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Abstract

This study explores the impact of board gender diversity (BGD) on sustainability performance, measured Environmental, Social, and Governance (ESG) disclosure scores, in the Indonesian context. A fixed-effect panel data regression was applied to 405 firm-year observations from 81 companies listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023. The results show that BGD positively influences overall ESG performance, with a significant effect on governance performance. However, no significant impact was found on the environmental and social dimensions. These findings suggest that female representation on corporate boards may strengthen governance practices, though its influence on environmental and social initiatives remains limited. This research contributes to the literature on gender diversity and ESG by offering empirical evidence from an emerging market, providing insights for regulators and stakeholders to promote inclusive leadership and sustainable business practices.

Introduction

Amid ongoing shifts, businesses are increasingly pressured to move beyond financial metrics and integrate environmental and social considerations into their strategic frameworks. According to De Masi et al. (2021) and Yadav and Prashar, (2023), Environmental, Social, and Governance (ESG) is "a quantifiable metric for Corporate Social Responsibility (CSR), built on three pillars: environmental, which assesses the ecological impact of business operations; social or people, focusing on how an organization interacts with its employees, suppliers, and local communities; and governance, which ensures a balance between corporate interests and those of its stakeholders." Globally, companies are adopting ESG practices to maintain competitiveness in an increasingly dynamic business environment.

The Global Reporting Initiative (GRI) established ESG disclosure requirements in 2016 to enhance transparency in organizational reporting on ESG performance (Global Reporting Initiative, 2021). In Indonesia, the Financial Services Authority issued OJK Circular Letter number 16/SEOJK.04/2021 on June 29, 2021 concerning the Form and Content of Annual Reports of Issuers or Public Companies, which requires companies to manage and report on Environmental, Social, and Governance aspects. Research indicates that investors increasingly consider ESG disclosures when making investment decisions (Lavin & Montecinos-Pearce, 2021).

The board of directors, as the highest decision-making authority within a company, is responsible for ensuring good governance and promoting sustainable practices (Hussain et al., 2018; Husted & Sousa-Filho, 2019). Over the past decade, gender quotas for corporate boards have increased women's participation in several countries. A recent study by Institutional Investor

Advisory Services India Limited (IIAS) highlights that European countries such as Spain, Norway, France, and Italy lead in female boardroom representations (Yadav & Prashar, 2023). It is widely believed that women, being more emotionally attuned to environmental and social issues than men, are more inclined to adopt a stakeholder-oriented approach to decision-making (Ahmad et al, 2018). Furthermore, female directors often influence corporate social responsibility (CSR) initiatives through their unique backgrounds, skills, and psychological characteristics (Manita et al, 2018).

Indonesia presents a unique and relevant context for examining the relationship between board gender diversity and ESG disclosure for several reasons. First, although there are no binding regulations mandating gender quotas on corporate boards, Indonesia shows relatively high female representation in boardrooms compared to other ASEAN countries Fauziah & Probohudono, (2018), largely due to the adoption of a two-tier governance system that supports more inclusive board structures. Second, as an emerging market, Indonesia has shown increasing attention to sustainability and ESG reporting, especially following the issuance of OJK Circular Letter No. 16/SEOJK.04/2021, which formalizes ESG disclosures as part of corporate annual reporting. However, the implementation of ESG practices remains varied and inconsistent across firms, offering a valuable context to investigate how internal governance factors, such as gender diversity may influence disclosure quality. Third, Indonesia's cultural, institutional, and regulatory environment from that of Western economies, where most ESG studies have been conducted. Therefore, focusing on Indonesia helps fill a gap in literature by providing empirical evidence from a developing country perspective, where sustainability practices are still evolving and shaped by local socio-political dynamics.

Recognizing the significance of two issues, women's participation on boards and greater disclosure of non-financial performance, the current study seeks to provide a deeper understanding of the effect of female directors on a firm's ESG or sustainability performance in developing market context. This study adopts the Resource-Based View theory (Barney, 1991), which argues that women tend to be more concerned about environmental risks and issues,potentially enhancing sustainability performance. Accordingly, this study addresses the following research question: "Does board gender diversity influence the sustainability performance of publicly listed companies in Indonesia?"

Literature Review

The Resource-Based View (RBV) is a strategic management that emphasizes the importance of a company's internal resources and capabilities in achieving sustainable competitive advantage (Wernerfelt, 1984). Further developed by Barney, (1991), it has become one of the most influential frameworks in management and strategy studies. Gender diversity (BGD) can be viewed as a capability that enhances a company's ability to manage resources effectively, including resources related to sustainability. Companies with strong governance are generally better positioned to integrate ESG practices into their business strategies, thereby enhancing overall ESG performance.

Board Gender Diversity and Sustainability

The concept of gender diversity has gained prominence, particularly in light of the United Nations Sustainable Development Goals (SDG Goal 5: Gender Equality), which advocate for equal opportunities for women in leadership and decision-making roles (United Nations, 2016). Men and women have distinct perspectives on sustainability issues, shaped by the development of interpersonal interactions. Consequently, women are generally assumed to approach decision-making from a more ethical standpoint. Certain personality traits of female directors enable them to address the interests of diverse stakeholders while placing greater attention to social and environmental concerns (Boulouta, 2013; Hollindale et al., 2019). Gender diversity has no significant effect on the level of ESG disclosure, while company size and country ownership are shown to have significant effects (Oktafiyani et al., 2024). This study underscores the importance of considering local context and control variables when assessing the impact of gender diversity to ESG. Paolone et al. (2023) found a positive relationship between gender diversity and ESG scores, noting that cultural and gender diversity together promote knowledge sharing, which contributes to improved ESG performance. Similarly, Odriozola et al. (2024) reported a positive and significant correlation between gender diversity and the social and governance dimensions of ESG scores across all countries. However, the effect of gender diversity on environmental scores was only significant in a few countries, such as Spain, France, and Germany.

Wahyuni et al. (2024) state that ESG disclosure is key indicator for assessing company value, as sustainable growth depends on balancing economic, social, and environmental dimensions. Sustainability, therefore, reflects the integration of economic, social, and governance interests. Within this framework, board gender diversity is posited to influence ESG performance by enhancing governance quality of governance and fostering more inclusive, ethical, and socially responsive decision-making. The presence of female directors is associated with broader consideration of stakeholder interests, potentially enhancing transparency and accountability in ESG reporting. Therefore, Board Gender Diversity (BDG) plays an important role in non-financial performance.

Hypothesis

The following hypotheses are formulated;
H1. The proportion of female directors affects the total ESG disclosure score of IDX firms.
H1a. The proportion of female directors affects the environmental disclosure score of IDX firms.
H1b. The proportion of female directors affects the social disclosure score of IDX firms.
H1c. The proportion of female directors affects the Governance disclosure score of IDX firms.

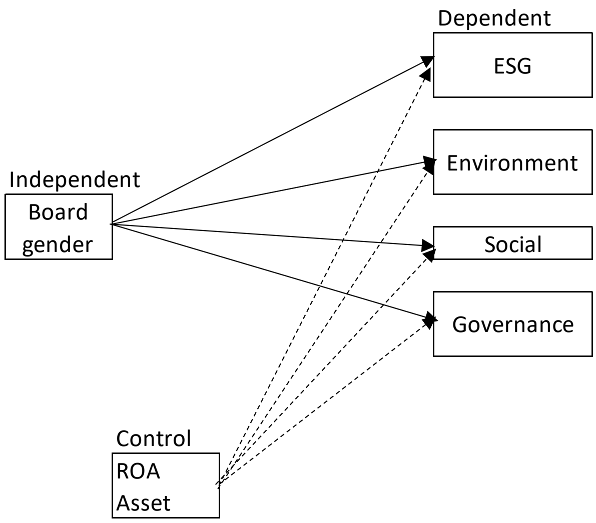

Figure 1. Theoretical framework

Research Method

The sample for this study consists of companies listed on the IDX Companies. Historical data on ESG disclosure scores and other key variables were obtained from Bloomberg. The Bloomberg ESG Database company-reported ESG information for the period 2019-2023. This proprietary database assigns disclosure scores ranging from 0.1 to 100, where a score of 0.1 indicates no disclosure and 100 indicates full disclosure based on company reporting; however, these scores do not reflect actual ESG performance (Bloomberg, 2021). Indonesia was selected as the study context for several reasons. According to Fauziah and Probohudono (2018), despite the absence of specific regulations on board gender diversity, Indonesia demonstrates a relatively high female representation compared to other ASEAN nations. Of the 996 companies listed on the IDX, only 81 had consistent ESG reporting from 2019 to 2023, resulting in 405 firm-year observations.

Independent variable. To better understand how women directors influence sustainability performance within an organization, Board Gender Diversity (BGD) is used as the independent variable, as supported by various previous literature (Pareek et al., 2023). BGD is measured as the proportion of female directors to the total number of directors on the board.

Dependent variable. The ESG disclosure score is taken as the primary dependent variable this study, as supported by prior literature (Yadav & Prashar, 2023; Pareek et al, 2023; Manita et al, 2018). It reflects company performance in reporting across the three ESG pillars. Bloomberg provides proprietary ESG disclosure scores, ranging from 0.1 to 100, based on the extent of ESG information disclosed in firms' annual reports. The environmental disclosure score measures a firms' effort in managing GHG emissions, waste, water, energy, climate exposure, air quality, and ecological impact. The social disclosure score measures performance in product quality, labor practices, ethics, and respectfor public rights. The governance disclosure score reflects performance related to board diversity, roles, responsibilities, and incentives structure.

Control variables. According to previous research and firm-level economic indicators (Bhaskaran et al., 2021; Buallay, 2020), return on assets (ROA) and firm size (FirmSIZE) are included as control variables in this study (Yadav & Prashar 2023).

Research Model

$ESGscoreit = \alpha 0 + \beta 1BGDit + \beta 2ROAit + \beta FirmSizeit + \varepsilon$ (1)

$Escoreit = \alpha 0 + \beta 1BGDit + \beta 2ROAit + \beta 3FirmSizeit + \varepsilon$ (2)

$Sscoreit = \alpha 0 + \beta 1BGDit + \beta 2ROAit + \beta 3FirmSizeit + \varepsilon$ (3)

$Gscoreit = \alpha 0 + \beta 1BGDit + \beta 2ROAit + \beta 3FirmSizeit + \varepsilon$ (4)

Results and Discussion

Descriptive Statistics

Table 1 presents the descriptive statistics of the measured variables. The average ESG disclosure score for the sample companies is approximately 42.35, while the highest reported score being 70.06 out of 100. The environmental pillar has an average disclosure score of 27.12, lower than the average social disclosure score of 29.65. Among the ESG disclosure scores, the governance disclosure score is highest, with an average of 31.24. While the maximum reported proportion of women on boards is 66.67%, many companies still have no female representation. The average ROA for firms reporting ESG is 14.08%, and the company with the highest assets is Bank BCA, with a value of 34.88.

Table 1. Description Statistic

	ESG	ENV	SOC	GOV	BGD	ROA	ASSET
Mean	42.35	27.12	29.65	65.82	12.53	14.08	31.24
Maximum	70.06	72.80	71.19	98.62	66.67	93.62	34.88
Minimum	17.73	0.00	0.00	0.00	0.00	-22.30	27.29
Std. Dev.	10.72	18.20	12.79	21.39	15.91	24.03	1.42
Observations	**405**	**405**	**405**	**405**	**405**	**405**	**405**

Source: Eviews Data, 2025

Based on the results in Table 2, board gender diversity has a significant positive effect on ESG performance, with p-value of 0.0893 ($P < 0.10$), indicating that Hypothesis 1 is accepted. Meanwhile, the control variable ROA does not affect ESG performance, as its p-value is 0.1726 (P

> 0.10). However, the control variable Asset has a significant effect on ESG performance, with p-value of 0.000 (P < 0.10).

Table 2. Model 1

Dependent Variable: ESG

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-27.65736	11.72284	-2.359271	0.0189
BGD	0.071665	0.042047	1.704399	0.0893
ROA	0.061823	0.045222	1.367089	0.1726
ASSET	2.200890	0.375378	5.863137	0.0000

Cross-section fixed (dummy variables)
R-squared: 0.406779
Adjusted R-squared: 0.252912
F-statistic: 2.643710
Prob(F-statistic): 0.000000
Durbin-Watson stat: 2.339259

Source: Eviews Data, 2025

Table 3. Model 2

Dependent Variable: Environment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-64.59370	19.65800	-3.285873	0.0011
BGD	-0.006822	0.070509	-0.096752	0.9230
ROA	0.028063	0.075833	0.370060	0.7116
ASSET	2.924253	0.629470	4.645584	0.0000

Cross-section fixed (dummy variables)
R-squared: 0.421484
Adjusted R-squared: 0.271432
F-statistic: 2.808913
Prob(F-statistic): 0.000000
Durbin-Watson stat: 2.463199

Sumber: Data Eviews 13, 2025

Based on the results in Table 3, board gender diversity has no effect on environmental performance, with a p-value of 0.9230 (P > 0.10), indicating that Hypothesis 2 is rejected. Similarly, the control variable ROA does not affect environmental performance, with a p-value of 0.7116 (P > 0.10). However, the control variable Asset has a significant effect on environmental performance, with a p-value of 0.000 (P < 0.10).

Table 4. Model 3

Dependent Variable: Social

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-30.78974	14.59491	-2.109621	0.0357
BGD	0.075916	0.052349	1.450205	0.1480
ROA	0.186321	0.056302	3.309339	0.0010
ASSET	1.837887	0.467344	3.932620	0.0001

Cross-section fixed (dummy variables)
R-squared: 0.353728
Adjusted R-squared: 0.186101
F-statistic: 2.110212
Prob(F-statistic): 0.000002
Durbin-Watson stat: 2.334985

Sumber: Data Eviews 13, 2025

Based on the results in Table 4, board gender diversity has no effect on social performance, with a p-value of 0.1480 (P > 0.10), meaning that Hypothesis 3 is rejected. Meanwhile, the control variable ROA has a significant effect on social performance, with a p-value of 0.0010 (P < 0.10), and the control variable Asset also has a significant effect on social performance, with a p-value of 0.0001 (P < 0.10).

Table 5. Model 5

Dependent Variable: Governance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.75826	13.96202	1.128 652	0.2599
BGD	0.090780	0.050079	1.812755	0.0708
ROA	-0.331460	0.053860	-6.154094	0.0000
ASSET	1.736563	0.447078	3.884247	0.0001

Cross-section fixed (dummy variables)
R-squared: 0.788706
Adjusted R-squared: 0.733902
F-statistic: 14.39132
Prob(F-statistic): 0.000000
Durbin-Watson stat: 2.021418

Based on the results in Table 5, board gender diversity has a significant effect on governance performance, with a p-value of 0.0708 (P < 0.10), indicating that Hypothesis 4 is accepted. Additionally, the control variable ROA significantly affects governance performance, with a p-value of 0.0010 (P < 0.10), and the control variable Asset also has a significant effect on governance performance, with a p-value of 0.0001 (P < 0.10).

Discussion

The research findings provide empirical evidence that board gender diversity (BGD) significantly influences a company's sustainability performance (ESG). These results align with studies by Pareek et al. (2023) and Yadav & Prashar (2023), which also found a positive correlation between the proportion of female directors and ESG performance. However, this study does not find a significant impact of BGD on environmental and social performance, though it shows a significant positive impact on governance performance. This may be attributed to BGD's focus on internal structures and processes that enhance efficiency, transparency, and accountability in decision-making elements that are critical to effective governance and resource allocation. This result aligns with Tan & Taufiik (2022), who stated that female directors have enhanced board control capabilities and tend to reduce agency conflicts. In addition, female directors are better positioned to meet stakeholder expectations.

In contrast, environmental and social performance involves external impacts such as pollution levels and community relations, which are influenced by factors beyond internal governance, including industry regulations and market trends. BGD does not have a specific mechanism to directly address these areas, making its influence less pronounced. Omenihu et al. (2025) found that firms with at least three female directors demonstrate a significant positive relationship between board gender diversity and ESG disclosure. This indicates that achieving a critical threshold of female representation is essential for achieving meaningful improvements in ESG disclosure scores. Conversely, firms with merely one or two female directors, often considered token representation, exhibit a significantly negative impact on ESG disclosure. In the Indonesian context, female directors remain underrepresented, as indicated by the observation data: 209 companies had no female directors. According to MSCI (2021) the number of female directors in Indonesian companies did not increase in 2021 compared to 2020.

This study also finds that a company's assets significantly influence ESG sustainability performance across environmental, social, and governance aspects, while ROA significantly affects only social and governance performance. This indicates that although ROA is an important indicator of financial performance, it does not necessarily reflect a company's commitment to environmental performances (Aydoğmuş et al., 2022). In contrast, companies that invest in good governance and social responsibility tend to achieve better outcomes in these areas, which explains the significant impact of ROA on social and governance performance.

Conclusion

Given Indonesia's unique institutional context, this study provides valuable insight into how internal board dynamics interact with emerging ESG frameworks, offering implications for both academic discourse and policy development in the region. The findings indicate that gender diversity on company boards has a modest influence on overall ESG (Environmental, Social, and Governance) performance. The fact that many companies still have no female board members, shows that female representation has yet to play a substantial role in advancing sustainability across all ESG dimensions. However, the impact of gender diversity is more visible in the area of corporate governance. The presence of women on boards tends to improve company management, especially in terms of transparency, accountability, and ethical standards. In contrast, their influence on environmental and social aspects appears limited, likely because those areas are shaped more by external factors such as industry regulations and public expectations, which lie beyond the board's direct control. In summary, while gender diversity holds potential to support sustainable business practices, its role must be strengthened especially by ensuring that women are more actively involved in key decision-making processes.

This study has several limitations that should be considered when interpreting the findings. First, the research focuses exclusively on companies in Indonesia, limiting the generalizability of the results to other countries with different governance systems, regulatory frameworks, or cultural norms. Second, gender diversity is measured solely by the number and proportion of women on boards, without considering qualitative factors such as professional experience, educational background, or level of independence factors that may significantly influence board dynamics and decision-making. Lastly, the study covers a relatively short period, from 2019 to 2023, which may be insufficient to capture the long-term effects of gender diversity on ESG performance. These limitations suggest the need for further research across broader contexts and longer periods to deepen understanding of this topic.

Based on the findings, several recommendations can be made for different audiences. For policymakers and corporate stakeholders, it is important to go beyond regulatory quotas by ensuring that women hold meaningful and strategic roles on boards, enabling full participation in decision-making processes. For companies, gender diversity should be integrated into broader sustainability strategies, particularly in relation to environmental and social goals, rather than being approached as a standalone compliance issue. From an academic perspective, future research should examine how the impact of gender diversity on ESG performance varies across different countries especially by comparing developing nations such as Indonesia with other ASEAN members to understand the influence of regional and cultural differences. Additionally, studies covering longer time periods are needed to assess the long-term effects of gender diversity on both ESG outcomes and broader financial performance.

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