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Does the Board of Directors' Concern for the Environment Affect Financial Performance?

Mediaty[1], Wahyudi[2]*, Abdul Hamid Habbe[3]
[1]Hasanuddin University
[2]PT Semen Bosowa Maros
[3]Hasanuddin University
Corresponding Author: Wahyudi wahyudi8796@gmail.com

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A B S T R A C T

This research explores the impact of board of directors' environmental concerns on financial performance. This is the first examination of how board characteristics, focusing on environmental performance as an intervening factor, affect financial performance. This study specifically considers the context of the Indonesian capital market. The level of environmental concern is assessed by examining the characteristics and background of the board of directors with respect to environmental considerations. Multiple regression analysis methods are used to explore relationships between variables. This study used samples and data from companies listed on the Indonesia Stock Exchange during the period 2020 to 2022. The findings showed that the board's emphasis on environmental issues did not produce a statistically significant impact on the company's financial performance.

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INTRODUCTION

Previous research has found a positive correlation between traits and variations in the composition of the board of directors and the financial performance of a company. Roffia et al. (2021) observed that financial performance, as measured by the Return on Assets (ROA) ratio, is influenced by the adequacy of directors' skills and abilities. These findings are in line with Torres et al.'s (2021) research, which showed that board characteristics, such as citizenship and gender diversity, positively impact financial performance, especially in Chile's business sector. Other studies have shown that certain board characteristics, such as tenure or experience, positively affect financial performance, while the size of the board of directors does not have a significant impact (Hamid & Purbawangsa, 2022).

Previous research findings also provide evidence that the characteristics possessed by directors not only affect financial performance, but also have an impact on the company's environmental performance. Al-Jaifi (2023) found that the company's environmental performance has increased positively due to diversity in board characteristics, such as age and gender. These findings are in line with previous findings (Githaiga &; James: 2022, and Yilmaz et al: 2022), that gender, cultural diversity, expertise, and board independence positively affect environmental performance. The diversity characteristics of boards of directors continue to be a concern for investors, regulators, and the general public (Torres et al: 2017). The positive influence of board of directors' characteristics on financial performance and environmental performance is interesting for further study. There is still a lack of studies on how the characteristics of directors affect environmental performance which also affects financial performance at the same time.

Increased public attention to environmental issues expands the paradigm of corporate performance appraisal. Since the term Corporate Social Responsibility (CSR) has become increasingly popular, various concerns have begun to arise about how companies can develop their competencies to provide value for shareholders (Wang H et al: 2017). CSR plays a very important role in the business realm, because when a company behaves honestly, it is considered a transparent action that can improve business reputation. (Mediaty et al: 2021). Companies need to focus not only on achieving financial performance, but also on environmental responsibility and performance. The company's compliance with environmental policies has been one of the considerations for investors (Ginglinger &; Raskopf: 2023).

The Board of Directors as a party that plays a role in determining the direction and strategy plays an important role in making environmental policy decisions. One of the main parts of strategic management is performance measurement (Habbe: 2021). The board of directors bears responsibility for ensuring ethical and responsible operations for the company, which extends to environmental performance. As a result, the role of councils in environmental performance has emerged as an important aspect of their agenda (Kakabadse: 2015). The diverse characteristics of the board will broaden a broader and diverse perspective in the fulfillment of corporate environmental responsibility (Al-Jaifi: 2018).

Based on this explanation, the purpose of this study is to assess the impact of directors' concern for the environment on the company's financial performance, by including environmental performance as an intervening variable. The level of directors' concern for the environment is measured through the characteristics of directors who are believed to have an influence on environmental performance, as revealed in previous research. This research was conducted on companies listed on the Indonesia Stock Exchange (IDX), taking into account IDX's commitment to participate in sustainable capital market development.

This was marked by IDX's official participation in the UN Sustainable Stock Exchange (SSE) Initiative in 2019. This certainly has an impact on issuers to disclose their environmental and social performance. In 2021, the Financial Services Authority of the Republic of Indonesia mandates the delivery of Environmental, Social, and Good Governance (ESG) practices. This requirement is stated in the Circular Letter of the Financial Services Authority of the Republic of Indonesia Number 16/SEOJK.04/2021. Therefore, this study is expected to provide an initial understanding of how environmental issues in the board structure can affect the company's financial performance, especially in the context of the Indonesian capital market.

THEORETICAL REVIEW

Stakeholder theory and upper echelon theory form the fundamental basis for this research. Resource dependency theory argues that the characteristics of the board of directors play an important role in decision-making and policy formulation (Uyar et al., 2020). Guido and Salvato (2004) argue that the board of directors serves two main functions: the monitoring function and the resource provision function. The monitoring function involves overseeing and ensuring that company decisions are aligned with the interests of investors and all stakeholders, including monitoring environmental and social performance. On the other hand, the function of providing resources involves the contribution of human capital and relational capital to company performance (Uyar et al., 2020).

Human resources include the experience, knowledge, expertise, and skills that the board of directors possesses, contributing to the performance of the company. Relational capital involves external connections and relationships held by the board of directors, including those related to the environment and society (Guido and Salvato, 2004). According to this theory, the board of directors, in its role of monitoring and providing resources, contributes to improving the environmental and social performance of the company. In upper echelon theory, the knowledge, skills, experience, and values of the board of directors are manifested in the decision-making process (Hambrick et al., 2015). As a result, a company's financial and non-financial strategic decisions are influenced by the characteristics and diversity of the board of directors (Shahab et al., 2018).

Previous studies investigated how the characteristics of the board of directors affect environmental performance. The characteristics of directors were found to affect the level of environmental performance of the company (Uyar et al, 2020; Orazalin and Mahmood, 2021; Al-Jaifi et al, 2023). Based on Almaqtari et al (2022), gender diversity in the composition of directors is one aspect that still raises concerns regarding board diversity. Martinez and Alvarez's (2019) research found that female boards of directors have more ethical and social skills than male boards of directors and tend to be socially and environmentally responsible. Thus, women who occupy board positions are considered able to urge the board to decide on efforts to encourage environmental performance (Uyar et al, 2020). The larger composition of women on the board of directors has a positive impact on environmental productivity (Orazalin and Baydauletov, 2021; Rao, 2016; Corinne et al, 2015).

Differences in country background and culture are also identified as one of the characteristics and diversity of the board of directors. The uniqueness of each country/culture will provide diverse perspectives in environmental decision-making and strategy (Yilmaz et al, 2022). This is in line with Scott's institutional theory, which generally holds that a person's behavior will be influenced by the origin and background from which the person originated. Therefore, the characteristics of the council with an environmentally sensitive country/culture will have a positive effect on environmental performance.

Other literature shows that the characteristics of the board of directors in terms of educational history and the history of the board of directors in environmental aspects positively affect environmental performance. Directors with longer experience will improve environmental performance with the level of knowledge they have (Cucari et al, 2017). The experience of the board of directors in the environmental field can also be seen from how it is related to environmental institutions. A company's board of directors with responsibility as an administrator of an environmental institution will tend to act to benefit the company and the institution of which it is a member. In addition, a company's environmental performance is often linked to the competencies possessed by the board of directors (Pozzoli, 2022, and Shaukat et al, 2016). The role of directors in strategic decision making is greatly influenced by the level of competence they have.

Previous research yielded mixed findings on the relationship between financial performance and environmental performance. Research by Uyar et al in 2020 shows that financial performance does not have a significant impact on the quality of environmental performance, especially in the tourism industry sector. In fact, his findings show a negative relationship between environmental performance and corporate financial performance (Crisostomo and colleagues in 2011). However, on the other hand, other studies state that environmental performance can have a positive impact on financial performance, as revealed by Wang and Sarkis in 2017 and Saedi et al in 2015.

These inconsistent results motivate further research, especially in the context of Indonesia's capital market. Referring to this explanation, this study assumes that the characteristics of directors in the environmental field affect the company's financial performance by intervening in environmental performance. The study considers certain characteristics of the board of directors related to the environment. Among them are educational background/competence in the environmental field, experience in the environmental field, associations with environmental organizations/institutions, national origin, and gender diversity.

METHODOLOGY

The research sample consists of companies that have been listed on the Indonesia Stock Exchange (IDX) during the period 2019 to 2022. The reason for choosing this sample is that the Indonesia Stock Exchange is increasingly committed to improving sustainability, as evidenced by its official participation in the UN Sustainable Stock Exchange Initiative (SSE) on April 18, 2019. This commitment encourages the obligation to convey Environmental, Social and Good Governance (ESG) practices for issuers. The format and content of the annual report of a public company or issuer on the IDX are regulated by the Circular Letter of the Financial Services Authority of the Republic of Indonesia Number 16/SEOJK.04/2021. Data for this study was obtained from the Indonesia Stock Exchange database and collected manually from annual reports published by the company.

The data acquisition process is carried out through datasets by referring to certain criteria. The initial criteria involve companies listed on the Indonesia Stock Exchange (IDX), publishing annual reports, and being listed in the MoEF's Proper rating from 2020 to 2022. Proper rating is a classification by the Ministry of Life and Forestry of the Republic of Indonesia (KLHK RI) based on the company's environmental performance. The second criterion involves companies that have consistently been included in the IDX LQ45 Index consecutively from 2020 to 2022. The LQ45 Index is a list of 45 companies that are considered to have the best stock performance by the Indonesia Stock Exchange. Based on these criteria, 145 companies were obtained in preliminary observations. The results of the elimination of samples that met all these criteria consisted of 18 companies representing various industrial sectors. Details of the final sample are presented in table 2.

Table 1
Sample Selection

Initial observations	135
Samples that do not meet the criteria	(118)
Final observations	17

Table 2
Final Sample Based on Criteria

Ticker (Stock Code)	Company Name
ADRO	Adaro Energy Tbk.
ANTM	Aneka Tambang Tbk.
ASII	Astra International Tbk.
CPIN	Charoen Pokphand Indonesia Tbk.
HMSP	HM Sampoerna Tbk.
ICBP	Indofood CBP Sukses Makmur Tbk.
INCO	Vale Indonesia Tbk.
INDF	Indofood Sukses Makmur Tbk.
INTP	Indocement Tunggal Prakasa Tbk.
KLBF	Kalbe Farma Tbk.
PGAS	Perusahaan Gas Negara (Persero) Tbk.
PTBA	Bukit Asam (Persero) Tbk.
SMGR	Semen Indonesia (Persero) Tbk.
UNTR	United Traktor Tbk.
UNVR	Unilever Indonesia Tbk.
INKP	lndah Kiat Pulp &; Paper Tbk
JPFA	Japfa Comfeed Indonesia Tbk.

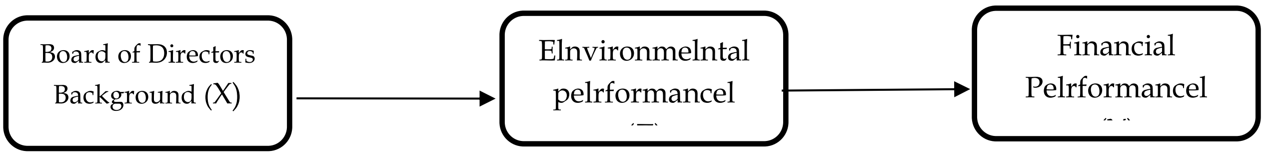
The attributes of the board of directors related to the environment (considered as independent variables) are evaluated through various criteria. Initially, the board's historical relationship to the ward was assessed by the ratio of board members with educational background, competence, or expertise in the environmental area to the board's total membership. The second criterion involves the council's environmental experience, measured by the average duration of work (in years) in the environmental sector. The third criterion evaluates their affiliation with an environmental organization or agency, determined by the ratio of board members associated with that entity to the composition of the board as a whole. Another criterion considers the nationality or cultural background of board members, measured by the ratio of those with high levels of environmental sensitivity, utilizing sustainability levels above 70%, as reported in a sustainability survey by KPMG. Lastly, gender diversity is measured through the proportion of female board members to total board membership.

Financial performance, as a dependent variable, is assessed through Return on Assets (ROA) and Return on Investment (ROI) for each company. Environmental performance, which acts as an intervening variable, is measured using the Company's Performance Evaluation in Environmental Management (Proper). Proper is an assessment conducted by the Ministry of Environment and Forestry of the Republic of Indonesia (KLHK RI) during the 2020-2022 period, which categorizes companies into gold, green, blue, red, and black levels. Each rank is graded: gold (5), green (4), blue (3), red (2), and black (1). A summary of these measurement variables is described in Table 3.

Table 3
Variable Measurement

Variable	Measurement
1. Independent Variable (history of directors)	
- Background of the board of directors in the field of environment	- Ratio of board of directors to environmental education/competency/expertise history
- Board of directors experience	- Average length of work in the environmental field
- Association with environmental organizations	- Ratio of boards of directors affiliated with environmental organizations
- Country/cultural origin	- Ratio of directors from countries/cultures with high environmental sensitivity
- Gender diversity	- Female board of directors ratio
2. Dependent Variable (Stock Performance)	ROA and ROE
3. Intervention Variables (Environmental Performance)	Proper Ranking of MoEF RI 2020-2022

Figure 1: Relationship between variables



Furthermore, this study investigates the impact of how the background of directors related to the environment on financial performance is intermediated by environmental performance. Testing of the relationship between each variable was carried out through multiple linear regression analysis using SPSS 26. The interrelationships between variables are illustrated in Figure 1.

RESULTS

Multiple regression analysis using SPSS 26 was performed with three different types of testing. The first test is to examine the relationship between the characteristics of the board of directors (gender ratio, background in the environmental field, association with environmental organizations, national or cultural origin with environmental sensitivity, and experience in the environmental field) with ROA as an indicator of financial performance. The second test was conducted to examine the relationship between the characteristics of directors (gender ratio, background in the environmental field, association with environmental organizations, national origin/culture with environmental sensitivity, and experience in the environmental field) with financial performance measured by ROE. The final test uses an intervening test examining the relationship between directors' characteristics (gender ratio, background in the environmental field, association with environmental organizations, nationality/cultural origin with environmental sensitivity, and experience in the environmental field) with ROA and ROE as indicators of financial performance and uses environmental performance as an intervening variable.

The first test examines how the characteristics of the board of directors (gender ratio, environmental background, association with environmental organizations, country of origin/cultural sensitivity to the environment, and experience in the environmental field) affect financial performance as measured through Return on Assets (ROA). According to Table 4, the significance values of the five characteristics of the board of directors indicate that only the gender ratio has a value below 0.05, specifically 0.000. The results of this regression analysis led to the conclusion that, among the five characteristics of the board of directors, only the gender ratio showed a statistically significant impact on ROA. The R Square value in Table 5 is 0.332, indicating that the influence of directors characteristics on ROA is 33.2%, while the remaining 66.8% is influenced by other variables not used in the test.

Table 4: Testing of the Director's Characteristic Coefficient Against ROA

Coefficient

		Non-standardized coefficients		Standard Coefficient		
Kind		B	Error Std.	Beta	t	Sig.
1	(Constant)	6,532	1,988		3,286	,002
	Environmental Background	-,592	,625	-,118	-,947	,349
	Experience in the Environmental Field	,098	,177	,076	,554	,583
	Association with Environmental Organizations	2,856	5,615	,064	,509	,614
	Country/Cultural Origin with Environmental Sensitivity	-1,430	5,763	-,032	-,248	,805
	Gender Ratio	30,923	7,164	,606	4,317	,000

a. Dependent Variable: ROA

Table 5: Summary of Board of Directors Characteristic Testing Model Against ROA Model Overview

Kind	R	R square	Customized R Square	Std. Estimation Error
1	.576a	,332	,258	6,41427

a. Predictors: (Constant),
Gender Ratio, Environmental Background, Association with Environmental Organizations, Country/Cultural Origin with Environmental Sensitivity, Experience in Environmental Field

The second test in multiple regression analysis aims to investigate the relationship between directors' characteristics (gender ratio, background in the environmental field, association with environmental organizations, national origin/cultural sensitivity to the environment, and experience in the environmental field) and financial performance as measured by Return on Equity (ROE). According to Table 6, the overall significance values of the five characteristics of the board of directors indicate that only the gender ratio has a value below 0.05, specifically 0.000. The results of this regression analysis concluded that, among the five characteristics of directors, only the gender ratio had an effect on ROE. Overall, the influence of directors' characteristics on ROE is quite significant, with the R Square value in Table 7 of 0.557, indicating that the influence of directors' characteristics on ROE is 55.7%, while the remaining 44.3% is influenced by other variables tested in this study.

Table 6: Testing the Director's Characteristic Coefficient Against ROE Coefficient

Kind		Non-standardized coefficients B	Error Std.	Standard Coefficient Beta	t	Sig.
1	(Constant)	1,341	6,691		,200	,842
	Environmental Background	-1,078	2,104	-,052	-,512	,611
	Experience in the Environmental Field	,710	,596	,133	1,191	,240
	Association with Environmental Organizations	4,380	18,898	,024	,232	,818
	Country/Cultural Origin with Environmental Sensitivity	-7,484	19,396	-,040	-,386	,701
	Gender Ratio	169,637	24,111	,804	7,036	,000

a. Dependent Variable: ROE

Table 7: Summary of Board of Directors Characteristics Testing Model Against ROE Model Overview

Kind	R	R square	Customized R Square	Std. Estimation Error
1	.746a	,557	,508	21,58835

a. Predictors: (Constant), Gender Ratio, Environmental Background, Association with Environmental Organizations, Country/Cultural Origin with Environmental Sensitivity, Experience in Environmental Field

The final test is a path analysis test to intervene in environmental performance variables. Conducted to examine the influence of directors' characteristics (gender ratio, background in the environmental field, association with environmental organizations, national/cultural origin with environmental sensitivity, and experience in the environmental field) with ROA and ROE as indicators of financial performance and using environmental performance as intervening variables. Based on the results of the coefficient test presented in Table 8, of all the variables tested, only ROA has an influence on environmental performance. The significance value of ROA is below the value of 0.05, which is

0.038. The influence of board characteristics on financial performance and including environmental performance as an intervening variable showed an insignificant influence of only 15.7%. This is shown in the model summary test in Table 9.

Table 8: Testing of Directors Characteristic Coefficients, ROA and ROE on Environmental Performance

Coefficient

Kind		Non-standardized coefficients B	Non-standardized coefficients Error Std.	Standard Coefficient Beta	t	Sig.
1	(Constant)	3,473	,258		13,437	,000
	Environmental Background	-,020	,068	-,043	-,297	,768
	Experience in the Environmental Field	-,014	,019	-,119	-,739	,464
	Association with Environmental Organizations	,345	,607	,082	,568	,573
	Country/Cultural Origin with Environmental Sensitivity	,240	,622	,057	,386	,701
	Gender Ratio	-,686	1,126	-,143	-,610	,545
	ROA	,049	,023	,528	2,138	,038
	DEER	-,011	,007	-,500	-1,650	,106

a. Dependent Variable: Environmental Performance

Table 9: Summary of Board of Directors Characteristics Test Model, ROA and ROE on Environmental Performance

Model Overview

Kind	R	R square	Customized R Square	Std. Estimation Error
1	.396a	,157	,019	,69117

a. Predictors: (Constant), ROE, Environmental Background, Association with Environmental Organizations, Country/Cultural Origin with Environmental Sensitivity, Experience in the Environmental Field, Gender Ratio, ROA

DISCUSSION

The results of the research test suggest that, overall, the characteristics of the board of directors related to the environment may not have a significant impact on general financial performance. However, when environmental performance was integrated as an intervention variable, the test results showed an insignificant effect. The results imply that the influence of directors' characteristics on financial performance in general, mediated by environmental performance as an intervening variable, is only about 15.7%. Meanwhile, it seems that financial performance is more influenced by other factors not investigated in the study. However, specific findings from the test suggest that board characteristics related to the environment may have a limited role in influencing financial performance.

The study reveals that board characteristics that reflect environmental concerns influence financial performance, as shown by Return on Assets (ROA). Specifically, the results suggest that board characteristics influence a firm's capacity to generate returns on capital invested in assets, aligned with similar findings by Wang and Sarkis (2017) and Saedi et al. (2015). Further analysis indicates that gender variation, particularly by including women in board structures, affects companies' financial performance. These findings are consistent with previous research conducted by Martinez and Alvarels (2019). The ethical abilities attributed to women, who are perceived as greater than men, are seen as influential in pressuring boards of directors to encourage companies to improve financial and non-financial performance. These findings contribute to the literature by explaining how board of directors' environmental issues can affect financial performance, especially in the context of Indonesia's capital markets.

CONCLUSIONS AND RECOMMENDATIONS

Findings from the study show that the board of directors' attention to the environment does not have a significant impact on a company's financial performance. The measurement of directors' concern for the environment is based on their attributes related to environmental issues. Specifically, when environmental performance serves as an intervening variable, the characteristics of the board of directors affect Return on Assets (ROA) performance. ROA reflects a company's ability to generate a return on capital invested in the company's fixed assets.

In addition, the study revealed that financial performance is strongly influenced by the presence of women in the structure of the board of directors. This influence is especially noticeable in the rate of return on a company's investment in fixed assets. It should be noted that these findings may have significance for companies, especially given that only a few companies in the overall sample of the study had women in the composition of the board of directors. This suggests that further attention to gender diversity within the board structure has the potential to positively impact financial performance.

FURTHER STUDY

This study aims to be a reference for further research that explores additional factors related to environmental issues that can drive the company's financial performance. However, it is important to note that the limited number of samples in this study makes its findings non-generalizable. Thus, for future studies, it is advisable to consider increasing the sample size and inclusion of untested variables to improve the reliability of the findings.

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