basin Finance Journal*, 101339.
- Nakavachara, V. (2020). CEOs and graduate business education. *Journal of Education for Business*, 95(2), 73-80.
- Nekhili, M., et al. (2017). Gender-diverse board and the relevance of voluntary CSR reporting. *International Review of Financial Analysis*, 50, 81-100.
- Pan, X. Tang, H. (2020). Are both managerial morality and talent important to firm performance? Evidence from Chinese public firms. *International Review of Financial Analysis*, 73, 101602.
- Perum Peruri. (2019). *Laporan Tahunan 2019*. Retrieved from
- Post, C. (2015). When is female leadership an advantage? Coordination requirements, team cohesion, and team interaction norms. *Journal of Organizational Behavior*, 36(8), 1153-1175.
- Pratama, A. M. (2020, 26 Oktober 2020). Erick Thohir Ingin Tambah Porsi Wanita dan Milenial di Posisi Direksi BUMN. *KOMPAS*. Retrieved from: <https://money.kompas.com/read/2020/01/17/125639926/erick-thohir-ingin-tambah-porsi-wanita-dan-milenial-di-posisi-direksi-bumn#:~:text=JAKARTA%2C%20KOMPAS.com%20%2D%20Menteri,jajaran%20di reksi%20perusahaan%2Dperusahaan%20BUMN>.
- Pucheta-Martínez, M. C. Gallego-Álvarez, I. (2019). Do board characteristics drive firm performance? An international perspective. *Review of Managerial Science*, 1-47.
- Saeed, A. Ziaulhaq, H. M. (2019). The Impact of CEO Characteristics on the Internationalization of SMEs: Evidence from the UK. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 36(3), 322-335.
- Saleh, M. W., et al. (2021). Does board gender enhance Palestinian firm performance? The moderating role of corporate social responsibility. *Corporate Governance: The International Journal of Business in Society*.
- Sharma, P., et al. (2020). Impact of political connections on Chinese export firms' performance—Lessons for other emerging markets. *Journal of Business Research*, 106, 24-34.

- Srikandi BUMN. (2021). Srikandi BUMN Berbagi Perspektif Kepemimpinan Perempuan di BUMN dalam RUMI-U Masterclass: Women in Leadership. Retrieved from <https://srikandibumn.org/2021/06/srikandibumn-berbagi-perspektif-kepemimpinan-perempuan-di-bumn-dalam-rumi-u-masterclass/>
- Ullah, I., et al. (2019). Do gender diversity and CEO gender enhance firm's value? Evidence from an emerging economy. *Corporate Governance: The International Journal of Business in Society*.
- Urquhart, A. Zhang, H. (2021). PhD CEOs and firm performance. *European Financial Management*.
- Utami, I., et al. (2019). Fraud diamond, Machiavellianism and fraud intention. *International Journal of Ethics and Systems*, 35(4), 531-544. doi:10.1108/IJOES-02-2019-0042
- Wu, H., et al. (2018). Politically connected CEOs, firm performance, and CEO pay. *Journal of Business Research*, 91(169-180).
- Zhang, C. (2017). Political connections and corporate environmental responsibility: Adopting or escaping? *Energy Economics*, 68, 539-547.