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The Effects of Gender Diversity, Age Diversity, and Organizational Structure on Sustainability Performance

RIO CHRISTANTIO HAKIM[1a], LIDYA AGUSTINA[1b*]
[1]Universitas Kristen Maranatha, Bandung, Indonesia
Email: lidya.agustina@eco.maranatha.edu*, lidya_kho@yahoo.com

ABSTRACT

This study examines the effect of board gender diversity, board age diversity, and organizational structure on corporate sustainability performance in Indonesia. Although companies included in the ESG Leaders Index are expected to demonstrate superior sustainability practices, empirical evidence reveals significant variation in ESG scores, indicating that membership in the index does not automatically guarantee consistent sustainability performance. This study adopts a quantitative approach by analyzing secondary data from 74 companies listed in the ESG Leaders Index of the Indonesia Stock Exchange during the 2022–2023 period. Multiple linear regression analysis is employed to test the proposed hypotheses, with sustainability performance measured using ESG scores provided by Refinitiv. The results show that board gender diversity and board age diversity do not have a significant effect on sustainability performance, indicating that demographic diversity alone is insufficient to influence ESG outcomes without the support of effective governance mechanisms. In contrast, organizational structure is found to have a positive and significant impact on sustainability performance. This study underscores the important role of organizational structure in strengthening ESG performance within the context of emerging economies and provides practical implications for firms and regulators. From a practical perspective, firms and regulators should prioritize strengthening governance structures rather than relying solely on symbolic board diversity. Future research is encouraged to incorporate broader diversity attributes and longer observation periods to enhance generalizability.

***Keywords**: board age diversity, board gender diversity, corporate governance, ESG score, sustainability performance*

1. INTRODUCTION

Sustainability performance has become increasingly essential in the context of companies implementing Environmental, Social, and Governance (ESG) principles in Indonesia during the 2022–2023 period. Along with growing global pressure regarding environmental and social issues, companies are required to

* Corresponding author’s e-mail: lidya.agustina@eco.maranatha.edu
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demonstrate greater concern for the impacts of their operational activities. According to Bananuka et al., (2022), compliance with sustainability reporting standards enhances corporate transparency and accountability, which in turn strengthens firms' influence within the broader social and economic environment. However, ESG data sourced from Refinitiv for Indonesian companies listed in the ESG Leaders Index of the Indonesia Stock Exchange reveal a wide range of ESG scores, indicating substantial heterogeneity in sustainability performance despite firms being included in the same index. This phenomenon is consistent with prior studies suggesting that membership in an ESG index does not automatically ensure uniform levels of sustainability performance, particularly in developing countries, where internal corporate governance factors continue to play a dominant role in shaping ESG outcomes (Disli et al., 2022).

Furthermore, Galletta et al., (2022) emphasize that companies with greater gender diversity on their boards of directors tend to be more innovative and more responsive to sustainability-related issues. Although many firms have adopted ESG principles, significant challenges in their implementation remain. Many organizations have not yet fully understood how gender and age diversity within the board of directors may influence their sustainability performance. In addition, a notable gap persists in the literature examining the relationship between organizational structure and sustainability performance, particularly in the context of companies implementing ESG practices (Omenihu et al., 2025; Popov & Makeeva, 2022). Prior studies, such as Barby et al. (2021), have generally emphasized the importance of board competencies in enhancing firm performance. However, most of these studies remain limited in scope by focusing on a single dimension of corporate governance. Empirical evidence on the linkage between corporate governance and ESG performance has thus far produced mixed results, thereby creating opportunities for further research to assess the extent to which more comprehensive dimensions of board competence can serve as valid indicators in explaining ESG performance. Several studies, including Jothi Krishnan et al. (2025), find that board characteristics such as nationality, gender, age, and ethnic diversity are positively associated with ESG performance. In contrast, other studies report that certain attributes, including board members' educational background and remuneration schemes, do not exhibit a direct effect on firms' ESG performance (Tjahjadi et al., 2021). Therefore, further research is required to explore governance-related factors that influence sustainability performance.

Sustainability performance refers to an organization's ability to conduct its business activities while taking into account Environmental, Social, and Governance (ESG) principles. In this context, sustainability performance is not limited to financial profitability but also encompasses positive contributions to society and the reduction of negative environmental impacts. Research by (Yang et al., 2024) indicates that firms with strong ESG performance tend to achieve higher levels of sustainable growth. Similarly, a study conducted by Galletta et al., (2022) highlights that, within the banking industry, gender diversity at the managerial level is positively associated with sustainability performance. Accordingly, it can be inferred that various organizational aspects, such as corporate culture and gender diversity, serve as important determinants in promoting sustainability performance.

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

As a comprehensive strategic approach, sustainability performance requires in-depth analysis of prior studies to better understand the factors influencing it within social and managerial contexts. Bananuka et al., (2022) emphasize that gender diversity on corporate boards has a significant impact on compliance with sustainability reporting standards, which in turn affects overall corporate transparency and accountability. Likewise, Disli et al., (2022) demonstrate that board characteristics, including age and educational background, are closely associated with sustainability performance. These findings are consistent with research highlighting the link between leadership characteristics and strategic orientation toward sustainability issues, as examined by Saha et al., (2023). However, differences emerge when considering the role of individual attributes such as CEO leadership, which, according to Saha et al. (2023) tends to emphasize individual rather than collective aspects. Therefore, this study aims to examine whether gender and age diversity, along with organizational structure as collective governance mechanisms, influence corporate sustainability performance.

This study contributes both theoretically and practically. From a theoretical perspective, it enriches the literature on sustainability performance and corporate governance by integratively examining board gender and age diversity alongside organizational structure within firms implementing Environmental, Social, and Governance (ESG) principles. This study not only extends the understanding of the role of individual board characteristics but also emphasizes the importance of organizational structure as a governance mechanism that enables board diversity to effectively enhance sustainability performance. Accordingly, this research contributes to bridging inconsistencies in prior findings regarding the relationship between board diversity and ESG performance, particularly within the context of developing countries. From a practical perspective, the findings provide important implications for corporate management and policymakers in designing more effective governance practices to enhance sustainability performance. The results indicate that the presence of a strong and adaptive organizational structure is a key factor in supporting the implementation of ESG strategies. Therefore, firms should not only focus on board composition in terms of diversity but also ensure that governance frameworks and decision-making processes operate optimally. For regulators and stakeholders, this study may serve as a foundation for formulating governance policies and guidelines that promote substantive sustainability practices rather than merely symbolic compliance with ESG principles.

2. LITERATURE REVIEW

Board Gender Diversity

Gender diversity on corporate boards represents an important aspect of inclusive corporate governance. The presence of women in strategic positions is believed to enhance the diversity of perspectives in decision-making processes, which may potentially lead to improved corporate sustainability performance. Galletta et al., (2022) demonstrate that firms with greater gender diversity on their boards are more responsive to sustainability-related issues and more innovative in

* Corresponding author’s e-mail: lidya.agustina@eco.maranatha.edu

pursuing long-term sustainable objectives. In this study, gender diversity is measured by calculating the percentage of female board members relative to the total number of directors. Gender diversity within corporate leadership has been shown to significantly enhance ESG performance, particularly in firms that prioritize environmental and social dimensions as part of their pathway to financial success (Kampoowale et al., 2025). Recent studies indicate that gender diversity on boards is commonly measured based on the proportion of female directors. A higher presence of women is often associated with improved ESG disclosure and stronger stakeholder engagement (Romano et al., 2020).

This study is consistent with diversity theory, which posits that more diverse boards are capable of producing more inclusive and innovative decisions, a critical capability in addressing complex sustainability challenges. Moreover, Kampoowale et al., (2024) report that firms with a greater number of women on their boards tend to exhibit superior ESG performance, particularly in the social and governance dimensions. Gender diversity is considered essential because it is believed to enhance decision-making quality, broaden perspectives, and foster more inclusive corporate governance practices.

Within the sustainability context, several studies suggest that boards with higher levels of gender diversity are more responsive to environmental and social issues. Hossain et al. (2023) also reveal that gender diversity is one of the key factors influencing sustainability reporting transparency and plays an important role in shaping the quality of ESG disclosure. In addition, Galletta et al., (2022) find that firms that integrate board diversity into their governance practices demonstrate superior ESG performance. This study supports diversity theory by showing that board diversity contributes to enhanced transparency and accountability in sustainability reporting. Similarly, Bananuka et al., (2022) emphasize that gender diversity promotes greater transparency and accountability in sustainability reporting.

Age Diversity

Board age diversity refers to the variation in age among members of the board of directors. Age diversity is considered to facilitate the integration of senior experience with innovative ideas contributed by younger members. In this study, age diversity is defined using the standard deviation of board members' ages, which reflects the dispersion of generational perspectives that may contribute to innovation and strategic ESG alignment (Akomea-Frimpong et al., 2022). A higher standard deviation indicates a greater level of age diversity. Board age diversity may influence group dynamics and decision-making processes, as well as foster innovation through the combination of diverse experiences and perspectives. Nyantakyi et al. (2023) emonstrate that age diversity enables boards to respond to ESG demands from broader perspectives, thereby helping align generational concerns with stakeholder expectations.

Board age diversity is associated with enhanced corporate strategic effectiveness through greater diversity in risk perceptions, innovation capacity, and

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

responsiveness to ESG issues. Moreover, Disli et al., (2022) reveal that age diversity plays a role in balancing experience and new ideas, which is essential in formulating long-term strategies. Within the ESG context, board diversity may assist firms in navigating increasingly complex social and environmental challenges in the modern business environment. In addition, (Heldgaard, 2024) finds that board age diversity is positively correlated with ESG performance, as experience and innovation can synergize within decision-making processes. Accordingly, age diversity among board members positively moderates the relationship between ESG performance and corporate financial decisions, including cash management (Marie et al., 2025). Furthermore, Disli et al., (2022) add that age diversity and educational background diversity among board members influence the effectiveness of sustainability strategy implementation.

Organizational Structure

Organizational structure reflects how roles, responsibilities, and reporting relationships are defined within a firm. In the context of ESG, a strong and effective organizational structure can enhance accountability and accelerate decision-making processes that support sustainability objectives. In this study, the organizational structure variable is measured using five main indicators. First, board size is measured by calculating the total number of members serving on the board of directors. Board size refers to the total number of directors holding positions on a firm’s board. A larger board is believed to provide greater diversity of skills, although it may also complicate decision-making processes (Putra & Setiawan, 2024). Second, board independence is measured by calculating the percentage of independent directors relative to the total number of board members. Board independence is commonly operationalized as the proportion of independent directors on the board, which enhances objectivity in ESG oversight and managerial accountability (Alodat & Hao, 2025). Third, CEO duality is measured by determining whether the chair of the board also serves as the firm’s CEO. CEO duality occurs when the CEO simultaneously holds the position of board chair, a structure that may limit board independence and negatively affect ESG oversight (Popov & Makeeva, 2022). Fourth, committee presence is measured by examining whether the firm has an audit committee or other specialized board committees. The presence of dedicated board committees, such as audit or sustainability committees, enhances governance focus on ESG-related issues (Winschel & Stawinoga, 2019). Finally, meeting frequency is measured by counting the number of board meetings held during the previous year. Board meeting frequency is considered an indicator of board activeness and commitment, with higher frequency often associated with more comprehensive ESG discussions and monitoring (Putra & Setiawan, 2024).

Piwowar-Sulej & Iqbal, (2023) argue that flexible and transparent organizational structures enable better coordination across organizational units and facilitate faster responses to environmental and social challenges. Similarly, Mehedi, (2025) finds that strong governance structures such as the presence of audit committees, controlled CEO duality, and board independence contribute positively to ESG performance. This study also highlights the role of a former CEO serving

* Corresponding author’s e-mail: lidya.agustina@eco.maranatha.edu

as board chair as an important element in strengthening sustainability governance structures. Diversity theory further emphasizes that adaptive organizational structures enable the integration of ESG values into corporate strategy and daily operational activities. In other words, firms with supportive organizational structures are better prepared to respond to external dynamics and meet stakeholder expectations regarding transparency, accountability, and social responsibility. Within the context of this study, organizational structure is viewed as a critical variable that supports the effectiveness of board diversity in influencing sustainability performance. Evidence from Heldgaard, (2024) indicates that board size, the presence of audit committees, and the separation of the CEO and board chair roles are associated with higher ESG scores in emerging markets.

Sustainability Performance

Sustainability performance represents an indicator of a firm's success in simultaneously balancing economic, social, and environmental objectives. This concept is grounded in the triple bottom line approach, which encompasses profitability, social responsibility, and environmental management. In the context of publicly listed companies, sustainability performance is commonly measured through ESG scores issued by independent rating agencies or through membership in sustainability indices such as the ESG Leaders Index, which is managed by the Indonesia Stock Exchange in collaboration with the KEHATI Foundation. ESG scores reflect the extent to which firms implement policies and practices that support sustainability, including emissions management, workforce diversity, managerial transparency, and the protection of stakeholder rights. Mulyana et al. (2025) find that ESG performance has a positive impact on firm value, with corporate governance serving as an important moderating factor. In addition, Octavio et al. (2025) argue that ESG disclosure and public scrutiny jointly strengthen the relationship between corporate governance and sustainability performance. Meanwhile, Sartzetaki et al. (2025) emphasize that ESG is increasingly employed as a strategic management approach for creating sustainable value, particularly in the logistics and transportation sectors. In this study, ESG score is used as the dependent variable to represent firms' sustainability performance. The data are obtained from the official ESG Leaders Index publications available on the Indonesia Stock Exchange (IDX) website, which assess firms based on globally recognized ESG standards that are relevant and adaptive to the Indonesian context.

Board Gender Diversity and Sustainability Performance

Board gender diversity has emerged as a significant factor in enhancing sustainability performance. Research by Galletta et al. (2022) indicates that gender diversity at the managerial level is positively associated with sustainability performance in the banking sector. This relationship is attributed to the broader range of perspectives created by gender-diverse boards, which enables more inclusive and innovative decision-making and encourages organizations to be more responsive to evolving social and environmental issues. Similarly, Bananuka et al. (2022) find that gender diversity on boards of directors is closely associated with

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

compliance with sustainability reporting standards, which in turn enhances corporate transparency and accountability. However, Hidayah et al. (2023) report a negative relationship between board gender diversity and corporate sustainability performance, while demonstrating that the implementation of Enterprise Risk Management (ERM) can strengthen this relationship. These findings suggest that the impact of board gender diversity on sustainability performance may vary depending on contextual factors and the specific roles of board members. Furthermore, Galletta et al. (2022) emphasize that gender diversity is associated with increased awareness of social and environmental issues, which subsequently contributes to improved sustainability performance. In contrast, Zaitul et al. (2023) show that gender diversity within supervisory boards negatively affects firms' environmental and social performance. Collectively, these mixed findings indicate that the specific role and contextual positioning of gender diversity within boards may influence sustainability performance in different ways.

Hypothesis 1: Board gender diversity has a positive effect on corporate sustainability performance in Indonesia during the 2022–2024 period.

Board Age Diversity and Sustainability Performance

Board age diversity may be regarded as an important factor within boards of directors. According to Saha et al. (2023), age diversity brings together a combination of experience and dynamism that is essential for formulating sustainability strategies that are more responsive to rapid changes in the business environment. Younger board members tend to contribute new and innovative ideas, while older members provide wisdom and experience that may reduce the risk of suboptimal decision-making (Disli et al., 2022b). Empirical evidence from Aureli and Brighi (2025) reveals that age diversity on bank boards contributes to improved ESG and sustainability performance through greater variation in perspectives and cross-generational understanding.

Hypothesis 2: Board age diversity has a positive effect on corporate sustainability performance in Indonesia during the 2022–2024 period.

Organizational Structure and Its Influence on Sustainability Performance

Organizational structure plays a crucial role in supporting the implementation of sustainability strategies. The presence of an effective organizational structure enables firms to adapt more rapidly to both external and internal changes and to make strategic decisions that align with sustainability objectives. Piwowar-Sulej and Iqbal (2023) demonstrate that flexible organizational structures facilitate more responsive decision-making in addressing sustainability challenges. In addition, Shabbir et al. (2024) report that CEO duality, board size, and the presence of compensation committees have significant positive effects on ESG performance through corporate governance mechanisms. Similarly, Alslaibi et al. (2025) find that strong organizational structures such as board independence and the presence of sustainability committees positively influence ESG performance.

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

Hypothesis 3: Organizational structure has a positive effect on corporate sustainability performance in Indonesia during the 2022–2024 period.

The conceptual framework of this study is presented in Figure 1.

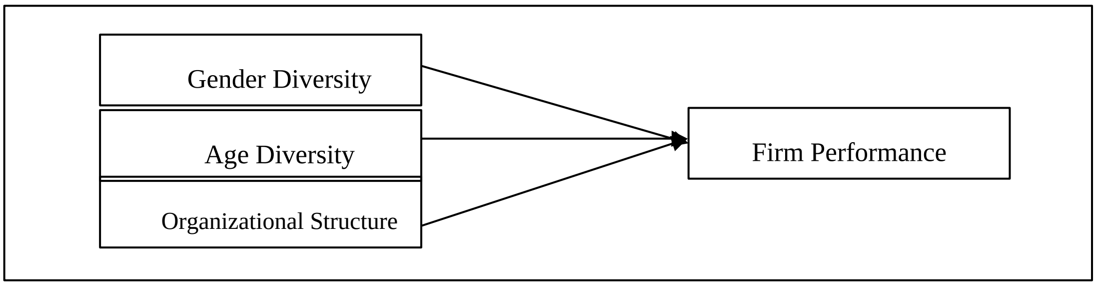

Figure 1. Conceptual Framework

2. RESEARCH METHOD

Data and Sample

This study employs a quantitative research design using secondary data obtained from companies listed in the ESG Leaders Index of the Indonesia Stock Exchange (IDX) during the 2022–2023 period. The population of this study consists of all companies included in the ESG Leaders Index, totaling 80 firms. The sample was selected using a purposive sampling method, whereby only companies meeting specific criteria were included in the analysis. The sampling criteria are as follows:

1. The sample firms are companies listed in the ESG Leaders Index and the Indonesia Stock Exchange during the 2022–2023 period.
2. The companies publish both annual reports and sustainability reports for the 2022–2023 period.
3. The firms' ESG scores are available in the Refinitiv Eikon database.

Based on these criteria, the final dataset consists of 160 panel observations derived from 80 companies, as detailed in Table 1.

Table 1. Sampling Criteria

Sampling Criteria	2022	2023
Total companies listed in the ESG Leaders Index and IDX	80	80
Companies that do not have ESG Score information	(6)	(6)
Companies that do not publish annual and sustainability reports	(0)	(0)
Total Sample	74	74

Source: Research result (2025)

Based on Table 1, the initial number of observations comprised 160 data points. However, six companies did not have available ESG score information, resulting in a final sample of 148 observations (74 companies × two observation years). Data analysis in this study employs multiple regression analysis to examine the effect of

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

organizational structure on sustainability performance. The statistical analysis was conducted using SPSS software.

Operasional variabel

Board Gender Diversity

Board Gender Diversity (BGD) is measured using a ratio scale by dividing the number of female directors by the total number of board members (Aprilia & Kustinah, 2023). This measurement approach has also been adopted in prior studies (e.g., Omenihu et al., 2025). The resulting percentage reflects the level of gender diversity at the board level, with higher values indicating stronger female representation, which is often associated with more inclusive governance and greater responsiveness to ESG-related issues.

$$\text{BGD} = \frac{\text{sum of women board director}}{sum\ of\ board\ director} \quad \text{(equation 1)}$$

Board Age Diversity

Board Age Diversity (BAD) is measured using the standard deviation of the ages of board members. A higher standard deviation indicates greater age variation among directors (Heldgaard, 2024). This measurement approach has been widely employed in prior studies to capture generational heterogeneity within boards (Foks, 2025).

$$\text{BAD} = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(Age_i - \overline{Age}\,)^2} \quad \text{(equation 2)}$$

Organizational Structure

The Organizational Structure Index (OSI) comprises five indicators: board size, board independence, CEO duality, audit/performance committee, and meeting frequency. Each indicator is operationalized by first calculating the sample median and subsequently applying an "IF" model, whereby a value of 1 is assigned if the metric exceeds the sample median and 0 if the metric falls below the sample median. This measurement approach has been previously adopted by Oyewo (2023). Board size is measured by counting the total number of directors serving on the board. Board independence is measured as the proportion of independent directors relative to the total number of directors. CEO duality is measured using a dummy variable, coded as 1 if the CEO concurrently serves as the chair of the board and 0 otherwise. The audit/performance committee indicator is measured using a dummy variable, coded as 1 if the firm has an audit or sustainability committee and 0 if such a committee is absent. Finally, meeting frequency is measured by counting the number of board meetings held during a one-year period.

$$\text{OSI} = \frac{IF_{Board\ Size} + IF_{Independence} + IF_{Duality} + IF_{Committee} + IF_{Meeting}}{5} \quad \text{(equation 3)}$$

Sustainability Performance (ESG Score)

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

Sustainability Performance (SP) refers to a firm's level of performance in managing environmental, social, and corporate governance aspects and is used as the dependent variable in this study. In this research, sustainability performance is measured using the ESG Score provided by Refinitiv, which is based on the Global Reporting Initiative (GRI) reporting standards. This measurement approach has also been adopted in prior studies (Ahmed et al., 2023).

Data Analytics

This study employs multiple linear regression analysis to examine the effects of the independent variables on the dependent variable. Multiple linear regression is selected because it allows for the assessment of the extent to which Board Gender Diversity (BGD), Board Age Diversity (BAD), and the Organizational Structure Index (OSI) influence Sustainability Performance (SP), both simultaneously and individually. The multiple linear regression model used in this study is specified as follows:

$$\mathbf{Y = \alpha + \beta_1 BGD + \beta_2 BAD + \beta_3 OSI + \varepsilon}$$

Notes:
Y = *Sustainability Performance*
α = Constanta
β1- β3= Regression coefficient of each independent variable
ε = *Error Term*

4. RESULT & DISCUSSION

Descriptive Statistics

This study analyzed 74 companies with ESG scores during the 2022–2023 period, resulting in a total of 148 observations. However, based on the classical normality assumption test, four observations were identified as outliers because they did not meet the criteria for a normal distribution. Therefore, these data were excluded from the analysis, resulting in a final total of 144 observations used in this study.

Tabel 2. Descriptive statistic test

	N	Minimum	Maximum	Mean	Std. Deviation
Gender Diversity	144	0.00	0.60	0.1636	0.15741
Age Diversity	144	0.94	12.95	5.7265	2.76533
Structure Organization	144	0.20	0.80	0.5514	0.16429
Sustainability Performance	144	18.42	86.20	53.4444	17.68752
Valid N	144				

Source: Output SPSS

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

Based on Table 2, the descriptive statistics indicate that the average level of board gender diversity is 0.1636, suggesting that, on average, female directors account for approximately 16.36% of total board membership. The maximum value of 0.60 indicates that, in firms with the highest level of gender diversity, women represent 60% of board members. In contrast, the minimum value of 0.00 shows that some firms have no female representation on their boards. This finding indicates that female representation on boards remains relatively low and uneven among ESG-listed companies in Indonesia. Board age diversity exhibits a mean standard deviation of board members' ages of 5.7265, with a minimum value of 0.94 and a maximum value of 12.95. These figures indicate substantial variation in the ages of board members across firms. Greater age diversity allows for a combination of senior members' experience and younger members' innovative perspectives, which is an important factor in sustainable strategic decision-making.

The organizational structure index records an average value of 0.5514, derived from a governance index based on five indicators, with a minimum value of 0.20 and a maximum value of 0.80. This average suggests that most firms have fulfilled more than half of the organizational structure elements considered supportive of good governance practices, such as the presence of audit committees, an adequate proportion of independent directors, and sufficient board meeting frequency. This finding underscores the importance of a strong organizational structure in supporting the successful implementation of ESG practices within firms. With respect to sustainability performance, measured using ESG scores, the sample exhibits an average value of 53.44 with a standard deviation of 17.68. The minimum score of 18.42 and the maximum score of 86.20 indicate considerable disparity in sustainability performance across firms. These results suggest that although all sampled companies are included in the ESG index, not all maintain consistent ESG performance throughout the study period. Firms with higher ESG scores demonstrate stronger performance in environmental management, social responsibility, and corporate governance.

Classical Assumption Test

Table 3. Classical assumption test

Variabel	Tolerance	VIF	Sig.
Board Gender Diversity	0.965	1.036	0.747
Board Age Diversity	0.982	1.019	0.311
Structure Organizational	0.978	1.023	0.137
Kolmogrov – Smirnov Test			0.200[d]
Durbin-Watson			1.847

Source: Output SPSS

The classical assumption tests in this study include normality, multicollinearity, heteroscedasticity, and autocorrelation tests to ensure the feasibility of the regression model. Table 3 shows the results of the normality test using the Kolmogorov–Smirnov test, which shows an Asymp. Sig. value of 0.200 (>0.05),

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

indicating that the residuals are normally distributed. The multicollinearity test based on tolerance values and the Variance Inflation Factor (VIF) shows that all independent variables have a tolerance above 0.10 and a VIF below 10, thus there are no symptoms of multicollinearity. The heteroscedasticity test using the Glejser method produces a significance value for all independent variables above 0.05, indicating the absence of heteroscedasticity and constant residual variance. Furthermore, the autocorrelation test using the Durbin–Watson test produces a value of 1.847, which is in the range DU < DW < 4 − DU, so it can be concluded that there is no autocorrelation. Overall, the results of the classical assumption test indicate that the regression model has met all statistical requirements and is suitable for further analysis.

Multiple Linear Test

The results of the multiple linear test which is a test of the hypothesis and research model are shown in table 4 below:

Table 4. Hypotheses test

Variabel	Prediksi	Coeff (B)	t-Statistic	Prob (sig)	Hipotesis Status
C		33.670	5.794	0.001***	
BGD	-	2.021	0.224	0.823	Not supported
BAD	-	-0.222	-0.436	0.664	Not supported
OSI	+	37.571	4.367	0.001***	Supported
R-Square		0.126			
Adjusted R-Square		0.107			
F-Statistic		6.725			
Prob (F-Statistic)		0.001***			

note: ***significant at level 1%

The multiple linear regression results presented in Table 4 indicate that the F-statistic (model fit test) yields a significance level of < 0.001, which is below the 0.05 threshold. This result suggests that the regression model employed in this study is statistically significant. Accordingly, it can be concluded that the three independent variable’s organizational structure, board age diversity, and board gender diversity jointly have a significant effect on the dependent variable, namely corporate sustainability performance (ESG score). Furthermore, the F-test results report an Adjusted R-squared value of 0.107 (10.7%), indicating that the independent variables explain 10.7% of the variation in sustainability performance. Thus, the regression model is considered adequate and can be used to explain variations in firms' sustainability performance. With respect to the t-statistics (partial tests), the results in Table 4 show that board gender diversity has a significant value of 0.823 and board age diversity has a significant value of 0.665, both of which exceed the 0.05 significance level. This indicates that neither variable has a statistically significant effect on sustainability performance. In contrast, organizational structure exhibits a significance value of <0.001, indicating a

* Corresponding author’s e-mail: lidya.agustina@eco.maranatha.edu

positive and statistically significant effect on sustainability performance. Therefore, among the three independent variables examined, only organizational structure is found to have a significant and positive influence on corporate sustainability performance, while board gender diversity and board age diversity do not demonstrate significant effects within this model.

Discussion

The Influence of Gender Diversity on Sustainability Performance

The t-test results indicate that gender diversity, measured by the proportion of female directors on the board, does not have a statistically significant effect on corporate sustainability performance. This finding suggests that board gender diversity does not provide sufficient explanatory power in enhancing the ESG scores of firms included in the ESG Leaders Index of the Indonesia Stock Exchange during the 2022–2023 period. In other words, the presence of women on corporate boards does not directly translate into improved sustainability performance within the context of this study.

These results indicate that gender diversity does not exert a significant influence on sustainability performance. This outcome may be explained by the empirical evidence showing that, although women are present on corporate boards, their roles have not yet been reflected in substantive contributions to firms' sustainability dimensions. Within the sample examined, the relatively low level of female representation (mean = 16%) appears insufficient to support strong strategic involvement, suggesting that gender diversity may be more symbolic in nature rather than influential enough to substantially affect ESG scores.

However, these findings contrast with those of Odriozola et al. (2024), who document a positive relationship between gender diversity and ESG performance in European and Australian contexts, where corporate governance cultures tend to be more inclusive of women. This discrepancy may be attributed to differences in institutional structures and corporate cultures in Indonesia, which may not yet fully support the active participation of women in board-level decision-making processes.

The Influence of Age Diversity on Sustainability Performance

The regression analysis results indicate that board age diversity does not have a statistically significant effect on corporate sustainability performance. This finding suggests that age differences among board members do not meaningfully explain variations in ESG scores across firms. In other words, board age diversity has not yet emerged as a determining factor in achieving sustainability performance within the context of this study.

These findings are consistent with Putra and Setiawan (2024), who argue that empirical evidence regarding the influence of age diversity on ESG disclosure and firm performance remains inconclusive, particularly in emerging markets characterized by relatively low stakeholder pressure. In such contexts, age diversity has not been shown to function as a dominant driver of sustainability practices. Similarly, Ali et al. (2024) report that the age profile of board members does not exhibit a clear relationship with firms' ESG responses. Instead, other attributes such

* Corresponding author’s e-mail: lidya.agustina@eco.maranatha.edu

as educational background and sustainability-related experience appear to exert a stronger influence on firms' ESG orientation.

However, these results contrast with the findings of Radwan and Russo (2024), who document that board age diversity enhances inclusiveness in decision-making processes, thereby facilitating better alignment with ESG objectives and stakeholder expectations. Likewise, Ali et al. (2025) find that age diversity, together with educational and gender diversity, is significantly associated with the likelihood of ESG reporting in firms characterized by supportive organizational cultures. It is therefore plausible that, within the Indonesian corporate context, active involvement and relevant experience may play a more critical role than age distribution alone, rendering age diversity an insignificant factor in influencing ESG performance.

The Influence of Organizational Structure on Sustainability Performance

In contrast to the previous two variables, the t-test results reveal that organizational structure has a positive and statistically significant effect on corporate sustainability performance. In this study, organizational structure is measured using a composite index that includes board size, meeting frequency, the presence of audit committees, the proportion of independent directors, and the separation of the CEO and board chair roles (CEO duality). This finding indicates that higher-quality organizational structures are associated with stronger sustainability performance. In other words, effective corporate governance structures contribute meaningfully to the achievement of firms' sustainability objectives.

These results support previous studies, such as Oyewo (2023), who demonstrated that governance indices based on strong organizational structures are positively associated with ESG performance, particularly in terms of governance disclosure and environmental accountability. Ali et al. (2024) further argue that organizational structures emphasize independent oversight, well-established board committees, and the separation of CEO and chair roles are positively linked to ESG performance, especially carbon disclosure. Additionally, Bhat et al. (2024) affirm that the presence of independent directors and the separation of the CEO and board chair positions within corporate structures positively influence ESG orientation and firms' engagement in sustainability initiatives.

5. CONCLUTION & SUGGESTION

This study aims to examine the effects of board gender diversity, board age diversity, and organizational structure on the sustainability performance of companies listed in the ESG Leaders Index of the Indonesia Stock Exchange during the 2022–2023 period. The results indicate that board gender diversity and board age diversity do not have significant effects on sustainability performance. These findings suggest that the presence of demographically diverse boards does not automatically translate into strategic decisions that support sustainability practices. In contrast, organizational structure is found to have a positive and statistically

* Corresponding author’s e-mail: lidya.agustina@eco.maranatha.edu

significant effect on sustainability performance, highlighting the importance of governance mechanisms such as board composition, board independence, and the effectiveness of oversight functions in enhancing firms' ESG performance.

This study is subject to several limitations that should be acknowledged. First, the relatively short observation period (2022–2023) limits the ability of the analysis to capture long-term dynamics in sustainability performance. Second, the scope of diversity examined is limited to gender and age, while other important dimensions such as educational background, international experience, and professional expertise are not considered. Third, this study does not account for macroeconomic conditions or ESG-related regulatory frameworks, which may act as moderating variables influencing the relationship between organizational structure and ESG performance.

Based on these limitations, future research is encouraged to employ broader cross-sectoral samples and extend the observation period to enhance the generalizability of the findings. Subsequent studies may also incorporate additional diversity variables, such as educational attainment, industry expertise, board tenure, and share ownership, to provide a more comprehensive understanding of board composition. Furthermore, alternative qualitative methodological approaches may be employed to gain deeper insights into the role of boards in ESG-related decision-making. Future research may also examine the moderating or mediating effects of variables such as corporate culture, environmental strategy, and institutional pressure on the relationship between board composition and ESG performance.

Overall, this study provides both academic and practical contributions by enhancing the understanding of internal organizational factors that influence sustainability performance in Indonesia. The finding that organizational structure is a significant determinant of ESG performance offers important insights for corporate managers and policymakers in strengthening governance and sustainability practices. Although board gender and age diversity are not found to be significant in this context, continued efforts to promote meaningful participation of diverse groups in strategic decision-making remain essential to ensure that sustainability principles are fully integrated into corporate governance frameworks.

REFERENCE

Ahmed, E. R., Alabdullah, T. T. Y., & Akyurek, M. (2023). Management of Innovations in the Environmental, Social, and Governance Scores and Sustainability Performance Through ESG Disclosure: Evidence from Emerging Markets. *Marketing and Management of Innovations*, *14*(4), 69–83. https://doi.org/10.21272/mmi.2023.4-05

Akomea-Frimpong, I., Asogwa, I. E., & Tenakwah, E. J. (2022). Systematic review of sustainable corporate governance of SMEs: Conceptualisation and propositions. *Corporate Ownership and Control*, *19*(3), 74–91. https://doi.org/10.22495/cocv19i3art5

Ali, W., Wilson, J., & Frynas, J. G. (2024). Corporate governance mechanisms and carbon disclosure: A multilevel and multitheory literature survey. *Corporate Social*

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

Responsibility and Environmental Management, *31*(6), 5670–5689. https://doi.org/10.1002/csr.2869

Ali, W., Wilson, J., & Hamza, M. (2025). A Meta Analytical Study of Cultural Conditions Moderating the Relationship Between Board Diversity and <scp>CSR</scp> Disclosure. *Corporate Social Responsibility and Environmental Management*, *32*(4), 4586–4603. https://doi.org/10.1002/csr.3193

Alodat, A. Y., & Hao, Y. (2025). Environmental, social and governance (ESG) disclosure and firm performance: Moderating role of board gender diversity and sustainability committee. *Sustainable Development*, *33*(1), 636–651. https://doi.org/10.1002/sd.3126

Alslaibi, N. A., Samara, H. H., Hussein, Ali. I., & Hussein, W. N. (2025). The role of environmental management teams in linking board characteristics to sustainability performance: evidence from the GCC. *Management & Sustainability: An Arab Review*. https://doi.org/10.1108/MSAR-12-2024-0233

Aprilia, F., & Kustinah, S. (2023). The Effect of Board Gender Diversity, Narcissism, and Audit Committee Meeting Intensity on Sustainability Report. *International Student Conference on Multiple Intelligences*.

Aureli, S., & Brighi, P. (2025). *Gender, Age, and Nationality Diversity in Banks' Board: Do They Affect Financial and Sustainability Performance?* (pp. 3–21). https://doi.org/10.1007/978-3-031-78999-1_1

Bananuka, J., Nkundabanyanga, S. K., Kaawaase, T. K., Mindra, R. K., & Kayongo, I. N. (2022). Sustainability performance disclosures: the impact of gender diversity and intellectual capital on GRI standards compliance in Uganda. *Journal of Accounting in Emerging Economies*, *12*(5). https://doi.org/10.1108/JAEE-09-2021-0301

Barby, C., Barker, R., Cohen, R., Eccles, R. G., Heller, C., Mayer, C., Roche, B., Serafeim, G., Stroehle, J., Younger, R., & Zochowski, T. (2021). Measuring Purpose: An Integrated Framework. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3771892

Bhat, B. A., Makkar, M. K., & Gupta, N. (2024). Effect of board structure on stakeholders' centric perspective of sustainable corporate world. *Journal of Global Responsibility*, *15*(4), 388–408. https://doi.org/10.1108/JGR-03-2023-0036

Disli, M., Yilmaz, M. K., & Mohamed, F. F. M. (2022). Board characteristics and sustainability performance: empirical evidence from emerging markets. *Sustainability Accounting, Management and Policy Journal*, *13*(4), 929–952. https://doi.org/10.1108/SAMPJ-09-2020-0313

Foks, L. (2025). *The Impact of Board Diversity on Firm Performance in Family Firms: A Global Analysis*. Tilburg School of Economics and Management.

Galletta, S., Mazzù, S., Naciti, V., & Vermiglio, C. (2022). Gender diversity and sustainability performance in the banking industry. *Corporate Social Responsibility and Environmental Management*, *29*(1). https://doi.org/10.1002/csr.2191

Heldgaard, I. M. (2024). *Towards the Triple Bottom Line: Unveiling the Role of Board Diversity in Firm Financial and ESG Performance*. Copenhagen Business School.

Hidayah, N., Nugroho, L., & Mais, R. G. (2023). The Effect of Board Gender Diversity on Corporate Sustainability Performance with Enterprise Risk Management as a

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

Moderating Variable. *International Journal of Social Science and Business*, *7*(4). https://doi.org/10.23887/ijssb.v7i4.64881

Hossain, A., Bose, S., & Shamsuddin, A. (2023). Diffusion of integrated reporting, insights and potential avenues for future research. *Accounting and Finance*, *63*(2), 2503–2555. https://doi.org/10.1111/ACFI.12981;JOURNAL:JOURNAL:1467629X;WGROUP:STRING:PUBLICATION

Jothi Krishnan, I. A., Kaliani Sundram, V. P., Mohamad Mokhtar, A. R., & Shahrom, M. (2025). Examining the Nexus between Corporate Governance Mechanisms and Environmental, Social, and Governance: A Case Study of Malaysian Listed Firms. *Jurnal Institutions and Economies*, *17*(3), 27–52. https://doi.org/10.22452/ijie.vol17no3.2

Kampoowale, I., Kateb, I., Salleh, Z., & Alahdal, W. M. (2025). Board gender diversity and ESG performance: pathways to financial success in Malaysian emerging market. *International Journal of Emerging Markets*, *20*(11), 4666–4688. https://doi.org/10.1108/IJOEM-03-2024-0488

Marie, M., Qi, B., Elamer, A. A., Khatatbeh, I. N., & Al-Fakir Al Rabab'a, E. (2025). How does board gender diversity drive the ESG performance-cash holdings relationship? Evidence from China. *International Journal of Finance and Economics*, *30*(3), 2705–2723. https://doi.org/10.1002/IJFE.3037;WGROUP:STRING:PUBLICATION

Mehedi, S. (2025). Social value relevance corporate governance and organizational outcome. *Australian Catholic University*.

Mulyana, D., Widyaningsih, A., & Rozali, R. D. Y. (2025). Environmental, Social, And Governance (Esg) Performance And Corporate Value: Unpacking The Moderating Effect Of Company Size. *Jurnal Ekonomi Dan Bisnis Airlangga*, *35*(1), 147–165. https://doi.org/10.20473/jeba.V35I12025.147-165

Nyantakyi, G., Atta Sarpong, F., Adu Sarfo, P., Uchenwoke Ogochukwu, N., & Coleman, W. (2023). A boost for performance or a sense of corporate social responsibility? A bibliometric analysis on sustainability reporting and firm performance research (2000-2022). *Cogent Business & Management*, *10*(2). https://doi.org/10.1080/23311975.2023.2220513

Octavio, M. F. R., Setiawan, D., Aryani, Y. A., & Arifin, T. (2025). The relationship between corporate governance and sustainability performance: the moderating role of public attention. *Asian Review of Accounting*. https://doi.org/10.1108/ARA-01-2025-0009

Odriozola, M. D., Blanco-González, A., & Baraibar-Diez, E. (2024). The link of ESG performance and board gender diversity in European firms. *Corporate Social Responsibility and Environmental Management*, *31*(6), 5656–5669. https://doi.org/10.1002/csr.2881

Omenihu, C. M., Abdrakhmanova, M., & Koufopoulos, D. N. (2025). Board Gender Diversity and Environmental, Social, and Governance (ESG) Disclosure in Developed Countries. *Administrative Sciences 2025, Vol. 15, 15*(4). https://doi.org/10.3390/ADMSCI15040141

Oyewo, B. (2023). Corporate governance and carbon emissions performance: International evidence on curvilinear relationships. *Journal of Environmental Management*, *334*, 117474. https://doi.org/10.1016/j.jenvman.2023.117474

* Corresponding author's e-mail: lidya.agustina@eco.maranatha.edu

Piwowar-Sulej, K., & Iqbal, Q. (2023). Leadership styles and sustainable performance: A systematic literature review. *Journal of Cleaner Production*, *382*. https://doi.org/10.1016/j.jclepro.2022.134600

Popov, K., & Makeeva, E. (2022). Relationship between Board Characteristics, ESG and Corporate Performance: A Systematic Review. *Journal of Corporate Finance Research / Корпоративные Финансы | ISSN: 2073-0438*, *16*(4), 119–134. https://doi.org/10.17323/j.jcfr.2073-0438.16.4.2022.119-134

Putra, F., & Setiawan, D. (2024). Nomination and remuneration committee: a review of literature. *Journal of Capital Markets Studies*, *8*(1), 126–168. https://doi.org/10.1108/JCMS-12-2023-0045

Radwan, E. K. A., & Russo, A. (2024). Web-based corporate social responsibility disclosure practices: A systematic literature review and research directions. *Corporate Social Responsibility and Environmental Management*, *31*(5), 5049–5106. https://doi.org/10.1002/CSR.2841;PAGE:STRING:ARTICLE/CHAPTER

Romano, M., Cirillo, A., Favino, C., & Netti, A. (2020). ESG (Environmental, Social and Governance) Performance and Board Gender Diversity: The Moderating Role of CEO Duality. *Sustainability 2020, Vol. 12*, *12*(21), 1–16. https://doi.org/10.3390/SU12219298

Saha, R., Kabir, M. N., & Chowdhury, A. H. (2023). The impact of CEO attributes on sustainability performance: evidence from an emerging economy. *Accounting Research Journal*, *36*(6). https://doi.org/10.1108/ARJ-12-2022-0323

Sartzetaki, M., Karagkouni, A., Dimitriou, D., Sartzetaki, M., Karagkouni, A., & Dimitriou, D. (2025). Enterprise Strategic Management Upon Sustainable Value Creation: A Fuzzy Topis Evaluation Tool for Transport and Supply Chain Enterprises. *Sustainability 2025, Vol. 17*, *17*(11). https://doi.org/10.3390/SU17115011

Shabbir, M. F., Hanaysha, J. R., Oon, E. Y. N., Asif, M., & Aslam, H. D. (2024). Aligning CEO compensation with sustainability performance: the role of CEO duality, board size, and compensation committees. *Discover Sustainability 2024 5:1*, *5*(1), 447-. https://doi.org/10.1007/S43621-024-00491-0

Tjahjadi, B., Soewarno, N., & Mustikaningtiyas, F. (2021). Good corporate governance and corporate sustainability performance in Indonesia: A triple bottom line approach. *Heliyon*, *7*(3), e06453. https://doi.org/10.1016/j.heliyon.2021.e06453

Winschel, J., & Stawinoga, M. (2019). Determinants and effects of sustainable CEO compensation: a structured literature review of empirical evidence. *Management Review Quarterly*, *69*(3), 265–328. https://doi.org/10.1007/S11301-019-00154-9/METRICS

Yang, K., Zhang, T., & Ye, C. (2024). The Sustainability of Corporate ESG Performance: An Empirical Study. *Sustainability (Switzerland)* , *16*(6). https://doi.org/10.3390/su16062377

Zaitul, Ilona, D., Aqila, F. A. R., Rahmawati, D., & Salfadri. (2023). Kinerja ESG: Kontribusi Board Gender Diversity Dan Network. *Jurnal Akuntansi Keuangan Dan Bisnis*, *16*(2). https://doi.org/10.35143/jakb.v16i2.5895

* Corresponding author’s e-mail: lidya.agustina@eco.maranatha.edu