

**THE EFFECT OF GENDER DIVERSITY ON BOARD OF
COMMISSIONERS AND DIRECTORS TO FIRM PERFORMANCE: THE
MODERATING ROLE OF ESG PERFORMANCE IN INDONESIAN
LISTED COMPANIES FROM 2021-2023**

(Undergraduate Thesis)

By:

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**ACCOUNTING DEPARTMENT
FACULTY OF ECONOMICS AND BUSINESS
UNIVERSITAS LAMPUNG
2026**

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**As One of the Requirements to Earn a Bachelor of Accounting Degree
(Bachelor of Accounting)**

**On
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**ACCOUNTING DEPARTMENT
FACULTY OF ECONOMICS AND BUSINESS
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2026**

ABSTRACT

THE EFFECT OF GENDER DIVERSITY ON BOARD OF COMMISSIONERS AND DIRECTORS TO FIRM PERFORMANCE: THE MODERATING ROLE OF ESG PERFORMANCE IN INDONESIAN LISTED COMPANIES FROM 2021-2023

By:

GHEA LAILI PUTRI GARIEN

This research analyzes the effect of board gender diversity and Environmental, Social, and Governance (ESG) performance on firm performance within Indonesia's two-tier corporate governance system. This research uses a quantitative approach using secondary data collected from the Refinitiv Eikon database and annual reports of companies listed on the Indonesia Stock Exchange during the 2021–2023 period. Purposive sampling is applied to choose the research sample, resulting in a panel of 80 companies. The data are analyzed using descriptive statistical analysis, classical assumption tests, and panel data regression with a fixed-effects model. The findings show that gender diversity on both the Board of Commissioners and the Board of Directors does not have a significant effect on firm performance. Furthermore, ESG performance does not moderate the relationship between board gender diversity and firm performance, as both interaction terms are statistically insignificant. These results indicate that in the Indonesian context, the expected governance and strategic benefits of gender-diverse boards are not yet realized, likely due to tokenistic appointments, early-stage ESG adoption focused on compliance, and a weak institutional environment.

Keywords: Board Gender Diversity; ESG Performance; Firm Performance; Corporate Governance

ABSTRAK

PENGARUH KEBERAGAMAN GENDER PADA DEWAN KOMISARIS DAN DEWAN DIREKSI TERHADAP KINERJA PERUSAHAAN: PERAN MODERASI KINERJA ESG PADA PERUSAHAAN TERDAFTAR DI INDONESIA PERIODE 2021–2023

Oleh:

GHEA LAILI PUTRI GARIEN

Penelitian ini menganalisis pengaruh keragaman gender dewan dan kinerja Environmental, Social, and Governance (ESG) terhadap kinerja perusahaan dalam sistem tata kelola perusahaan dua tingkat di Indonesia. Penelitian ini menggunakan pendekatan kuantitatif dengan data sekunder yang dikumpulkan dari basis data Refinitiv Eikon dan laporan tahunan perusahaan-perusahaan yang terdaftar di Bursa Efek Indonesia periode 2021–2023. Purposive sampling diterapkan untuk memilih sampel penelitian, menghasilkan data panel dari 80 perusahaan. Data dianalisis menggunakan analisis statistik deskriptif, uji asumsi klasik, dan regresi data panel dengan model fixed-effects. Temuan penelitian menunjukkan bahwa keragaman gender di Dewan Komisaris dan Dewan Direksi tidak berpengaruh signifikan terhadap kinerja perusahaan. Selain itu, kinerja ESG terbukti memiliki pengaruh negatif langsung yang signifikan terhadap kinerja perusahaan. Lebih lanjut, kinerja ESG tidak memoderasi hubungan antara keragaman gender dewan dan kinerja perusahaan, karena kedua istilah interaksi tersebut tidak signifikan secara statistik. Hasil ini menunjukkan bahwa dalam konteks Indonesia, manfaat tata kelola dan strategis yang diharapkan dari dewan yang beragam gender belum terwujud, kemungkinan disebabkan oleh pengangkatan yang bersifat tokenistik, adopsi ESG tahap awal yang berfokus pada kepatuhan, serta lingkungan kelembagaan yang lemah.

Kata Kunci: Keragaman Gender pada Dewan; Kinerja ESG; Kinerja Perusahaan; Tata Kelola Perusahaan

Undergraduate Thesis Title

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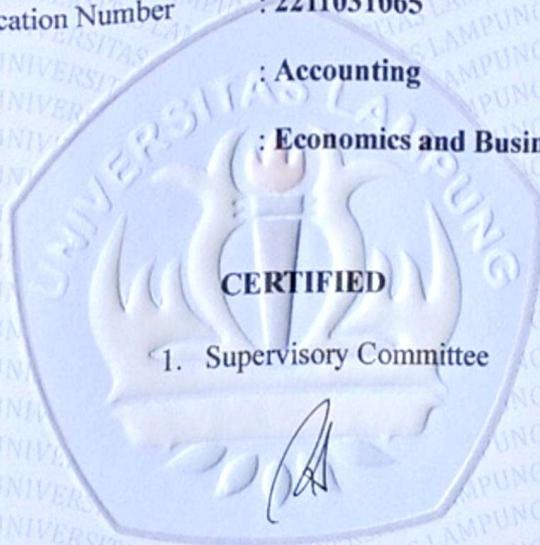
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STATEMENT OF ORIGINALITY

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Hereby declare that my undergraduate thesis entitled **“The Effect of Gender Diversity on Board Of Commissioners and Directors to Firm Performance: The Moderating Role of ESG Performance in Indonesian Listed Companies from 2021-2023”** is entirely my own original work. In this undergraduate thesis, there is no part or entirety of the writing, ideas, or opinions of other authors that I have acknowledged as my own without proper acknowledgment of the original author. If it is proven in the future that this statement is not true, I am willing to accept sanctions in accordance with the applicable regulations.

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DEDICATION

All praise and gratitude are devoted to Allah SWT for abundant blessings and grace, by which the writing of this undergraduate thesis has been successfully completed.

With all humility, this undergraduate thesis is dedicated to:

My beloved parents

Thank you for the endless love and affection you have given me since my childhood until now. Thank you for every prayer, effort, guidance, and support that have always accompanied my steps in pursuing my dreams. Without you, I would not have been able to endure this journey and complete my education up to this stage. Through this ordinary work, I humbly present a small token of pride to you, Ma Pa. May Allah SWT always grant you good health and a long life, so that you may continue to witness, accompany, and share in every success that your eldest daughter will achieve in the future

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MOTTO

“YaAllah, do not leave me alone on this earth”

“We are all in the gutter, but some of us are looking at the stars. ”

Oscar Wilde

“He Who Would Climb a Ladder Must Begin at the Bottom.”

Haikyu!!

“It is what it is”

“Carpe diem”

“Seize the day”

Dead Poets Society

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I. INTRODUCTION

1.1 Background

In recent years, the focus on gender diversity within corporate boards has grown notably in public, media, and academic discussions (Sanad & Al Lawati, 2023). This emphasis is connected to the United Nations' Sustainable Development Goals (SDGs), a set of 17 global objectives established in 2015 with a 2030 target for social, economic, and environmental progress. SDG 5, in particular, highlights gender equality as both a fundamental right and a necessary component for sustainable and inclusive development (Sultana et al., 2024)

Diversity within organizations has been recognized as a driver for the emergence of new standards and opportunities that can serve as catalysts for positive transformation (Zaid et al., 2020). This is explained by theories such as agency theory, it is argued that board diversity enhances monitoring and reduces costs, while resource dependency theory highlights that women on board contribute distinct resources, networks, and perspectives, thereby elevating board effectiveness and driving transformative change (Arora, 2022).

The growing number of legal requirements and policy mandates for female representation on boards has further elevated public awareness and scholarly interest in this area (Singhania et al., 2024). The European Union's adoption of a 40% gender quota for corporate boardrooms through Directive European Union or EU 2022, modeled on Norway's landmark 2003 regulation, underscores a global shift toward institutionalized approaches to promoting board diversity. The directive mandates that large listed companies within the EU achieve at least 40% representation of the underrepresented sex among non-executive directors, or 33% when considering all board members (Halrynjo & Teigen, 2024)

Despite the rising regulatory efforts across countries, actual female board representation remains limited, Deloitte's eighth edition of *Women in the Boardroom: A Global Perspective* reports that women occupy only 23.3% of board seats worldwide. In Indonesia, this figure is even lower, with just 9.7% of board seats held by women in 2023, compared to regional neighbors such as Malaysia's (28.5%) and Singapore (20.8%).

Table 1. 1
Female Representation in Board Seats in Southeast Asia (2023)

Geography	Percentage
Malaysia	28.5%
Philippines	21.7%
Singapore	20.8%
Thailand	19.0%
Indonesia	9.7%

Source: (Deloitte, 2024)

Unlike several other countries, Indonesia is relatively silent on the issue of gender quotas in corporate governance. Its regulatory focus on gender representation remain limited to the political sphere, where a one-third minimum for female legislative candidates is required (Bintarto & Harymawan, 2024).

Indonesia applies a two-tier board system, consisting of a Board of Directors (BOD) that manages the company and makes strategic decisions, and a Board of Commissioners (BOC) that supervises and advises the directors. Both boards are essential for maintaining corporate sustainability (Krisnadewi et al., 2020). This study therefore investigates the impact of gender diversity on both the BOD and BOC, recognizing their distinct but complementary functions within Indonesian firms.

Within the framework of the SDGs, the 2030 agenda emphasizes the importance of Environmental, Social, and Governance (ESG) principles. ESG is a set of criteria for evaluating sustainable performance (IDX, 2025). Therefore, a critical scholarly question is how firms must engage environment requires them to consider ecological and social impacts alongside profit. In response, companies

are progressively adopting ESG practice to ensure their ongoing sustainability and market relevance (Mehmood et al., 2023)

The growing international focus on ESG is mirrored within Indonesia's own regulatory framework, where these principles are receiving foral institutional backing. This is established by government regulation No. 47 of 2012, asserting the social and environmental duties of every legal corporate entity. Indonesia is formally committed to achieving The UN SDG by 2030 (Primacintya & Kusuma, 2025). Further reinforcing this direction, OJK Regulation No. 51/POJK.03/2017 requires financial service institutions, issuers, and public companies to adopt sustainable finance practice and manage associated ESG risks (OJK, 2017).

Consequently, ESG is regarded as a driver of value creation (Albitar et al., 2020). Strong ESG practices are believed to enhance operational performance, deliver superior returns, and lower firm-specific risks (Shaikh, 2021), while simultaneously providing greater resilience in times of economic turbulence (Ferriani & Natoli, 2021). By building credibility, strong ESG also garners public trust, reducing the potential for legal conflicts (Wang et al., 2025)

In general, gender diversity within corporate boards introduces a variety of ideas, perspectives, creativity, backgrounds, and psychological traits that enrich boardroom discussions and strengthen the decision-making process, including strategies related to ESG (Albitar et al., 2020). Compared to their male counterparts, female directors are more inclined to prioritize non-financial aspects, driven by their empathetic and compassionate nature. This quality enables them to better respond to stakeholder demands and integrate broader concerns into corporate strategies, making their presence particularly significant in advancing sustainability agendas (Mehmood et al., 2023)

Furthermore, women on boards are often more engaged in sustainability-oriented initiatives, such as ESG-related investments (Romano et al., 2020). Therefore, integrating ESG practices is crucial, as it improves both corporate reputation and financial outcomes (Sahu & Mishra, 2025). This strategic shift responds to the growing awareness and interest of stakeholders and investors in corporate sustainability (Ozili, 2023).

Despite its theoretical benefits for decision-making and performance, the empirical link between Board Gender Diversity (BGD) and firm outcomes is unclear. Studies from (Laskar et al., 2024) suggests that gender diversity at both the board and workforce levels enhance productivity, decision-making, creativity, and overall firm performance, both in profitability and market value. Others research from (Arora, 2022; Saha & Maji, 2022; Lee & Thong, 2023; Sanad & Al Lawati, 2023) show a significant positive relationship between board gender diversity to firm performance, it stated that women in boards bring a unique set of skills, and capable of making favourable perception in the eyes of investors. Yet, research conduct from Almarayeh (2023) suggests that board gender diversity does not affect firm performance in Jordania due to under-representation, female managers are more often viewed as a symbol or a token on a corporate board. Another insignificant relationship found by Singhania et al. (2024), that women in IT boards remain marginalized, with limited influence on strategic decision-making. These divergent findings indicate that the relationship between board gender diversity and firm performance may be context-dependent and warrants further investigation.

One of the important factors that appears in the latest literature is ESG performance. ESG performance is seen as able to moderate the relationship between BGD and Firm Performance (FP) because it creates a more transparent, accountable, and sustainability-oriented governance environment (Sahu et al., 2025).

In the context of firms with strong ESG performance, gender diversity on the BOD can be better leveraged to generate sustainable strategies that align with the interests of multiple stakeholders, thereby strengthening the positive effect of Board Gender Diversity on Firm Performance. For the BOC, strong ESG performance offers transparent and verifiable information, empowering diverse supervisory boards to conduct more effective oversight and ensure management's accountability towards sustainable practices. This enhanced monitoring and reduced information asymmetry, facilitated by ESG transparency, can significantly amplify the positive impact of diverse BOC on firm stability and long-term value. Thus, ESG performance functions as a reinforcing mechanism

that enables the synergy between gender diversity and the achievement of both financial and non-financial outcomes, consistent with the stakeholder-agency theory framework, which emphasizes the importance of integrating diverse interests in corporate governance. (Sahu et al., 2025).

Despite Indonesia's relatively low female representation on corporate boards and its evolving ESG regulatory environment, the extent to which gender diversity on both the BOD and the BOC influences firm performance remains unclear. Moreover, the moderating role of ESG performance in this relationship has not been thoroughly examined in the Indonesian context. Addressing this gap, the present study seeks to answer the following research question: does gender diversity on the BOD and BOC of Indonesian listed companies during 2021–2023 affect firm performance, and how is this relationship moderated by ESG performance?

To fill this gap, this study investigates whether gender diversity on the BOC and BOD influences firm performance of Indonesian listed companies during 2021–2023, with ESG performance as a moderating factor. Unlike developed countries that have imposed gender quota regulations, Indonesia still relies on voluntary adoption of gender inclusivity, making it a unique context to explore. In addition, Indonesia is unique compared to other Asian countries because it has adopted two-tier board structure (KNKG, 2021). This research not only extends corporate governance literature but also provides practical insights for policymakers and firms on how gender diversity and ESG can jointly shape firm performance.

1.2 Research Questions

Based on the background, the questions can be formulated as follows:

1. Does gender diversity on the BOC affect the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021 – 2023
2. Does gender diversity on the BOD affect the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021–2023?

3. Does ESG performance moderate the relationship between gender diversity on the BOC and the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021 – 2023?
4. Does ESG performance moderate the relationship between gender diversity on the BOD and the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021–2023?

1.3 Research Objectives

Based on the background and research questions, the research objectives are:

1. To analyze the impact of gender diversity on the BOC on the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021 – 2023.
2. To analyze the impact of gender diversity on the BOD on the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021–2023.
3. To analyze whether ESG performance moderates the relationship between board gender diversity on the BOC and the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021 – 2023
4. To analyze whether ESG performance moderates the relationship between board gender diversity on the BOD and the firm performance of companies listed on the Indonesia Stock Exchange during the period of 2021–2023.

1.4 Research Benefits

The research is expected to provide some contributions as follows:

1. Empirical Contributions

The results of this study are expected to add references regarding the relationship between gender diversity on corporate boards, specifically focusing on both the BOC and BOD, and financial performance.

Furthermore, this study contributes to the growing body of research on ESG by examining its role as a moderating variable, offering insights into how

ESG performance conditions the impact of gender diversity on firm outcomes, particularly differentiating the influence of gender diversity within the oversight (BOC) managerial (BOD) and functions.

2. Practical Contributions

The results of this study are expected to contribute to a deeper understanding for regulators, investors, and corporate decision-makers regarding the role of gender diversity on both the BOD and the BOC in enhancing firm performance. By incorporating ESG performance as a moderating factor, the study provides valuable implications on how companies can leverage both diversity and sustainability practices to achieve better financial and non-financial performance within Indonesia's corporate governance system. This research offers practical guidance for companies aiming to optimize their board structures to foster sustainable growth and meet stakeholder expectations.

II. LITERATURE REVIEW

2.1 Theoretical Basis

2.1.1 Agency Theory

Agency theory, a cornerstone of corporate governance established by Jensen and Meckling (1976), examines the conflicts that can arise between principals (shareholders) and their agents (managers) due to their potentially misaligned interests when ownership is separate from control.

Eisenhardt (1989) stated that agency theory is built upon three categories of assumptions: those related to human nature, organizational characteristics, and information. The human nature assumption posits that individuals are inherently self-interested, possess limited rationality in anticipating future outcomes, and generally avoid risk. Organizationally, the theory presumes inherent internal conflict, prioritizes efficiency, and recognizes information asymmetry between principals and agents. Information itself is treated as a tradable commodity. The core assumption of self-interest directly explains the potential for conflict within the principal-agent relationship.

Since managers capture only a small portion of the value they create, their personal incentives diverge from shareholder interests. This leads them to pursue activities that yield private benefits, thereby sacrificing profit maximization and generating conflict (Eisenhardt, 1989). To address such conflicts, corporate governance functions as a mechanism to mitigate agency problems. These problems often manifest in issues affecting firm performance, particularly financial performance, and tend to raise agency costs, including monitoring and bonding costs.

Agency problems can be addressed through the implementation of corporate governance, which operates via formal structures and governance mechanisms. The corporate governance structure is carried out through the board's design associated with its characteristics and a diverse board is likely to improve this function (Jensen & Meckling, 1976).

From an agency theory perspective, board gender diversity serves as a governance mechanism to better align managerial actions with shareholder interests, reducing agency costs. The monitoring and control roles of the BOD plays a significant and important functions in 'mitigating' the principal (i.e. the shareholders) and the agent (senior management) conflict, which eventually improved the procedures and strategy in which the company is operating and finally affect the firm performance (Fama & Jensen, 1983; Jensen & Meckling, 1976).

Agency theory suggests that women directors are more diligent monitors than their male counterparts, a tendency driven by their inquisitive nature and expressed through more meticulous oversight behavior (Adams & Ferreira, 2009).

Notably, gender diversity is associated with lower agency costs, as diverse perspectives enhance oversight and challenge groupthink, leading to better alignment between management and shareholder interests (Reguera-Alvarado et al., 2017; Singhania et al., 2024a). Consequently, such diversity has tangible implications for improving a firm's financial performance.

2.1.2 Upper Echelons Theory

Upper Echelons Theory by Hambrick & Mason (1984) provides a framework linking Top Management Team (TMT) characteristics to organizational outcomes. Its core assumption is that strategic choices and firm performance are not purely objective but are filtered through the lenses of the TMT's values, experiences, and cognitive frames. Therefore, the theory argues that TMT composition is a key predictor of corporate behavior, accounting for variations even among otherwise similar firms (Issa & Bensalem, 2023).

Hambrick & Mason (1984) states that organizational outcomes, including the strategies chosen and the level of performance achieved, are a reflection of the values and cognitive base of top executives. Due to bounded rationality, top management is unable to process all information objectively, so they filter information based on their background, experience, and personal characteristics.

Upper echelon demographic characteristics such as age, educational background, functional career path, can be used as proxies to understand the mindset and value system of the para can influence decision-making and adoption of management practices. This is due to the characteristics of the upper echelon related to values and perceptions that influence decision-making (Hambrick & Mason, 1984).

Saha & Maji (2022) in their article entitled "Board Human Capital Diversity and Firm Performance: Evidence from Top Listed Indian Firms" examine how the diversity of human capital on the BOD which includes gender, education, and experience affects company performance. In this context, they state that gender can be considered as an appropriate proxy to represent fundamental differences in individual characteristics. When education reflects the results of a long-term process in shaping one's cognitive and professional capacity, then gender shows an essential difference inherent from the beginning, which also shapes perspectives, communication styles, and decision-making approaches in the boardroom. Therefore, gender diversity in the BOD is seen as one of the important dimensions in the diversity of human capital that can influence the strategic direction and performance outcomes of the company.

Relative to men, female executives tend to bring a greater degree of caution to strategic decision-making. This behavioral tendency influences the level of strategic risk a firm undertakes, ultimately affecting its long-term financial performance. (Rahmanto & Dara, 2020). Jeong and Harrison (2017) show that women who occupy the position of CEO or TMT member tend to have a risk-averse character compared to men. This character then influences the company's strategy choices to be more cautious, which has a positive impact on long-term financial performance.

Based on research from Issa (2023), firms may benefit from the diverse knowledge and expertise in upper echelon that lead to eco-innovation. Which supports the upper echelon theory because the presence of female directors on the board encourages greater perspective diversity and enriches useful information in decision-making processes, consequently, improving the board's cognition. This is the basis for this research to support the upper echelon theory and suspect that gender diversity on BOD will affect company performance.

2.1.3 Gender Socialization Theory

Gender socialization theory suggests that women tend to develop communal traits, which are largely influenced by the way they are raised and socialized (Eagly & Johannesen-Schmidt, 2001).

In their approach to leadership and strategy, women often prioritize democratic processes, fostering collaboration and integrating team input into decision-making more consistently than their male counterparts. In contrast, male leaders are more inclined toward an autocratic or directive style, where decisions are made independently and authority is exercised more firmly. Women are also slightly more likely to emphasize interpersonal relationships, communication, and group cohesion, whereas men are somewhat more task-oriented, focusing on goal achievement and performance outcomes (Eagly & Johannesen-Schmidt, 2001).

In terms of risk preferences, women are generally more risk-averse than men, particularly when it comes to financial decisions. This tendency can be attributed to the fact that men often display overconfidence and rely heavily on their personal judgments and experiences, which drives them toward riskier choices. In contrast, women, being less overconfident, are more cautious and inclined to avoid high-risk decisions (Loukil & Yousfi, 2016).

Drawn from gender socialization theory, the ethical behavior of men and women is influenced by their communal values (Mason & Mudrack, 1996). Accordingly, studies show women in leadership generally demonstrate greater commitment to

ethical codes of conduct (García-Sánchez et al., 2014) and a lower propensity for corrupt practices such as bribery (Tran et al., 2022).

Furthermore, studies indicate that female board members tend to prioritize environmental and social concerns more strongly than their male counterparts, who are often more focused on profit maximization. Female directors often show stronger motivation to improve environmental performance, as they typically consider the wider interests of stakeholders rather than limiting their attention to shareholder gains (Issa & Zaid, 2021).

Compared to male directors, women on boards are often better at addressing stakeholder concerns (Bear et al., 2010) and more likely to encourage environmentally responsible behavior (Liu, 2018). Because they are relationship-oriented, they can form stronger connections with stakeholders including employees, clients, suppliers, and civil organizations, while still aligning those interests with shareholder goals (Glass et al., 2016).

This tendency allows female decision-makers to contribute positively to non-profit-oriented activities, particularly those related to environmental protection, while also safeguarding firms against environmental risks and discouraging harmful business practices. Empirical evidence further shows that boards with a higher proportion of female directors are less likely to engage in ESG misconduct (Abebe & Dadanlar, 2021). The presence of women on boards also broadens the consideration of eco-friendly alternatives, which enhances the quality of strategic decisions on environmental matters.

2.1.4 Stakeholder Theory

The evolution of the stakeholder concept began with its introduction at the Stanford Research Institute in 1963. It was substantially developed in Freeman's (1984) foundational text, *Strategic Management: A Stakeholder Approach*, which argued that corporate strategy should create value for all stakeholders to ensure enduring success. Today, stakeholders are broadly defined as individuals or

groups with a vested interest in or impact on an organization's goals (Mahajan et al., 2023).

Stakeholder theory can be understood as a framework that (i) urges organizations to recognize and take into account both their internal and external stakeholders, (ii) emphasizes the importance of identifying and addressing stakeholder needs, expectations, and demands, and (iii) provides a comprehensive and accountable approach that moves beyond a shareholder-centric perspective in decision-making. In doing so, (iv) it allows organizations to act more strategically, enhance value creation, and secure long-term success and sustainability (Mahajan et al., 2023).

Stakeholder theory views businesses as part of a broader ecosystem that encompasses all parties affected by their operations (Freeman, 2005). Within this perspective, a company's success is measured not only by shareholder returns but also by its ability to meet the needs of diverse stakeholders, including governments, customers, employees, and the wider community (S. P. Lee & Isa, 2023). By responding to these expectations, firms can strengthen their competitiveness while contributing to social sustainability. This approach provides managers with a framework to embed their values into strategic planning and implementation, fostering a more holistic and socially responsible model of business management (Freeman, 2005).

According to stakeholder theory, integrating ESG into corporate governance is a strategic mechanism for fostering stakeholder trust, minimizing risks, and capitalizing on opportunities, which collectively secure long-term value (Chang et al., 2024). This practice aligns with the theory's foundational tenet: corporate viability is inextricably linked to serving the varied interests of stakeholders, yielding benefits that exceed temporary financial gains (Wang et al., 2025).

In line with stakeholder theory, gender diversity has the potential to enhance firm value by strengthening corporate reputation and fostering stronger relationships with key stakeholders such as customers, employees, and investors (Chang et al., 2024). A more diverse workforce supports the development of an inclusive and ethically oriented corporate culture, which can attract and retain skilled talent,

appeal to socially conscious consumers, and reduce the likelihood of risks associated with gender-related concerns (Grassmann, 2021).

Based on the study by Bukari et al. (2024), stakeholder theory highlights the role of ESG performance as a moderating variable in the relationship between corporate governance and firm performance. The findings indicate that ESG performance positively moderates the effect of corporate governance on firm performance. Strong corporate governance practices lead to greater and more sustainable improvements in firm value when accompanied by a company's strong commitment to and performance in environmental, social, and governance dimensions. This is because ESG performance creates a more conducive environment for corporate governance to operate effectively by fostering stakeholder trust, reducing risks, and strengthening the firm's legitimacy in the market.

2.2 Board Gender Diversity

Diversity refers to the variety of characteristics and attributes that individuals bring together within a shared setting. In the context of corporate boards, diversity encompasses differences in religion, ethnicity, gender, age, and other demographic factors that shape board composition (Singh et al., 2023).

The financial impact of diversity operates in both short and long time horizons (Carter et al., 2003). A more diverse board, while potentially creating more internal conflict, brings a crucial benefit: the capacity to solve increasingly complex problems through alternative perspectives that homogeneous boards lack (Putri, 2020).

In Indonesia's two-tier board system, the BOD and the BOC have distinct and complementary roles. The BOD is primarily responsible for the company's operational management and strategic decision-making. Their duties encompass the full authority and responsibility for managing the company in line with its objectives, making top-level decisions, and representing the company in all affairs (Krisnadewi et al., 2020). BOD is also responsible for risk management and the preparation of reports, particularly financial reports (Kamela, 2021).

Conversely, the BOC is tasked with the crucial functions of supervision and advisory. They conduct general and specific oversight of the BOD's performance, offer guidance, and ensure the company adheres to sound corporate governance principles. While the BOC monitors and advises, they are explicitly excluded from participating in the company's day-to-day operational decisions (Krisnadewi et al., 2020)

The role of gender diversity boards has been analyzed through several different theoretical lenses, each of which provides a unique perspective on how gender diversity affects corporate performance and governance. Like the Upper Echelon theory which states that the company's strategy reflects the characteristics of top management (Hambrick & Mason, 1984). In this context, gender diversity on the board can influence the company's strategic decision-making process. Gender Socialization Theory explains that the differences in behavior between men and women are influenced by the way they are raised and socialized. Women tend to have a more democratic leadership style and encourage participation, while men are more likely to be autocratic with back-to-back decision-making (Eagly & Johannesen-Schmidt, 2001). Stakeholder Theory explains that women tend to have higher empathic traits, so they are better able to accept pressure from stakeholders and respond effectively to their concerns (Mehmood et al., 2023). Agency theory views gender diversity as an important element of corporate governance. In this perspective, the presence of women on boards can function as a governance tool that helps reduce the costs arising from agency conflicts (Kılıç & Kuzey, 2016).

Several research has shown that board gender diversity comes with various benefits, Jeong and Harrison (2017) show that women who occupy the position of CEO or TMT member tend to have a risk-averse character compared to men. This character then influences the company's strategy choices to be more cautious, which has a positive impact on long-term financial performance. Compared to male directors, women on boards are often better at addressing stakeholder concerns (Bear et al., 2010) and more likely to encourage environmentally responsible behavior (Liu, 2018). Research shows that female directors and managers generally demonstrate a stronger commitment to a firm's ethical code of

conduct (García-Sánchez et al., 2014) and are less likely to engage in unethical behaviors, such as bribery (Tran et al., 2022).

Although board gender diversity offers various benefits, within the Indonesian context, which adopts a two-tier board system, there is no mandated minimum percentage for female representation across all corporate boards (Bintarto & Harymawan, 2024). Therefore, this study chooses gender diversity on BOC and BOD as independent variables.

Gender diversity is measured by blau index. A higher value on the Blau index indicates increased diversity. Gender diversity is measured on a scale from 0 to 0.5, considering two distinct groups, namely males and females (Jusuf et al., 2024).

2.3 Firm Performance

Firm performance broadly refers to how well a company achieves its objectives, including growth, profitability, competitiveness, and sustainability. It is a critical focus for both researchers and managers as it reflects the effectiveness of organizational strategies and operations. Measuring firm performance accurately is essential for decision-making, strategic planning, and continuous improvement in a dynamic business environment (Taouab & Issor, 2019).

Firm performance is determined by a range of factors across three key areas: financial performance (profitability, growth, market value), stakeholder relations (customer and employee satisfaction), and comprehensive ESG performance (environmental, environmental audit, corporate governance, and social outcomes) (Selvam et al., 2016).

Santos & Brito (2012) categorize firm performance into three measurable dimensions. Profitability is gauged by indicators such as ROA, EBITDA Margin, ROI, Net Income, ROE, and EVA. Growth is assessed through metrics like market share, asset, revenue, net income, and employee growth. Finally, market value is evaluated using EPS, stock price appreciation, dividend yield, stock price volatility, MVA, and Tobin's Q

In this study, Tobin's Q is employed as a proxy for firm performance, as it is regarded as more appropriate than other accounting-based measures due to its ability to account for risk factors. Additionally, Tobin's Q reflects market expectations of a firm's future earnings, making it a credible indicator of the firm's competitive advantage (Singh et al., 2023).

2.4 ESG Performance

Indonesia's alignment with the ESG framework, formally launched globally in 2004, is evident in its policy landscape. The government has incorporated the full suite of 2030 SDGs into its national development planning. Furthermore, instruments such as the Sustainable Finance regulation (POJK No. 51/POJK.03/2017) and a carbon tax regime create a regulatory environment that actively encourages corporate ESG integration (Primacintya & Kusuma, 2025).

ESG performance captures a company's commitment to environmental sustainability, social responsibility, and strong governance practices, including its responsiveness to political contexts. This commitment is evidenced through concrete outcomes that influence the firm's relationship with and perception by society (Velte, 2019).

Companies that show a strong dedication to ESG performance often focus on cultivating long-term relationships with stakeholders rather than solely seeking immediate profit gains. Effective ESG practices enhance a firm's reputation and establish a solid foundation for sustainability, which ultimately improves overall firm value (Cheng et al., 2024).

ESG performance acts as a moderating variable in the relationship between gender diversity on the BOC and FP, particularly in the context of board monitoring and oversight. Firms with strong ESG performance provide a conducive environment for women on the BOC, who are generally more sensitive to issues of sustainability, ethics, and monitoring, to maximize their roles. Under these conditions, women can more effectively promote transparency and ensure compliance with ESG principles (Sahu et al., 2025). Since women are known to possess strengths in supervision, risk management, and diverse perspectives, their

presence becomes increasingly relevant in governance that demands greater accountability. Consequently, the positive influence of gender diversity on the BOC on firm performance is more pronounced when ESG performance is high. ESG performance acts as a moderating variable in the relationship between BOD Gender Diversity and FP by creating a conducive environment to maximize the benefits of gender diversity. Strong ESG performance not only enables the board to effectively meet sustainability demands but also drives the development of sustainable strategies that add value to various stakeholders (Sahu et al., 2025). Furthermore, the availability of comprehensive and timely ESG information allows management to make more accurate and responsive decisions in the face of business dynamics. Consequently, this enhances the effectiveness of the board's strategic planning functions, ultimately strengthening the positive impact of gender diversity on firm performance (Tarmuji et al., 2016).

The study measures ESG performance via the Refinitiv Eikon ESG score, which ranges from 0 to 100 (Primacintya & Kusuma, 2025). The scoring methodology is context-specific: governance is assessed relative to industry sector, while environmental and social performance are benchmarked against country standards. The score is derived from more than 630 individual metrics, categorized into 10 groups that feed into the three core pillars. Consequently, this composite score indicates an organization's ESG commitment, effectiveness, and performance based on public disclosures (Iqbal, 2023).

The environmental score quantifies a firm's commitment to ecological sustainability, assessing performance across three key areas: resource use, emissions, and innovation. The social score measures the effectiveness of a company's relationships with its workforce, supply chain, customers, and communities, based on workforce conditions, human rights, community engagement, and product responsibility. The governance score evaluates corporate transparency and alignment with owner interests, analyzed through the subcategories of management, shareholder relations, and CSR strategy (Naeem et al., 2022).

The overall ESG score provided by Refinitiv Eikon is a composite metric derived from a weighted aggregation of its three core pillars. Specifically, the environmental pillar contributes 34%, the social pillar 42%, and the governance pillar 24% to the final calculation (Naeem et al., 2022).

2.5 Previous Research

Table 2. 1
Previous Research

Author(s)/Title	Research Question/ Hypothesis	Variable	Result
(Arora, 2022)/ Gender diversity in boardroom and its impact on firm performance	Hypothesis 1: Inclusion of women directors in corporate boards leads to better firm performance. Hypothesis 2: The proportion of women directors in corporate boards leads to better firm performance. Hypothesis 3: The women directors are likely to impose higher dividend pay outs.	Independent Variable: - Gender diversity Dependent variables: - Tobin's Q - ROA - RONW - NPM	A company's accounting performance may be affected simply by having women directors on the board. In fact, the share of female directors correlates positively with performance, as measured by both accounting and market indicators
(Saha & Maji, 2022)/Board human capital diversity and firm performance: evidence from top listed Indian firms	What is the impact of board's educational diversity on financial performance of Indian firms? What is the impact of board's gender diversity on financial performance of Indian firms? Is there any interaction effect of board's educational diversity and gender diversity on financial performance of Indian firms?	Independent Variables: - Educational Diversity - Gender Diversity Dependent variables: - Firm performance - ROA - Market capitalization Control variables - Board size - Board independence	Both educational and gender diversity in human capital are shown to have a strong and significantly positive relationship with a firm's market performance

		<ul style="list-style-type: none"> - CEO duality - Ownership concentration - Family ownership - Audit committee independence - Firm size - Leverage 	
<p>(Singh et al., 2023)/ Does board gender diversity impact financial performance? Evidence from the Indian IT sector</p>	<p>There is a significant relationship between board gender diversity and firms' financial performance in the Indian IT sector.</p>	<p>Independent Variables:</p> <ul style="list-style-type: none"> - Board Gender Diversity <p>Dependent variables: Tobin's Q</p> <p>Control variables:</p> <ul style="list-style-type: none"> - Leverage - Firm Size - Profitability (ROA) - Firm Age - Board Size 	<p>The study's results indicate no significant link between board gender diversity and financial performance within India's IT sector. This finding is further corroborated by the analysis of diversity indices, which also yield statistically insignificant outcomes</p>
<p>(Lee & Thong, 2023)/ Board gender diversity, firm performance and corporate financial distress risk: international evidence from tourism industry</p>	<p>(1) What is the association between firm performance and board gender diversity?</p> <p>(2) How do country level institutional features affect the association between firm performance and board gender diversity?</p> <p>(3) Does board gender diversity affect corporate financial distress risk?</p> <p>(4) How do country-level institutional features affect the association between corporate financial distress risk and</p>	<p>Independent variables:</p> <ul style="list-style-type: none"> - Board gender diversity <p>Dependent variables:</p> <ul style="list-style-type: none"> - FP (Tobin's Q) - Corporate financial distress risk <p>Control variables:</p> <ul style="list-style-type: none"> - Board size - CEO duality - Firms size - Leverage - Sales growth 	<p>A higher proportion of female directors is positively linked to firm performance. This positive link is more pronounced under four conditions: (1) in countries with stronger shareholder rights, (2) where securities laws mandate board diversity disclosure, (3) where women's economic empowerment is greater, and (4) during the COVID-19 crisis.</p>

	<p>board gender diversity?</p> <p>(5) Does board gender diversity affect firm performance and financial distress risk during the COVID-19 crisis?</p>		
<p>(Sanad & Al Lawati, 2023)/ Board gender diversity and firm performance: the moderating role of financial technology</p>	<p>H1: There is a significant relationship between gender diversity on corporate boards and firms' performance.</p> <p>H2: There is a significant relationship between Fintech adoption and corporate performance.</p> <p>H3: Fintech application has a moderating role on the relationship between gender diversity on corporate boards and firms' performance</p>	<p>Independent Variables:</p> <ul style="list-style-type: none"> - Gender diversity <p>Dependent Variables:</p> <ul style="list-style-type: none"> - ROA - Tobin's Q <p>Moderating Variable:</p> <ul style="list-style-type: none"> - Fintech Adoption <p>Control Variables:</p> <ul style="list-style-type: none"> - Firm size - Leverage - Board size - 	<p>The study indicates significant positive effects for both board gender diversity and Fintech practices on corporate performance. Despite these individual benefits, Fintech implementation was found to be an insignificant moderator in the relationship between gender-diverse boards and performance outcomes.</p>
<p>(Almarayeh, 2023)/ Board gender diversity, board compensation and firm performance. Evidence from Jordan</p>	<p>H1. All other things being equal, board gender diversity is not related to firm performance.</p> <p>H2. All other things being equal, there is a positive association between board compensation and firm performance.</p>	<p>Independent variables:</p> <ul style="list-style-type: none"> - Gender diversity - Board compensation <p>Dependent variables:</p> <ul style="list-style-type: none"> - EPS - Dividend yield - ROA <p>Control variables:</p> <ul style="list-style-type: none"> - Leverage - Firm growth - Cash flow 	<p>The study concludes that board gender diversity does not affect firm performance. This outcome underscores a key contextual divergence: unlike in advanced Western economies, women's presence on corporate boards in developing nations like Jordan does not translate into gains in financial performance</p>

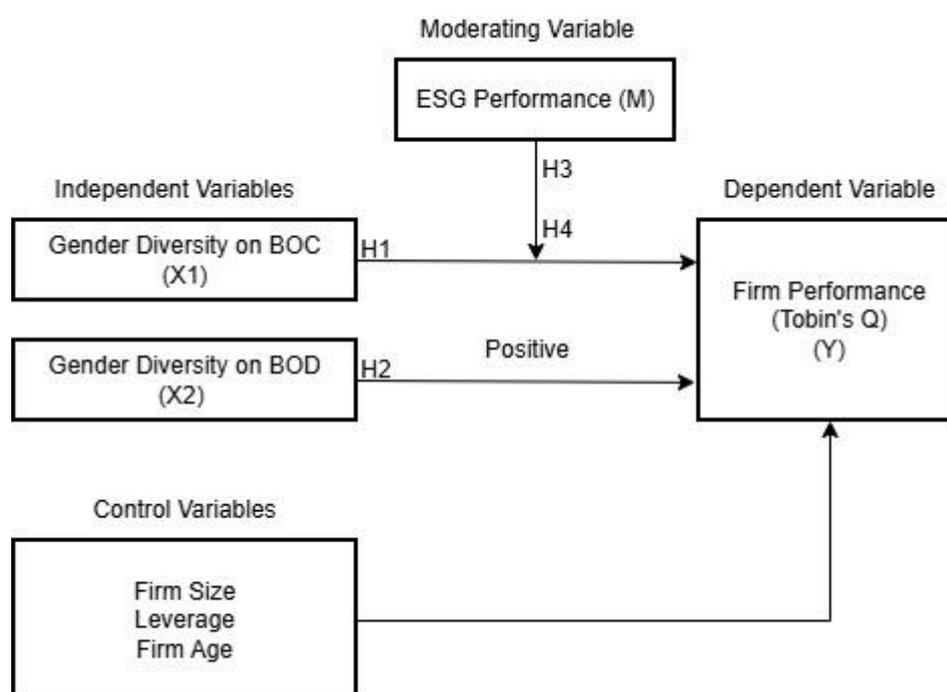
		<ul style="list-style-type: none"> - Firm size - Independent board - Membership - Board size - Board meeting - Firm age 	
<p>(Sahu et al., 2025)/ Board gender diversity and firm performance: Unveiling the ESG effect</p>	<p>H1. There is a significant direct effect of the proportion of females in BOD on the firm Performance.</p> <p>H2. There is a significantly favourable impact of ESG performance on the firm Performance.</p> <p>H3. There is a significant moderation effect of ESG performance on the linkage between BG and firm performance</p>	<p>Independent variable:</p> <ul style="list-style-type: none"> - Board gender <p>Dependent Variables:</p> <ul style="list-style-type: none"> - ROE - Tobin's Q <p>Moderating Variable:</p> <ul style="list-style-type: none"> - ESG Performance <p>Control variables:</p> <ul style="list-style-type: none"> - Firm size - Leverage - CSR sustainability score - Board background and skill - Board specific skill 	<p>An increased proportion of women on corporate boards positively influences firm performance (FP). Separately, stronger ESG performance enhances key financial metrics, namely Return on Equity (ROE) and Tobin's Q. Notably, ESG performance also acts as a positive moderator, strengthening the relationship between board gender diversity (BG) and FP, with this effect being particularly significant for ROE.</p>
<p>(Bukari et al., 2024)/ Assessing the moderating role of ESG performance on corporate governance and firm value in developing countries</p>	<p>(1) to examine the impact of board diversity attributes on firm value.</p> <p>(2) to explore the impact of board structural attributes on firm value.</p> <p>(3) to investigate the impact of board process attributes on firm value.</p> <p>(4) to examine the role of esg performance on the link between cg and firm value.</p>	<p>Independent variable:</p> <ul style="list-style-type: none"> - Firm value <p>Independent variables</p> <ul style="list-style-type: none"> - Corporate governance <p>Control variables:</p> <ul style="list-style-type: none"> - Profitability - Ownership concentration - Leverage - Firm age 	<p>The analysis indicates that among board diversity attributes, both gender diversity and the presence of foreign nationals are positively associated with firm value (FV). Additionally, ESG performance exerts a strong positive moderating effect on the relationship between corporate governance (CG) and FV.</p>

2.6 Research Model

This study employs several types of variables. The independent variables consists of gender diversity on the BOC and BOD. The dependent variable is firm performance, measured using Tobin's Q. The Moderator variable is ESG Performance and control variables include firm size, leverage, and firm age.

Figure 2. 2

Research Framework



Within the framework of this study, the relationships between the variables form a conceptual model that illustrates how gender diversity within corporate governance structures interacts with ESG performance to influence firm value. The independent variables, namely gender diversity on the BOC and the BOD, are hypothesized to have a direct positive influence on firm performance as measured by Tobin's Q. The underlying mechanism is that gender diversity can bring broader perspectives, enhanced creativity, and more inclusive decision-making, thereby improving oversight effectiveness and business strategy, which is ultimately reflected in the firm's market valuation.

However, this relationship is not standalone; it is moderated by the firm's ESG performance. This moderating variable acts as either an amplifier or a dampener of the influence of gender diversity on performance. A company with strong ESG performance tends to have transparent governance, sound risk management, and a robust reputation in the eyes of investors and stakeholders. In this context, gender diversity on the board becomes more effective in driving firm performance because a strong ESG environment creates a supportive foundation for the innovation, accountability, and sustainability of policies generated by a diverse board. Conversely, if ESG performance is weak, the benefits of gender diversity may not be fully realized due to a lack of adequate supporting systems.

Meanwhile, control variables such as firm size, leverage, and firm age are included to isolate the pure effect of the independent and moderating variables. Firm size controls for the scale of operations and resources that may affect performance; leverage controls for the level of financial risk that can influence market valuation; and firm age controls for organizational maturity and experience. By accounting for these factors, the research can more accurately identify the specific contribution of gender diversity and its interaction with ESG performance on Tobin's Q. This approach yields insights that are both more valid and more applicable in the context of corporate policy and sustainable investment.

2.7 Research Hypothesis

2.7.1 The Effect of BOC Gender diversity to firm performance.

Indonesia employs a two-tier governance structure that separates management from oversight. The BOD is responsible for day-to-day operations and is held accountable for financial performance. Conversely, the BOC functions as a supervisory body, providing an additional layer of guidance and evaluation over the directors' decisions (KNKG, 2021).

Agency theory highlights board monitoring as a solution to manager-shareholder conflicts. A key argument is that gender-diverse boards improve this monitoring function. This is attributed to women's characteristically inquisitive approach,

which makes them more stringent and engaged overseers, thus alleviating agency issues (Adams & Ferreira, 2009; Maji & Saha, 2021). In this vein, Fernández-Temprano & Tejerina-Gaite (2020) suggest that gender diversity institutes more independence to the boards due to the inclusion of board of diversified traits. Therefore, it enhances the overall monitoring capabilities of companies and, by extension, proliferates firm performance.

The empirical literature presents conflicting findings on whether board gender diversity improves firm performance, even though theory suggests significant benefits. Research by Sanad & Al Lawati (2023), for example, reports a positive association using ROA and Tobin's Q as metrics. Their conclusions reinforce agency theory, which holds that women directors contribute superior monitoring skills, thereby strengthening governance, firm outcomes, and shareholder returns. Research by Rahmanto & Dara (2020). The study by Rahmanto and Dara (2020) indicates that gender diversity on both executive and supervisory boards enhances a firm's financial performance. By ensuring management decisions align with corporate interests, a gender-diverse BOC contributes to effective oversight. This structure also acts as a positive signal to stakeholders, especially when it strengthens both financial returns and business sustainability.

However, research from Sutrisno & Fella (2020), found a negative effect. It shows that, in Indonesia, the appointment of women BOC positions is frequently based on family relations rather than professional competence, and such practices can weaken the supervisory role of female commissioners, thereby reducing firm value. Research from Wijaya (2022), shows that gender diversity on the BOC has no significant effect on firm performance, as the limited presence of women prevents their supervisory advantages from being fully realized.

In line with this theoretical perspective that supports a positive link between gender diversity on BOC and firm performance, the following hypothesis is proposed for empirical examination.

H1: There is a positive effect relationship between gender diversity on BOC and firm performance

2.7.2 The Effect of BOD Gender Diversity to firm performance.

The Indonesian corporate governance system is characterized by a two-tier board structure, which clearly separates management from supervision. The BOD is vested with the power to make significant operational and strategic decisions, directly influencing the firm's trajectory and performance (POJK, 2014).

The Upper Echelons Theory by Hambrick & Mason (1984) posits that a firm's performance can be partially explained by the attributes of its top management, whose characteristics are shaped by their cognitive frames. These cognitive frames, which guide how individuals process and evaluate information, often differ based on factors such as knowledge and gender.

According to Hambrick (2007), cognitive frames refer to the ways in which directors search for and interpret information. These are influenced by their personal experiences, knowledge, and values, which in turn shape how they understand and respond to the information presented to them. As a result, these cognitive tendencies significantly affect decision-making processes and firm outcomes.

In line with the perspectives of Saha & Maji (2022) and Đặng et al. (2020) it is argued that male and female directors tend to possess different cognitive frames. Consequently, gender diversity within the boardroom is likely to influence firm performance.

From a psychological standpoint, men and women are said to exhibit different tendencies in leadership and decision-making. Whereas, men tend to be more risk-taking and assertive, while women are more attentive to detail, sensitive to non-verbal cues, and often adopt a more inclusive communication style (Qian, 2016). These differences are not framed as weaknesses, but rather as complementary traits that, when both are present within the board, can lead to improve the quality of decision-making through more inclusive discussions and the generation of diverse ideas (Hillman & Dalziel, 2003). Their presence contributes positively to firm performance, particularly when the board functions as a collective unit that leverages varied perspectives.

Rahman et al. (2023) hypothesise that nominating women to board positions is merely an espousal regulatory pressure, as opposed to a quest for the advantages that diversity might produce. In contrast, A. A. Zaid et al. (2020) find that women introduce fresh perspectives that counter uniformity, and Arvanitis et al. (2022) note that more female directors enhance information diversity, which supports better corporate decisions and performance.

Velte (2017) posits that female board representation is a key strategic asset for sustaining governance standards and enhancing FP. Such boards are more attentive to ESG matters and stakeholder interests, partly because women directors often focus more on non-financial outcomes due to greater compassion. and thereby respond more effectively to stakeholder pressures (Mehmood et al., 2023).

The presence of women on corporate boards contributes to enhanced firm performance. This is evidenced by Arora (2022) finding of a positive relationship with key metrics like ROA and Tobin's Q, indicating better profitability and market valuation. Similar positive associations are reported by (Islam et al., 2023; Saha & Maji, 2022; and Đặng et al., 2020).

While some research highlights the benefits of board gender diversity, other studies point to contingent limitations. Almarayeh (2023) shows that underrepresentation and tokenism can negate performance gains. This is echoed in the specific context of the Indian IT sector by Singh et al. (2023), who find an insignificant relationship and attribute it to low proportional representation (around 10.4%) and symbolic rather than substantive inclusion.

Drawing from the theoretical foundations and previous arguments, the presence of gender diversity on the BOD is likely to shape decision-making processes, which in turn may influence their financial performance. On this basis, the following hypothesis is formulated:

H2: There is a positive effect relationship between gender diversity on BOD and firm performance

2.7.3 The Moderating Role of ESG Performance on the Relationship between BOC Gender Diversity and Firm Performance

According to Fama and Jensen (1983), firm value is enhanced when the board fulfills its core monitoring role, ensuring that managerial behavior serves shareholders' interests.

Agency theory suggests that board gender diversity can alleviate conflicts between shareholders and managers by strengthening oversight (Laskar et al., 2024). The board's monitoring function is central to mitigating principal-agent conflicts. Supporting this, Sanad & Al Lawati (2023) argue that appointing women enhances firm performance, as their superior monitoring skills improve governance, thereby boosting results and shareholder value.

The BOC, acting as a supervisory body, ensures that management decisions align with the company's best interests. A well-structured gender-diverse board also sends a positive signal to stakeholders, especially when oversight is conducted effectively to enhance financial performance and business sustainability (Rahmanto & Dara, 2020).

However, research from Sutrisno & Fella (2020) shows that appointing women to BOC positions in Indonesia often relies on family ties rather than competence, weakening their supervisory role and reducing firm value. Similarly, Wijaya (2022) finds that gender diversity on the BOC has no significant impact on firm performance, as the low representation of women limits the realization of their potential monitoring advantages.

A key reason for inconsistent findings is that many studies only examine the direct link between gender diversity on BOC and firm performance (FP), ignoring other influential factors. This limited view hinders a complete understanding of their interconnectedness. Based on stakeholder-agency theory, The interaction effect of board gender diversity and ESG performance may reduce conflicts of interest and information asymmetry (Velte, 2017). This interplay influences FP, indicating that the moderating influence of ESG performance on the connection

between Board gender diversity and FP aligns with stakeholder-agency theory (Sahu et al., 2025)

ESG performance acts as a moderating variable in the relationship between gender diversity on the BOC and FP, particularly in the context of board monitoring and oversight. Firms with strong ESG performance provide a conducive environment for women on the BOC, who are generally more sensitive to issues of sustainability, ethics, and monitoring, to maximize their roles. Under these conditions, women can more effectively promote transparency and ensure compliance with ESG principles (Sahu et al., 2025). Since women are known to possess strengths in supervision, risk management, and diverse perspectives, their presence becomes increasingly relevant in governance that demands greater accountability. Consequently, the positive influence of gender diversity on the BOC on firm performance is more pronounced when ESG performance is high.

In line with the theoretical perspective suggesting that ESG performance can strengthen the impact of BOC gender diversity on firm performance, the following moderating hypothesis is proposed for empirical examination:

H3: ESG Performances significantly moderates the relationship between gender diversity on BOC and Firm Performance

2.7.4 The Moderating Role of ESG Performance on the Relationship between BOD Gender Diversity and Firm Performance

Based on upper echelon theory, the composition of the BOD, including gender diversity, influences the perception, interpretation, and strategic choices of the company which will ultimately affect firm performance (Saha & Maji, 2022; Đặng et al., 2020). According to Arvanitis et al. (2022), a greater proportion of female directors introduces a wider range of information and perspectives to the boardroom, which in turn fosters more effective decision-making and enhances overall firm performance.

Psychological differences in leadership and decision-making, where men tend to be more risk-taking and assertive, while women are often more detail-oriented,

sensitive, and inclusive in communication (Qian, 2016), create complementary strengths within the board. This gender diversity improves decision quality through more inclusive discussions and a wider range of ideas (Hillman & Dalziel, 2003), ultimately boosting company performance by bringing together different viewpoints.

Velte (2017) argues that women on boards offer a vital, sustainable approach to corporate governance and firm performance. Boards with gender diversity can better focus on ESG matters and stakeholder concerns. This is because female directors, being more compassionate, often prioritize non-financial results and are more inclined to address stakeholder pressures (Mehmood et al., 2023).

However, some studies present conflicting evidence, research from Agustin (2020) This indicates that board gender diversity does not have a significant impact on firm value, as gender itself is not the primary factor driving effective board communication. Rather, the effectiveness of decision-making depends more on the individual qualities and competencies of board members. Similarly, studies in Jordan Almarayeh (2023) and the Indian IT sector Singh et al. (2023) found no significant relationship between board gender diversity and firm performance, possibly due to the under-representation and 'tokenism' of female directors, with women comprising only about 10.4% of board members in the Indian context.

A key reason for inconsistent findings is that many studies only examine the direct link between board governance (BG) and firm performance (FP), ignoring other influential factors. This limited view hinders a complete understanding of their interconnectedness. Therefore, ESG is likely a critical factor, as its initiatives can boost corporate performance by fostering sustainability, reputation, stakeholder trust, and national sustainability goals (Sahu et al., 2025)

ESG performance serves as a key moderator in the relationship between gender diversity and firm performance (FP). This implies that the strength of the impact of gender diversity on FP varies depending on the level of a company's ESG performance. Specifically, when ESG performance is high, the positive influence of gender diversity on the BOD on FP becomes substantially more significant (Sahu et al., 2025).

Female directors tend to place stronger emphasis on sustainability and ESG investments (Romano et al., 2020). In contexts where stakeholder and investor awareness and interest in ESG initiatives are increasing (Ozili, 2023), strong ESG performance enables female directors to more effectively apply their unique perspectives and risk management skills. An effective BOD is better able to keep corporate risk at a low level, and this ability is further reinforced by strong ESG performance. Well-implemented ESG practices reduce the board's supervisory burden on operational ESG matters, enabling the BOD to devote greater attention to overall risk mitigation (Nurrizkiana et al., 2024).

In other words, robust ESG practices intensify the contribution of female directors in advancing social and environmental responsibility, thereby strengthening the overall effect of BOD gender diversity on firm performance and corporate legitimacy (Sahu et al., 2025).

In line with the theoretical perspective suggesting that ESG performance can strengthen the impact of BOD gender diversity on firm performance, the following moderating hypothesis is proposed for empirical examination:

H4: ESG Performances significantly moderates the relationship between gender diversity on BOD and Firm Performance

This research use 3 control variables to ensure the validity and accuracy. There are firm size, leverage, and firm age (Almarayeh, 2023;Singh et al., 2023; Sahu et al., 2025).

III. RESEARCH METHODOLOGY

3.1 Type and Source of Data

The approach used to examine the influence of gender diversity on the BOC and BOD in relation to firm performance and moderating role of ESG performance is a quantitative approach with secondary data, which sources of the data do not directly give to the author. Quantitative research emphasizes theory testing through the measurement of research variables using numerical data and conducting data analysis with statistical procedures to address the formulated problem (Salkind, 2017).

The data on gender diversity on BOC and BOD are collected from the annual reports and corporate governance reports of company listed on the Indonesia Stock Exchange (IDX) for the period 2021–2023. Information on firm performance measured by Tobin's Q, firm size, leverage and firm age are obtained from the financial statements and company profiles published on the official IDX website and company websites. This practice was followed based on the work of (Singh et al., 2023). While ESG performance measured by ESG score is obtained from Refinitiv Eikon database.

3.2 Population and Research Sample

The population is a larger group of participants whose results the researcher wants to generalize (Salkind, 2017). The population in this study consists of all companies listed on the Indonesia Stock Exchange (IDX) that have available ESG scores in the Refinitiv Eikon database. The period of observation covers the years 2021–2023.

Sampling Method

The sample was selected using a purposive sampling method based on the following criteria:

1. The company must be listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period.
2. The company must have available ESG score data from Refinitiv.
3. The company must publish complete annual reports
4. The company must provide data on the composition of the BOC and BOD, including gender information.

Based on these criteria, the study includes a sample of companies listed on the IDX with ESG data from Refinitiv, observed over a three-year period, resulting in a panel data set used for the empirical analysis.

Table 3. 1
Samples

NO	Description	Total
1.	Companies listed on the Indonesia Stock Exchange (IDX) in 2021–2023	891
2.	Less: Companies without ESG scores in the Refinitiv Eikon database	(810)
3.	Companies with ESG score and publish complete financial reports for the years 2021–2023	81
	Total companies for research sample	81
	Total research sample period 2021-2023 (x3)	243
	Outlier Data	(3)
	Total sample	240

3.3 Operational Variables

This research uses one dependent variable, two independent variables, 1 moderating variable, and three control variables.

3.3.1 Independent variables

An independent variable is the factor that a researcher systematically manipulates or selects to observe its effect on a dependent variable. It is also referred to as a treatment variable, a term most commonly used in this context. Within an experiment, the independent variable is deliberately manipulated to assess how such changes affect the dependent variable (Salkind, 2017).

Gender diversity

This study measures gender diversity within the two key top management tiers: the BOC and the BOD. By examining diversity at both levels, it seeks to uncover the distinct roles women may fulfill in corporate governance and strategic management.

1) Board of Directors

The Blau index is a widely recognized metric for assessing diversity. Ranging from 0 to 0.5, with higher values indicating greater diversity, it has been employed in this study to strengthen the robustness of the analysis concerning women's representation on corporate boards (Saha & Maji, 2022; Singh et al., 2023; Laskar et al., 2024).

$$\text{Blau Index: } D = 1 - \sum_{i=1}^N p_i^2$$

Where p denotes the proportion of objects in the categories, and N denotes the number of categories.

2) Board of commissioners

The Blau index is a widely recognized metric for assessing diversity. Ranging from 0 to 0.5, with higher values indicating greater diversity, it has been employed in this study to strengthen the robustness of the analysis concerning women's representation on corporate boards (Saha & Maji, 2022; Singh et al., 2023; Laskar et al., 2024).

$$\text{Blau Index: } D = 1 - \sum_{i=1}^N p_i^2$$

Where p denotes the proportion of objects in the categories, and N denotes the number of categories.

3.3.2 Dependent Variable

The dependent variable is the measured outcome in an experiment, observed to assess the impact of changes made to the independent variable (Salkind, 2017).

Tobin's Q. As a market-derived measure, Tobin's Q reflects investor sentiment regarding a firm's value and future prospects. It is particularly suitable for performance measurement because it factors in risk (Singh et al., 2023). A ratio higher than one is interpreted as market confidence in the company's comparative advantages or growth (Naghavi et al., 2020).

Tobin's Q was used as a proxy for measuring the performance for various years based on the previous literature (Leyva-Townsend et al., 2021; K. W. Lee & Thong, 2023; Sanad & Al Lawati, 2023).

The measure for Tobin's Q is derived using the Chung and Pruitt (1994) approach, where the numerator is the market valuation of equity plus book value of debt divided by book value of total assets (Chung & Pruitt, 1994; Singh et al., 2023).

$$\text{Tobin's } Q = \frac{\text{Market Value of equity} + \text{Book Value of Debt}}{\text{Book Value of Assets}}$$

3.3.3 Moderating Variable

A moderator variable is a variable that interacts with the independent and dependent variables and can strengthen, weaken, or otherwise alter the nature of their relationship, potentially obscuring the true effect of the independent variable on the dependent variable (Salkind, 2017).

ESG Performance. ESG performance is measured using composite scores (0–100) sourced from the Refinitiv Eikon database, a leading global provider of ESG data (Abdelkader et al., 2024). The overall score reflects the comprehensiveness of a firm’s ESG disclosures (Primacintya & Kusuma, 2025) and is calculated as a weighted average of three pillars: environmental (34%), social (42%), and governance (24%) (Naeem et al., 2022).

3.3.4 Control Variables

A control variable is a variable that may influence the dependent variable and therefore must be held constant or statistically controlled to isolate the effect of the independent variable (Salkind, 2017).

Firms size

Company size or firm size describes company size in terms of assets that can be seen from the number of assets owned by companies. The value of the asset, which is reflected in the value of their assets, will affect the prospects of the company in the future. Companies with good long time potentials appeal to investors and A large number of companies are more likely to have better performance than their smaller counterparts, and this can stem from their market power (Lee, 2009). Peck-Ling et al. (2016) and Islam et al. (2023) hypothesize that firm size is associated with firm performance in the context of boardroom diversity analysis.

Leverage

Leverage (LEV), measured as total debt divided by total assets (A. A. Zaid et al., 2020). Reflects a firm’s financial structure and risk level. Higher leverage may incentivize firms to enhance their ESG performance as a strategic response to mitigate associated risks (Agarwala et al., 2024).

Firm age

Firm age refers to the number of years a business has been in operation since its founding or establishment. It is commonly measured as the time elapsed from the firm's founding date to the present or to a specific point of analysis. Firm age is

often used to categorize companies as young, mature, or old, and is an important factor influencing firm behavior, financial decisions, and performance (Ki & Adhikari, 2023). Mohd Idris & A. A. (2021) finds that firm age, in relation to nationality and gender diversity, has a positive and significant effect on firm performance.

Table 3. 2
Variables Measurement

Variable	Type of Variable	Measurement	Literature
Tobin's Q (FP)	Dependent variable	$\frac{MV \text{ of equity} + BV \text{ of Debt}}{Book \text{ Value of Assets}}$	Chung & Pruitt (1994); Naghavi et al. (2020); Leyva-Townsend et al. (2021); Lee & Thong (2023); Sanad & Al Lawati (2023)
Gender Diversity on BOC (GDC)	Independent Variable	$D = 1 - \sum_{i=1}^N p_i^2$	Saha & Maji (2022); Singh et al. (2023); Laskar et al. (2024)
Gender Diversity on BOD (GDD)	Independent Variable	$D = 1 - \sum_{i=1}^N p_i^2$	Saha & Maji (2022); Singh et al. (2023); Laskar et al. (2024)
ESG Performance (ESG)	Moderating Variable	ESG score obtained from Refinitiv Eikon (range 0–100).	Abdelkader et al. (2024); Naeem et al. (2022); Primacintya & Kusuma (2025)
Firm Size (FSIZE)	Control Variable	Natural logarithm of total assets.	Lee (2009); Peck-Ling et al. (2016); Islam et al. (2023)
Leverage	Control Variable	$\frac{Total \text{ Debt}}{Total \text{ Assets}}$	Agarwala et al. (2024); Zaid et al. (2020)
Firm Age (FAGE)	Control Variable	Number of years since firm establishment.	Ki & Adhikari (2023); Mohd Idris & A. A. (2021)

3.4 Data Analysis Technique

Regression modeling with two or more independent variables in relation to a dependent variable, or panel data regression analysis, is the data analysis technique employed in this study. The researcher utilizes STATA 19 and Microsoft Excel to process and analyze the data. This research use panel data.

3.5 Descriptive Statistical Analysis

The data are described and clarified using descriptive statistical methods. Descriptive statistics include the calculation of the mean, median, and mode; computing deciles and percentiles; as well as calculating the average and standard deviation. The data presentation also involves the use of tables and graphs (Sugiyono, 2023).

3.6 Panel Data Model Selection Tests

3.6.1 Chow Test

The Chow test is a statistical procedure used to decide whether the Common Effect Model (CEM) or the Fixed Effect Model (FEM) is more suitable for estimating panel data (Gujarati & Porter, 2009):

1. If the p-value > 0.05 supports the Common Effect Model (CEM), the null hypothesis is accepted, indicating that the most appropriate model to use is the Common Effect Model (CEM).
2. If the p-value < 0.05 indicates the Fixed Effect Model (FEM) is more appropriate., the null hypothesis is rejected, indicating that the most appropriate model to use is the Fixed Effect Model (FEM).

The hypotheses tested are:

H₀: Common Effect Model (CEM)

H₁: Fixed Effect Model (FEM)

3.6.2 Hausman Test

The Hausman test is a statistical procedure applied to panel data to determine whether the Random Effects Model (REM) or the Fixed Effects Model (FEM) provides more consistent and efficient estimates (Gujarati & Porter, 2009):

1. If the p-value > 0.05 supports the Random Effects Model (REM), the null hypothesis is accepted, indicating that the most appropriate model to use is the Random Effect Model (REM).
2. If the p-value < 0.05 indicates the Fixed Effects Model (FEM) is more appropriate, the null hypothesis is rejected, indicating that the most appropriate model to use is the Fixed Effect Model (FEM).

The hypotheses tested are:

H₀: Random Effect Model (REM)

H₁: Fixed Effect Model (FEM)

3.6.3 The Lagrange Multiplier (LM) test

In panel data analysis, the Lagrange Multiplier (LM) test determines whether a Common Effect or Random Effect Model is more appropriate. The decision criteria are as follows (Gujarati & Porter, 2009):

1. If the p-value > 0.05 supports the Common Effect Model (CEM), the null hypothesis is accepted, indicating that the most appropriate model to use is the Common Effect Model (CEM).
2. If the p-value < 0.05 supports the Random Effect Model (REM), the null hypothesis is rejected, indicating that the most appropriate model to use is the Random Effect Model (REM).

The hypotheses tested are:

H₀: Common Effect Model (CEM)

H₁: Random Effect Model (REM)

3.7 Classic assumption test

Classical assumption tests are conducted to ensure that a regression model meets the requirements of the Best Linear Unbiased Estimator (BLUE), which means the estimators are unbiased, consistent, and efficient. In this study, four classical assumption tests are applied to confirm that the regression model is accurate, unbiased, and consistent. The tests used are as follows:

3.7.1 Normality Test

The normality test compares the actual sample distribution (frequency distribution) with the theoretical normal distribution, both having the same mean and standard deviation. This test is conducted to determine whether the independent and dependent variables in the regression model are normally distributed. There are three main approaches to test the normality of residuals: the histogram of residuals, the normal probability plot (NPP), and the Jarque–Bera (JB) test. Among these, This Jarque–Bera (JB) first computes the skewness and kurtosis. The following criteria are used to check the normality of residuals:

The following criteria are used to check the normality of residuals:

1. If the p-value is > 0.05 , the residuals are normally distributed (H_0 is accepted)
2. If the p-value is < 0.05 , the residuals are not normally distributed (H_0 is rejected)

3.7.2 Multicollinearity test

The multicollinearity test is applied to assess whether there are correlations among the independent variables in the regression model. An effective regression model should avoid strong correlations between its independent variables. In this study, pairwise correlation tests are carried out to identify potential multicollinearity problems. To further examine this, the analysis employs the Variance Inflation Factor (VIF) and Tolerance (TOL) values for each independent variable. These two measures are mathematically connected, as tolerance

represents the reciprocal of VIF. The criteria for determining the presence of multicollinearity are as follows (Gujarati & Porter, 2009).

1. If Tolerance > 0.05 and VIF < 10 , the variable is considered free from multicollinearity (no multicollinearity problem)
2. If Tolerance < 0.05 and VIF > 10 , the variable is indicated to have multicollinearity (multicollinearity problem exists)

3.7.3 Heteroscedasticity Test

A heteroscedasticity test examines whether the variance of residuals in a regression model is constant across observations. When the residual variance is consistent, the condition is termed homoscedasticity; when it varies, it is called heteroscedasticity. An ideal regression model should meet the homoscedasticity assumption, meaning it is free from heteroscedasticity (Gujarati & Porter, 2009).

In this study, heteroskedasticity is tested using the Wald test, which is commonly applied in panel data models, particularly under the Fixed Effects estimation framework. The Wald test evaluates whether the variance of the error terms is equal across cross-sectional units. According to Greene (2002), the Wald test provides a formal statistical procedure to detect groupwise heteroskedasticity in panel regression models.

The decision criteria for the Wald test are as follows:

1. If the Prob $>$ chi-square value is less than 0.05, the null hypothesis of homoscedasticity is rejected, indicating the presence of heteroskedasticity.
2. If the Prob $>$ chi-square value is greater than or equal to 0.05, the null hypothesis cannot be rejected, indicating that heteroskedasticity is not present in the model.

3.7.4 Autocorrelation test

Autocorrelation testing checks for a relationship between a regression model's current error term and its immediately preceding error, indicating whether past disturbances influence present ones (Gujarati & Porter, 2009).

In this study, autocorrelation is tested using the Wooldridge test for autocorrelation in panel data, which is widely applied in panel regression models. According to Wooldridge (2013), this test is specifically designed to detect first-order serial correlation within panel data models and is suitable for use under the Fixed Effects estimation framework.

The decision criteria for the Wooldridge test are as follows:

1. If the Prob > F value is less than 0.05, the null hypothesis of no autocorrelation is rejected, indicating the presence of autocorrelation in the regression model.
2. If the Prob > F value is greater than or equal to 0.05, the null hypothesis cannot be rejected, indicating that there is no autocorrelation in the regression model.

3.8 Hypothesis test

3.8.1 Multiple Linear Regression Analysis

The influence of the independent variables on the dependent variable in this study is tested using panel data regression analysis. The form of the panel data regression model used in this research is as follows:

$$FP_{it} = \beta_0 + \beta_1 GDC_{it} + \beta_2 GDD_{it} + \beta_3 FSIZE_{it} + \beta_4 LEV_{it} + \beta_5 FAGE_{it} + \varepsilon_{it}$$

3.8.2 Moderated Regression Analysis

$$FP_{it} = \beta_0 + \beta_1 GDC_{it} + \beta_2 GDD_{it} + \beta_3 ESG \times GDC_{it} + \beta_4 ESG \times GDD_{it} \\ + \beta_5 FSIZE_{it} + \beta_6 LEV_{it} + \beta_7 FAGE_{it} + \varepsilon_{it}$$

FP_{it}	: Firm performance (Tobin's Q) for firm i at time t
β_0	: Constant
$\beta_1, \beta_2, \dots, \beta_7$: Coefficients for each variable
GDC_{it}	: Gender diversity on the Board of Commissioners
GDD_{it}	: Gender diversity on the Board of Directors
ESG_{it}	: ESG Performance
$FSIZE_{it}$: Firm size
$LEVERAGE_{it}$: Leverage
$FAGE_{it}$: Firm age
ε_{it}	: Error term

3.8.3 Coefficient of Determination (R^2)

The coefficient of determination (R^2) is used to evaluate how well the independent variables explain the variation in the dependent variable. It indicates the explanatory power of the model toward the dependent variable. In this study, the dependent variable is firm performance, and the independent variables include gender diversity on BOC and BOD. These values are presented in the results of the panel regression output (Gujarati & Porter, 2009).

The decision rule is as follows:

1. If the R^2 value is close to 1, means the model explains a large proportion of the variation in Y, suggesting that the model fits the data well.
2. If the R^2 value is close to 0, means the model explains very little of the variation in Y, indicating that the model does not fit the data well

3.8.4 Simultaneous Significance Test (F-Test)

The F-test is used to assess the overall feasibility of the regression model by testing the joint effect of all independent variables on the dependent variable (Gujarati & Porter, 2009). The criteria for interpreting the F-test are as follows:

1. If the significance value (p-value) of the F-test is ≤ 0.05 , the model is considered statistically significant
2. If the significance value is > 0.05 , the model is not statistically significant

3.8.5 Individual Parameter Significance Test (t-Test)

A t-test determines whether an independent variable significantly affects the dependent variable, with significance evaluated at the 5% level (Gujarati & Porter, 2009). Based on this threshold, hypotheses are accepted or rejected using the following criteria:

1. If the significance value (p-value) of the t-test is ≤ 0.05 , the independent variable is considered to have significant partial effect on the dependent variable
2. If the significance value (p-value) is > 0.05 , the independent variable does not have significant partial effect on the dependent variable.

V. CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS

5.1 Conclusion

This study set out to investigate the relationship between board gender diversity, ESG performance, and firm performance within the unique context of Indonesia's two-tier corporate governance system, which is BOC and BOD. The analysis, conducted on a panel of listed companies from 2021 to 2023, yields nuanced findings that contribute significantly to both academic discourse and practical understanding of corporate governance in emerging markets. The following conclusions can be drawn:

1. Gender diversity on the BOC does not have a significant effect on firm performance. This is indicated by a negative yet statistically insignificant regression coefficient. This finding suggests that in the Indonesian context, the presence of women on the BOC has not effectively contributed to enhanced oversight and firm value. It is strongly suspected that the low level of female representation and symbolic or family-based appointment practices limit their ability to perform optimal supervisory functions. Therefore, the first hypothesis of this study is **rejected**.
2. Gender diversity on the BOD also does not have a significant effect on firm performance. Although the regression coefficient was positive, its statistical value was insignificant. This indicates that gender diversity at the director level has not been able to deliver a measurable strategic impact on the firm's market performance. The likely causes are the failure to reach a critical mass and the lack of deep participation by women in strategic decision-making at

the director level. Consequently, the second hypothesis of this study is **rejected**.

3. ESG performance does not moderate the relationship between BOC gender diversity and firm performance. The interaction between ESG score and BOC gender diversity yielded an insignificant coefficient. This shows that under current conditions in Indonesia, ESG practices, which are still in their early stages and tend to be ceremonial have not yet created a conducive governance environment to strengthen the supervisory role of a gender-diverse board of commissioners. As a result, the third hypothesis of this study is **rejected**.
4. ESG performance also does not moderate the relationship between BOD gender diversity and firm performance. The interaction variable between ESG and BOD gender diversity was also insignificant. This finding reinforces the narrative that the integration of ESG into companies' core business strategies in Indonesia remains weak. Consequently, these sustainability practices have not functioned as a mechanism to amplify the positive impact of diverse perspectives at the board level on corporate value creation. Thus, the fourth hypothesis of this study is **rejected**.

From a practical standpoint, these conclusions carry important implications for various stakeholders. For corporate leaders and board nominating committees, the results underscore the necessity of moving beyond token appointments towards a genuine and substantive commitment to diversity. This involves not only recruiting qualified women onto boards but also fostering an inclusive culture that ensures their full participation and influence in governance and strategy. For regulators, such as the Financial Services Authority (OJK), the findings highlight the need to strengthen the institutional framework. This could involve considering "comply-or-explain" guidelines for board diversity and advancing more robust, transparent, and standardized ESG reporting requirements that reduce greenwashing and encourage authentic implementation. For investors, this study calls for more sophisticated analysis. Investment decisions should look beyond

the mere presence of women on the board or a high ESG score. Due diligence should assess the quality of board interactions, the expertise of individual members, and the depth to which ESG principles are embedded into the company's core business model and long-term strategy.

In conclusion, this research does not imply that board gender diversity and ESG performance are irrelevant for Indonesian corporations. Rather, it illuminates the significant gaps that exist between form and substance in their current implementation. The potential strategic advantages of diversity and the value-creating power of sustainability are not automatically realized through mere numerical representation or superficial reporting. Their benefits will likely materialize only when they are pursued as integrated, authentic, and strategically central components of corporate governance, supported by a conducive regulatory environment and a shift in market perceptions towards valuing long-term sustainable growth over short-term financial gains. Future research would benefit from longitudinal studies to capture long-term effects, qualitative explorations of boardroom dynamics, and the inclusion of other moderating variables such as national culture or ownership structures to further unravel the complexities of this relationship.

5.2 Limitations

The writer acknowledges that this research has several limitations, such as:

1. **Limited Explanatory Power of the Regression Model.** The analysis indicates that the independent variables included in this research can explain only a portion of the total variation in firm performance, as reflected in the coefficient of determination (R^2). This suggests that a significant share of the factors driving firm performance remains unaccounted for by the model. The unexplained variation may be attributed to other influential variables not incorporated into this study, such as specific managerial characteristics, competitive industry dynamics, macroeconomic conditions, or the quality of internal control systems. Furthermore, the inherent complexity of market

valuations and corporate strategy, which often involve intangible and behavioral elements, poses a challenge for any quantitative model to capture fully. Consequently, while the identified relationships are informative, they do not present a complete picture of the determinants of firm performance.

2. **Sample Selection Bias and Constraints on Generalizability.** The findings of this study are derived from a sample restricted to companies with available ESG scores in the Refinitiv Eikon database. This sampling criterion introduces a systematic selection bias, as it inherently focuses on firms that are typically larger, more internationally oriented, and possess a higher commitment to (or scrutiny for) sustainability reporting. Therefore, the results may not be generalizable to the broader universe of companies listed on the Indonesia Stock Exchange (IDX). Specifically, the conclusions may not apply to smaller publicly listed companies, firms in sectors with less mature disclosure practices, or those that choose not to disclose ESG information publicly. The relationship between board gender diversity, ESG performance, and firm outcomes might differ substantially for these excluded companies, potentially limiting the applicability of this study's insights to the entire Indonesian market.

5.3 Recommendations

1. **Enrich the Analytical Model with Contextual Variables.** To improve the model's explanatory power, future studies should incorporate variables that capture the nuanced reality of Indonesian corporate governance. This includes deeper board characteristics (independence, sustainability committees), dominant ownership structures (family, state, or concentrated ownership), and contextual factors like political connections or firm-level culture. This shift will help clarify the specific conditions under which gender diversity and ESG performance translate into tangible firm value, moving beyond the question of *if* they matter to explaining *when* and *how* they matter.

2. **Broaden the Sample Beyond Database Bias.** To enhance the generalizability of findings, research must actively include firms not covered by commercial ESG databases. This involves constructing samples using alternative sources (e.g., IDX data, manual data collection from reports) or employing mixed methods (e.g., surveys, interviews) to gather data from a wider spectrum of companies, including smaller or less transparent firms. This approach is crucial for developing insights and policies applicable to the entire Indonesian market, not just its most disclosure-advanced segment.

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