

**THE EFFECT OF ESG SCORE ON FINANCIAL PERFORMANCE
MEDIATED BY SDG DISCLOSURES IN INDONESIAN LISTED
COMPANIES 2021-2023**

Undergraduate Thesis

By

**SHELA SASMITHA
NPM 2211031125**



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

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**As One of the Requirements to Achieve the Degree of
BACHELOR OF ACCOUNTING**

On

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Faculty of Economics and Business**



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

THE EFFECT OF ESG SCORE ON FINANCIAL PERFORMANCE MEDIATED BY SDG DISCLOSURES IN INDONESIAN LISTED COMPANIES 2021-2023

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This study examines the mediating role of SDG disclosure in the relationship between ESG score and financial performance within the mandatory reporting context of non-financial firms listed on the Indonesia Stock Exchange during 2021-2023. Using a purposive sample of 59 companies (177 observations), the analysis employs panel data regression and the Sobel test to evaluate ESG metrics from Refinitiv Eikon alongside disclosure and financial data from corporate reports. Empirical results show that ESG score does not significantly predict SDG disclosure nor directly affect financial performance measured by ROE. Furthermore, SDG disclosure shows no significant association with financial performance and fails to mediate the ESG-ROE relationship. Firm size is the only variable positively related to SDG disclosure, suggesting that reporting practices are more strongly driven by organizational resources and public visibility than by substantive ESG performance. Overall, the findings reveal a decoupling phenomenon, where sustainability reporting in Indonesia tends to reflect symbolic compliance rather than value-creating integration. The study concludes that a credibility gap exists in the capital market, as SDG disclosure has not yet functioned as an effective mechanism for converting ESG performance into financial gains. This study provides evidence on the limitations of SDG disclosure as a value transmission mechanism in emerging market, offering insights for regulators and market participants seeking to enhance the economic relevance and credibility of SDG reporting.

Keywords: ESG Score; SDG Disclosures; Financial Performance; Sustainability Reporting; Return of Equity; Emerging Market.

ABSTRAK

PENGARUH SKOR ESG TERHADAP KINERJA KEUANGAN DENGAN PENGUNGKAPAN SDG SEBAGAI VARIABEL MEDIASI PADA PERUSAHAAN TERDAFTAR DI BEI TAHUN 2021-2023

Oleh

SHELA SASMITHA

Penelitian ini mengkaji peran mediasi pengungkapan SDG dalam hubungan antara skor ESG dan kinerja keuangan pada perusahaan non-keuangan yang terdaftar di Bursa Efek Indonesia selama periode 2021-2023, dalam konteks pelaporan keberlanjutan yang bersifat wajib. Dengan menggunakan sampel purposif sebanyak 59 perusahaan (177 observasi), analisis ini dilakukan melalui regresi data panel dan uji Sobel untuk mengevaluasi metrik ESG yang bersumber dari Refinitiv Eikon, serta data pengungkapan dan keuangan yang diperoleh dari laporan perusahaan. Hasil empiris menunjukkan bahwa skor ESG tidak berpengaruh signifikan terhadap pengungkapan SDG maupun secara langsung terhadap kinerja keuangan yang diukur dengan ROE. Selain itu, pengungkapan SDG juga tidak menunjukkan hubungan yang signifikan dengan kinerja keuangan dan tidak mampu memediasi hubungan antara skor ESG dan ROE. Ukuran perusahaan merupakan satu-satunya variabel yang berhubungan positif dengan pengungkapan SDG, yang mengindikasikan bahwa praktik pelaporan lebih didorong oleh ketersediaan sumber daya organisasi dan tingkat visibilitas publik dibandingkan oleh kinerja ESG yang substantif. Secara keseluruhan, temuan penelitian ini mengungkap adanya fenomena decoupling, di mana pelaporan keberlanjutan di Indonesia cenderung mencerminkan kepatuhan simbolik daripada integrasi yang menciptakan nilai nyata. Penelitian ini menyimpulkan bahwa terdapat kesenjangan kredibilitas di pasar modal karena pengungkapan SDG belum berfungsi sebagai mekanisme yang efektif dalam mengonversi kinerja ESG menjadi keuntungan finansial. Studi ini memberikan bukti mengenai keterbatasan pengungkapan SDG sebagai mekanisme transmisi nilai di pasar negara berkembang, serta menawarkan implikasi bagi regulator dan pelaku pasar dalam meningkatkan relevansi ekonomi dan kredibilitas pelaporan SDG.

Kata Kunci: Skor ESG; Pengungkapan SDG; Kinerja Keuangan; Pelaporan Keberlanjutan; Return of Equity; Pasar Berkembang.

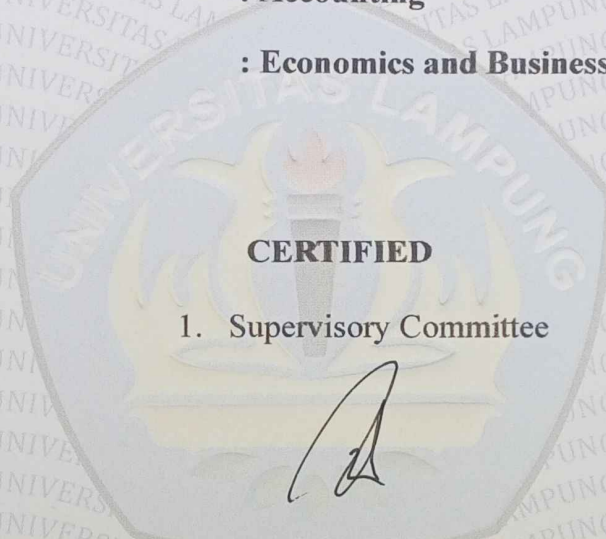
Undergraduate Thesis Title : THE EFFECT OF ESG SCORE ON FINANCIAL PERFORMANCE MEDIATED BY SDG DISCLOSURES IN INDONESIAN LISTED COMPANIES 2021-2023

Student Name : Shela Sasmitha

Student Identification Number : 2211031125

Major : Accounting

Faculty : Economics and Business



CERTIFIED

1. Supervisory Committee

A handwritten signature in black ink, appearing to be "Susi Sarumpaet", is written over the seal.

Prof. Susi Sarumpaet, S.E., M.B.A., Ph.D., Akt. CA.
NIP. 19691008 199501 2 001

2. Head of Accounting Department

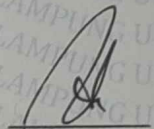
A handwritten signature in black ink, appearing to be "Agrianti Komalasari", is written over the seal.

Dr. Agrianti Komalasari, S.E., M.Si., Akt., CA., CMA.
NIP. 19700801 199512 2001

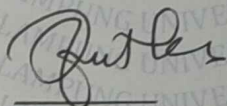
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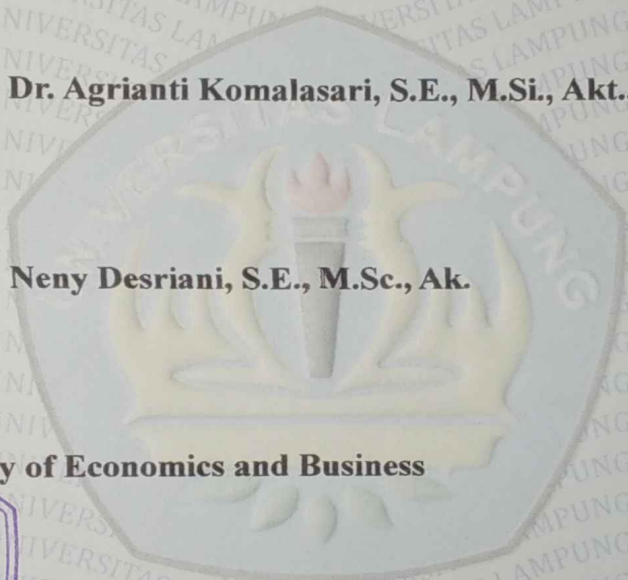
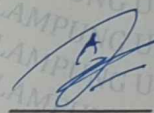
Chief Examiner : **Prof. Susi Sarumpaet, S.E., M.B.A., Ph.D., Akt. CA.**



Primary Examiner : **Dr. Agrianti Komalasari, S.E., M.Si., Akt., CA., CMA.**



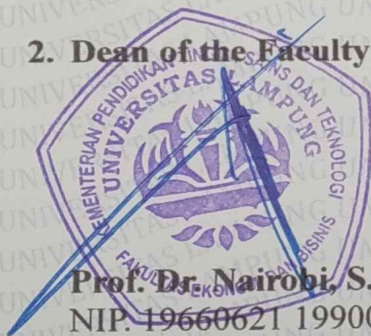
Second Examiner : **Neny Desriani, S.E., M.Sc., Ak.**



2. Dean of the Faculty of Economics and Business

Prof. Dr. Nairobi, S.E., M.Si.

NIP. 19660621 199003 1003



Date of Undergraduate Thesis Examination: April 08th, 2026

STATEMENT OF ORIGINALITY

I, the undersigned:

Name : Shela Sasmitha

Student Identification Number (NPM) : 2211031125

Hereby declare that my undergraduate thesis entitled "The Effect of ESG Score on Financial Performance Mediated by SDG Disclosures in Indonesian Listed Companies 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.

Bandar Lampung, April 27th, 2026
Author



Shela Sasmitha
NPM 2211031125

AUTHOR'S BIOGRAPHY



The author, Shela Sasmitha, was born in Bandar Lampung, Lampung, on September 27, 2004, as the first child of four siblings of Mr. M. Riyanto and Mrs. Sri Ningsih.

The author completed her elementary education at SD Negeri 5 Jati Mulyo (2010-2016), junior high school at SMP Negeri 21 Bandar Lampung (2016-2019), and senior high school at SMK Negeri 1 Bandar Lampung (2019-2022), majoring in accounting and finance. In 2022, the author was admitted as an undergraduate student in the Accounting Study Program, Faculty of Economics and Business, Universitas Lampung through the SBMPTN pathway. After passing the TOEFL test and interview, she was accepted into the International Accounting Class. During her academic journey, she actively participated in student organizations as a member of UKM-U ESO and UKM-F Pilar Ekonomi, and was involved in SEKELIK OJK Lampung as part of the Creative Media and Publication Division, where she contributed to financial literacy education programs in Lampung. She also actively participated in national and international seminar committees, including EBEC and ICEBE, and served as a tax volunteer at KPP Pratama Bandar Lampung Satu in 2024. Her achievements include being the 1st Place Winner and Best Presenter in the BeLa Tax Day Competition held by Kanwil DJP Bengkulu dan Lampung (2024), recipient of the Program Mahasiswa Wirausaha (PMW) Universitas Lampung with the projects titled *Bananatopia* (2023) and *Recraft N Chic* (2024), and 2nd Place Winner in the National Business Plan Competition by HMJ Administrasi Bisnis Universitas Lampung (2023).

DEDICATION

All praise and gratitude are devoted to Allah SWT for His mercy, blessings, and endless love, which have allowed this undergraduate thesis to be completed successfully.

With deepest love and respect, this undergraduate thesis is dedicated to:

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Thank you for your endless love, prayers, sacrifices, and unwavering support throughout my life. For always believing in me and standing by my side. Ibu, thank you for always listening to my feelings and worries without judgment. Your patience, warmth, and unconditional support have been my greatest comfort. Ayah, thank you for your hard work and endless efforts, which allowed me, to become the first bachelor's degree graduate in our family. Your strength will always be my greatest motivation. May Allah blessed both of you with good health, happiness, and a long life, so you can continue to be by my side and witness my future success.

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MOTTO

“My heart is at ease knowing that what was meant for me will never miss me, and that what misses me was never meant for me.”

-Umar Ibn Khattab

“You know, you should try. See how far you can go. See what you can do in this life. Because the world is full of possibilities and there are so many cool places you can go and see, and you just need your hands, a dream in your heart, some courage, maybe, and you go. Love.”

-Anonymous

“It is what it is”

“Long story short, I survived.”

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I. INTRODUCTION

1.1. Background

Sustainability is becoming increasingly important in global business strategies. Businesses are now moving to sustainable development to address the failures of addressing climate change, societal inequality, and standards of living. Sustainable development shifts the traditional paradigm focusing on income and growth to a paradigm that emphasizes economic viability, environmental sustainability, and social sustainability (Rezaee, 2016; Schonherr et al., 2017). Recent studies suggest that businesses should blend sustainability into their core business strategies, simultaneously addressing corporate sustainability and meeting a larger business objective. This approach promotes innovation while creating a competitive advantage for the business (Sanchaniya & Geipele, 2024; Schaltegger et al., 2016). The necessity for such integration has been underscored by global events, including the Covid-19 pandemic, which have exposed vulnerabilities in existing business models and highlighted the critical need for resilience and adaptability in business practices (Cao, 2024).

With the growing awareness of global issues, the aspects of ESG (Environmental, Social, Governance) are gaining attention as investors, regulators, and other stakeholders show increased interest in investing in business practices that could help solve global problems. Companies that practice and prioritize sustainability reporting, will offer better value to investors during investment decision and will be valued more favorably (Abdi et al., 2020). The public opinion is currently shifting from the belief that companies are mere profit-seeking market actors, to the belief that companies should be profit-seeking actors that contribute to the welfare of society and environment (Zumente & Bistrova, 2021). Thus, efforts to create sustainable business models are seen as a response to the demands of

stakeholders who are increasingly prioritizing sustainability in their evaluations of corporate performance.

Sustainability performance refers to how well an organization has integrated environmental, social, and governance aspects in strategic processes and operational practices. Sustainable performance is often measured using an ESG score, which evaluates how well organizations engage with environmentally sustainable behavior, display social responsibility, and maintain corporate governance. Several studies show that there can be tangible benefits of sustainability, such as better reputation, operational efficiencies, risk reduction, and increased corporate value (Al-Tuwaijri et al., 2005; Flammer, 2015).

Many investors shifted their focus to ESG funds in 2020 as a result of market disruptions and uncertainty brought on by the COVID-19 epidemic. According to data from the Global Sustainable Investment Alliance (GSIA), the net assets in ESG-related sustainable investments increased from \$22.8 trillion in 2016 to over \$35 trillion in 2020. This indicates that during the past few years, there has been a global growth in knowledge of ethical corporate practices (Kossay et al., 2025). Increased interest in ESG investments has encouraged companies to adopt more sustainable operations with greater stakeholder-oriented (Gillan et al., 2021). The growing number of sustainability reports from businesses worldwide is one sign and proof of the change in focus towards sustainability (Al Hawaj & Buallay, 2022). ESG information disclosure generally aimed at helping investors properly evaluate the company's performance, and telling internal and external stakeholders about the company's integration in addressing ESG risks and long-term strategy.

Sustainable Funds AUM (US\$ trillion) and Global Performance (%), 2018-2024

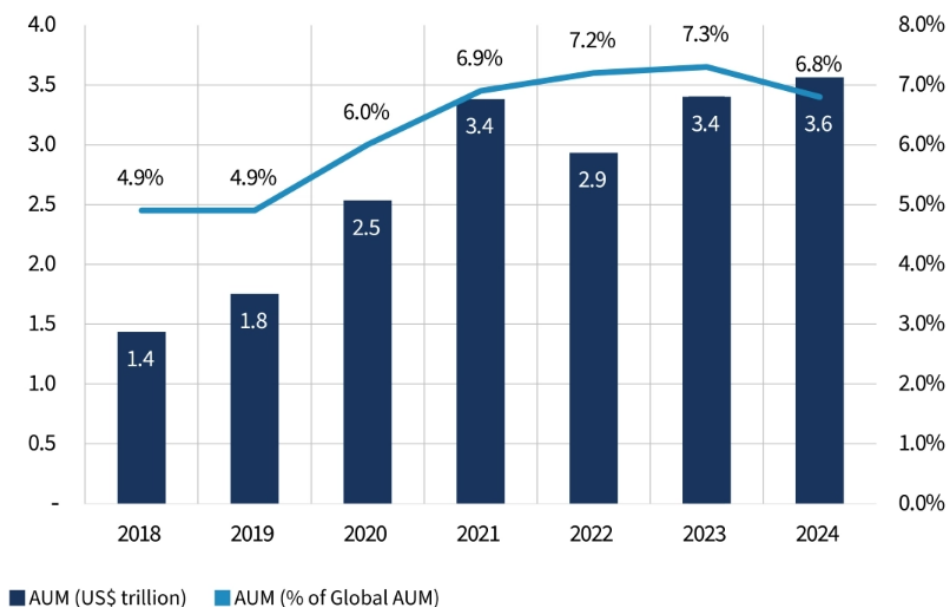


Figure 1. 1 Sustainable Funds AUM and Global Performance 2018-2024

Source: Morgan Stanley's Institute for Sustainable Investing, 2025, through Delphos, 2025

More recently, however, ESG has entered a new phase in what some scholars and practitioners describe as ESG 2.0, particularly in emerging markets. Rather than being limited to compliance or reputational concerns, ESG is increasingly embedded into firms' strategic and operational decisions, emphasizing measurable outcomes and transparent reporting (Delphos, 2025). The global market for ESG investment has expanded significantly, with assets growing from USD 1.4 trillion in 2018 to USD 3.6 trillion in 2024, accounting for nearly 7% of total assets under management. This growth underscores that investor interest in ESG remains strong, especially in regions like Asia, where sustainable funds recorded inflows of USD 11.5 billion in 2024 despite global volatility (Bisnis.com, 2025a). The growing appetite for ESG-oriented capital means that firms face increasing pressure to strengthen their ESG performance and disclosure in order to remain competitive in attracting investors. At the same time, this trend signals that ESG is no longer just a reputational issue but a financial one, directly tied to market access and firm valuation.

Although ESG scores are often used as a benchmark for assessing corporate sustainability performance, they do not always capture the full picture. For example, PT Vale Indonesia Tbk recorded a relatively high ESG score during 2021–2023 (82.80, 88.59, and 86.48 out of 100), indicating strong sustainability practices. However, in 2025 the company faced a serious environmental incident due to an oil pipeline leak in Luwu Timur, Sulawesi Selatan, which contaminated farmland and rivers and triggered public concern (Bisnis.com, 2025b). This case demonstrates a key limitation of ESG scores, although they provide a composite metric, they may not fully reflect underlying risks or prevent environmental controversies.

The engagement of Environmental, Social, and Governance (ESG) is closely linked to the Sustainable Development Goals (SDGs) agenda, which was adopted by 193 UN member states in 2015. The SDGs set out 17 goals and 169 targets to be achieved by 2030 in areas like health, education, the environment, and economic growth. The Paris Agreement, which was introduced at the UN Climate Change Conference (COP 21 Paris) that same year, committed all of its member nations to limiting the global temperature increase to 1.5°C over pre-industrial levels and to preventing it from rising above 2°C (United Nations, 2025). In order to demonstrate its commitment to reducing its greenhouse gas emissions, Indonesia passed Law No. 16 of 2016 and issued Presidential Regulation No. 111/2022 on the implementation of the SDGs.

Along with launching the Sustainable Finance Roadmap Phase I (2015–2019) and Phase II (2021–2025), the Financial Service Authority (OJK) also demonstrated its commitment by issuing POJK No. 51/POJK.03/2017 regulations on sustainable finance, which encouraged public companies, issuers, and financial services institutions to prepare sustainability reports, data, and disclosures of pertinent institutional actions to communicate their sustainability performance to various relevant stakeholders (Otoritas Jasa Keuangan, 2021). Among these are the degree to which corporate operations adhere to Environmental, Social, and Governance (ESG) principles. This reporting, which is known as Sustainable Development Goals Disclosure for revealing information about a company's

contribution as it relates to specific SDG targets, takes on additional relevance when it is framed inside the SDG.

Companies have a shared duty to advance sustainable development goals as members of the global community. Implementing Environmental, Social, and Governance (ESG) policies has emerged as a key way for companies to show their dedication to this goal. ESG implementation serves as a gauge of business performance that goes beyond compliance and has a direct impact on a company's reputation among stakeholders, including investors, customers, and the media (KADIN, 2023). Stronger access to financing, more customer loyalty, and improved employee morale are all advantages of businesses that perform well on ESG dimensions, and these factors all add to the firm's worth. Sustainability disclosure plays a central role in this process. By reporting their sustainability practices, companies build transparency, enhance accountability, and strengthen investor trust (Erin et al., 2022) Such disclosure reassures stakeholders that the company is committed to long-term value creation, aligning corporate strategies with the United Nations Sustainable Development Goals (SDGs) (Benito et al., 2023; Hummel & Szekely, 2022; Tsalis et al., 2020).

The SDGs must be at the center of business value creation, according to scholars, not just in terms of profitability but also in terms of social and environmental effect. Businesses that can demonstrate their contribution and incorporate the SDGs into their business models become catalysts for long-term change (Haywood & Boihang, 2021) The value of both financial and non-financial firms may increase as a result of SDG Disclosures (SDGD), which can serve as an outward indication of strategic commitment. This is supported by the study of Nicolo' et al. (2024) that found a positive correlation between sustainability performance and SDG disclosures, and companies that report on the SDGs more frequently improve stakeholder relations, accountability, and transparency (Erin et al., 2022; López & Monfort, 2017; Vigneau et al., 2015). Crucially, SDGD is a strategic asset as well as a matter of regulatory compliance. According to earlier studies, companies can boost market confidence, improve their corporate reputation, and have a beneficial impact on financial results by including SDGs in their sustainability reports (Emma & Jennifer, 2021). Therefore, by indicating

long-term value creation and bolstering investor confidence, consistent and thorough SDGD has the potential to connect sustainable measures with enhanced financial performance.

Indonesia continues to have significant obstacles in promoting SDG-related disclosure, even with regulatory advancements. While public corporations, issuers, and financial institutions must produce sustainability reports, they are not specifically obligated to reveal their contributions to the SDGs. Corporate knowledge and implementation of SDG disclosures are therefore still lacking. According to the Sustainable Development Report 2021, Indonesia has not improved since 2020, ranking 97th out of 165 nations with a score of 66.3 (J. Sachs et al., 2021). This stagnation signals not only challenges at the policy level but also reflects limited engagement from the corporate sector, which plays a crucial role in achieving SDG targets. Although it is becoming more common for annual reports to reference the SDGs, most businesses still do not incorporate SDG-specific plans into their operations (Low et al., 2023; Martínez-Ferrero et al., 2020; Rosati & Faria, 2019). Sustainability reports are untrustworthy for institutional investors due to the absence of significant SDG disclosures, according to Van der Waal and Thijssens (2020). This creates a critical gap. On the other hand, as stated by Beretta et al. (2025), SDGD has a lot to offer: it can encourage responsible investment (Rasche, 2020), improve transparency, which is crucial for sustainable development (Agarchand & Laishram, 2017; Anasi et al., 2018), and make it easier to incorporate SDGs into corporate operations (Adams, 2017). However, these benefits cannot be fully realized without significant business engagement and supportive regulation. Businesses tend to disclose just the bare minimum, ignoring the SDGs' more comprehensive aspects. Yet, effective SDGD has the potential to increase value for shareholders, society, and the environment.

Most importantly, SDGD further strengthens the connection between sustainability and financial performance. When companies disclose their SDG performance comprehensively, it also provides investors and analysts credibility. Nicolo et al. (2024) discovered that firms that report their SDG contributions receive better analyst reviews because of the disclosures, which improves

analysts' ability to predict future performance. Similarly, Muhmad & Muhamad (2021) conducted a review of previous studies, and they found that approximately 96% of prior studies found a positive relationship between sustainability behaviours and financial performance especially when the firms made reference to SDGs. In summary, transparent SDG disclosures create trust and legitimacy with stakeholders, and ultimately impact positively on financial performance.

Financial performance can be strengthened in numerous ways, one of which is improving investor trust. Companies that effectively disclose their sustainability activities, especially when they are aligned with the United Nations Sustainable Development Goals (SDGs), are well equipped to attract devoted investors and receive more capital inflows (ElAlfy et al., 2020). These additional funds enable companies to expand operations, boost sales, and ultimately improve profitability. In this way, SDG disclosures function not only as a reputational tool but also as a tangible mechanism for enhancing financial performance.

However, the connection between sustainability performance and financial performance is not always straightforward. Many studies show that strong environmental and social performance can increase profitability. For example, (Flammer, 2015; Marti et al., 2015) found that investments in sustainability positively affect accounting performance, while (Al-Tuwaijri et al., 2005; Ducassy, 2013; King & Lenox, 2002) indicated that good environmental practices are significantly correlated with better economic results. The implications are that sustainability performance may reduce risk exposure, provide opportunities for efficiencies, and improve stakeholder relationships, all of which can be valuable as they can enhance the financial position of the company. Nevertheless, there is other evidence that would argue that sustainability performance is sometimes harmful in the short term but beneficial in the long term. Sustainability activities that require large financial investments will be perceived as costly projects that reduce profits in the short term (Alareeni & Hamdan, 2020; Han et al., 2016). Investors will then consider sustainability burdensome rather than being a source of long-term value creation.

At this point, SDG disclosures plays a crucial role. By reporting sustainability activities transparently and explicitly linking them to SDG targets, companies are able to signal credibility, build legitimacy, and reduce investor skepticism. Thorough SDG disclosures not only satisfies legal requirements but also improves accountability and transparency, which in turn boosts investor confidence and enhances access to capital. By redefining sustainability investments as strategic value creation rather than expenses, this strategy assists in converting sustainability performance into more robust financial results (Awuah et al., 2024; Lawati & Hussainey, 2022; Wang & Tuttle, 2014).

Despite its potential, only a limited number of studies have analyzed SDG disclosures as a mediating factor between sustainability performance and financial performance, particularly in mandatory reporting contexts especially in Indonesia. This research seeks to address that gap by examining how SDG disclosures mediate the relationship between ESG score and financial performance in the Indonesian context within the title of: **The Effect of ESG Score on Financial Performance Mediated by SDG Disclosures in Indonesian Listed Companies 2021-2023**

1.2. Research Questions

Based on the background described earlier, the research question in this study is as follows.

1. What is the role of SDG disclosures in the relationship between ESG score and financial performance?

1.3. Research Objectives

Based on the problem statement, this study seeks to gather empirical evidence regarding:

1. To examine the relationship between ESG score and the extent of SDG disclosures among listed companies.

2. To analyze the relationship between ESG score and financial performance.
3. To test the direct relationship between SDG disclosures and financial performance.
4. To investigate the mediating role of SDG disclosures in the relationship between ESG score and financial performance.

1.4. Research Benefits

This study is expected to offer contributions in both theoretical and practical aspects, as outlined below:

1.4.1 Theoretical Contribution

1. This research enriches the current literature on sustainability accounting and corporate reporting by clarifying how Sustainable Development Goals (SDG) disclosure mediates the relationship between ESG score and financial performance.
2. The findings support and extend the application of legitimacy theory, and voluntary disclosure theory within emerging markets, especially in Indonesia, where sustainability reporting has recently become mandatory.
3. The study offers an empirical framework and methodological basis for future researchers interested in exploring ESG, SDG disclosures, and their impact on financial outcomes, as well as potential moderating or mediating factors in similar contexts.

1.4.2 Practical Contribution

1. The findings offer insights for corporate managers on how adopting sustainability practices and improving the quality of SDG disclosures can

enhance company reputation and strengthen financial performance. This can guide strategic decision-making in sustainability reporting.

2. This research helps investors understand how SDG disclosures acts as a signal of a company's commitment to sustainability and long-term profitability, supporting portfolio selection and risk evaluation for sustainable investment strategies.
3. The results offers evidence-based recommendations to regulators, such as OJK and IDX, in designing and implementing disclosure regulations that promote greater transparency and consistency in sustainability reporting.
4. The study enhances stakeholder awareness regarding the importance of SDG-oriented disclosures in promoting corporate responsibility and supporting broader sustainable development goals in Indonesia.

II. LITERATURE REVIEW

2.1. Theoretical Basis

2.1.1 Legitimacy Theory

Legitimacy theory builds on the concept of the “social contract” which suggests that organizations must operate within the norms and expectations of society to ensure continued survival (Suchman, 1995). This theory developed from earlier work on organizational legitimacy in institutional theory and has become a dominant perspective in sustainability accounting.

According to legitimacy theory, firms disclose sustainability information to demonstrate alignment with societal values, regulations, and stakeholder demands. High-quality disclosure can reinforce legitimacy by showing responsibility and transparency, while low-quality or symbolic disclosure may be used by underperforming firms to mask weak sustainability outcomes (Hummel & Schlick, 2016). Studies have found that sustainability reporting often emphasizes positive achievements while omitting negative aspects, supporting the idea that disclosure is sometimes motivated by legitimacy-seeking rather than genuine accountability (Cho et al., 2015).

In the Indonesian context, where regulatory enforcement of ESG reporting is still developing, legitimacy theory is particularly relevant. Many state-owned enterprises and publicly listed firms disclose SDG information selectively to maintain legitimacy with regulators, investors, and society, even if their actual sustainability performance remains limited.

2.1.2 Voluntary Disclosure Theory

Voluntary disclosure theory, first introduced by Verrecchia (1983), argues that firms disclose information beyond mandatory requirements when the expected benefits outweigh the costs. Although initially developed within the context of capital market research, this theory has been increasingly applied to sustainability and non-financial reporting as a way for firms to engage with stakeholders.

From this perspective, companies with superior sustainability performance are more likely to disclose information to signal their sustainability strengths and enhance market valuation. The theory assumes that sustainability performance is typically positively related to the amount of voluntary disclosure because companies with better performance will have greater incentives to report. In research of non-financial reporting, voluntary disclosure theory is often discussed with legitimacy theory, as both imply that companies whether performing well or poorly, may disclose sustainability information voluntarily to manage perceptions and maintain stakeholder's trust (Hummel & Schlick, 2016).

Nicolo' et al. (2024) demonstrated that firms with stronger sustainability performance are more likely to provide higher levels of SDG disclosures, particularly through environmental and social channels, within the voluntary disclosure theory. Voluntary disclosure theory explains that companies with strong sustainability performance proactively deliver high-quality disclosures as part of accountability efforts. This is supported by Ofori-Owusu et al. (2024) that demonstrate stakeholder expectations significantly drive firms toward more transparent sustainability reporting. Additionally, Danish et al. (2025) show that firms engaging in clear CSR communication build greater trust and strengthen stakeholder relationships, which ultimately lead to enhanced performance.

2.1.3 Environmental, Social, and Governance (ESG)

Environmental, Social, and Governance (ESG) is a framework developed to integrate sustainability concerns into corporate strategies and operations. It expands the conventional financial objectives of companies by including the identification, evaluation, and management of environmental, social, and governance risks and opportunities that are relevant to long-term value creation (Hamdouni, 2025). The concept of ESG was first introduced in the United Nations Principles for Responsible Investment report in 2006 and has since been widely adopted in capital markets as a benchmark for assessing non-financial corporate performance (Atan et al., 2018).

Beyond measurement, applying ESG principles is widely believed to enhance corporate performance. Companies that maintain high governance standards, create safe and equitable work conditions, interact with local communities, and control emissions and energy efficiency in their operations will be better able to innovate, compete, and lower long-term risks (KADIN, 2023). These practices not only strengthen reputation and stakeholder trust but also lead to more stable financial outcomes. ESG disclosure has therefore become a critical channel for communicating sustainability commitments, as it is frequently assessed using ESG ratings. In recent years, the ESG rating market has grown rapidly, and these scores are now used globally by investors, analysts, and consulting firms to assess risks and opportunities linked to corporate sustainability (Alareeni & Hamdan, 2020)

ESG is closely tied to the broader idea of sustainability performance, which reflects how well companies balance profitability with their responsibilities toward their operation into the environment, society, and stakeholders. ESG scores are used as a tangible operationalization of this concept, providing measurable indicators that allow firms to be compared in a structured and quantifiable way, across industries and time (Tamimi & Sebastianelli, 2017). ESG scores are generally reported on a scale from 0 to 100, where higher values indicate stronger sustainability performance. A company with a high score is considered more capable of managing ESG-related risks and opportunities, such

as enhancing energy efficiency, protecting human rights, and ensuring transparent governance. On the other hand, a low score indicates weaker practices and more susceptibility to sustainability risks.

One of the most well-known databases in this area, Refinitiv Eikon, provides the ESG scores used in this study. Refinitiv evaluates firms using 186 underlying indicators, grouped into ten categories that cover the environmental, social, and governance pillars. For instance, the environmental pillar covers resource use, emissions, and innovation; the social pillar covers workforce, human rights, community, and product responsibility; and the governance pillar covers management, shareholder rights, and corporate social responsibility (CSR) strategy (Refinitiv, 2025). The indicators are combined into a single composite ESG score that reflects the company's overall sustainability performance.

2.1.4 Sustainability Reporting

Sustainability reporting involves companies disclose their economic, environmental, and social impacts to stakeholders in a transparent and structured way. According to Camilleri (2015), sustainability reporting refers to the communication of non-financial performance alongside financial results, enabling organizations to demonstrate accountability beyond conventional financial metrics. This disclosure framework is becoming more important as stakeholders ranging from investors to regulators demand greater transparency regarding the sustainability performance of businesses.

The practice is often guided by global frameworks such as the Global Reporting Initiative (GRI), which provides principles and standards to ensure accuracy, comparability, and completeness in sustainability disclosures. These guidelines emphasize principles like balance, comparability, accuracy, timeliness, and accountability, which form the basis for globally accepted reporting practices. Sustainability reporting is vital in bridging the information gap between corporations and stakeholders, reducing asymmetry and enhancing trust (Nicolo' et al., 2024). It signals corporate commitment to responsible practices, attracts

responsible investors, and aligns business operations with global sustainability agendas. Moreover, sustainability reporting provides companies with strategic advantages, such as improved reputation, risk mitigation, and enhanced long-term competitiveness.

In Indonesia, regulatory mandates have strengthened sustainability reporting. The Financial Services Authority (OJK) introduced POJK No. 51/POJK.03/2017 regarding the implementation of sustainable finance for financial institutions, issuers, and public companies. This regulation mandates companies to prepare a sustainability report that integrates environmental, social, and governance considerations into business operations. Furthermore, the Indonesia Stock Exchange (IDX) launched the IDX ESG Leaders Index in 2020 to encourage companies to adopt sustainable practices and improve disclosure quality. These initiatives demonstrate that sustainability reporting is not only a voluntary practice but also an integral part of regulatory compliance and corporate accountability in Indonesia.

2.1.5 SDG Disclosures

Presenting a company's environmental, social, and governance practices has long been the main goal of sustainability reporting, frequently to assure accountability and transparency. However, the idea of SDG Disclosure (SDGD) emerged more recently as businesses have begun to more closely match their disclosures with the Sustainable Development Goals (SDGs). In contrast to general sustainability reporting, SDGD makes a clear connection between company operations and certain global development goals, which makes the disclosures more strategic, comparable, and organized (Nicolo' et al., 2024).

SDG disclosures refer to the extent to which companies communicate their contributions to achieving the United Nations Sustainable Development Goals (SDGs) within their sustainability reports or related corporate disclosures. The SDGs were officially adopted in September 2015 as part of the UN 2030 Agenda for Sustainable Development, comprising 17 goals, 169 targets, and 289

indicators that aim to address global challenges such as poverty, inequality, climate change, and environmental degradation (United Nations, 2025). The SDGs provide a universal framework for sustainable development, encouraging governments, businesses, and civil society to work collaboratively toward shared objectives. The description of 17 SDGs is provided in the table below.

Table 2. 1 Sustainable Development Goals

SDG Number	Goals Title	Goals Description
Goal No. 1	No Poverty	End poverty in all its form everywhere
Goal No. 2	Zero Hunger	End hunger, achieve food security and improve nutrition and promote sustainable agriculture
Goal No. 3	Good Health and Well-being	Ensure healthy lives and promote well-being for all at all ages
Goal No. 4	Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal No. 5	Gender Equality	Achieve gender equality and empower all women and girls
Goal No. 6	Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation of all
Goal No. 7	Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal No. 8	Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal No. 9	Industry, innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrilization and foster innovation
Goal No. 10	Reduced Inequality	Reduce inequality within and among countries
Goal No. 11	Sustainable Cities and Communities	Make cities and human settlement inclusive, safe, resilient and sustainable
Goal No. 12	Responsible Consumption and Production	Ensure sustainable consumption and production practices
Goal No. 13	Climate Action	Take urgent action to combat climate change and its impact
Goal No. 14	Life Below Water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal No. 15	Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystem, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal No. 16	Peace, Justice, and Strong Institution	Promote peaceful and inclusive societies for sustainable development, provide access to

		justice for all and build effective, accountable and inclusive institutions at all levels.
Goal No. 17	Partnership for the Goals	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Source: <https://sdgs.un.org/goals>

The SDGs are universal in nature, meaning each country had an equal opportunity to fully participate towards achieving them. The 2030 Agenda awaits the achievement of these goals not only through the increasing involvement of countries, but also all relevant stakeholders, such as businesses and civil society organizations. The goals presented in the SDGs will not be achieved without the contributions of the business sector, especially with its advanced technologies and the ability to produce large-scale solutions (J. D. Sachs, 2012).

In the corporate context, SDG disclosures allow companies to demonstrate connection between their business strategies and global sustainability goals. This practice reflects the principles of accountability and transparency, as companies report specific actions, programs, and performance indicators that contribute to achieving SDG targets within their sustainability report. According to Hummel & Szekely (2022) SDG disclosures demonstrate how companies translate sustainability strategies into actionable initiatives that support global goals, thereby strengthening legitimacy and stakeholder trust.

Disclosing information related to SDGs helps reduce information gaps, improve stakeholder engagement, and strengthen corporate reputation. Incorporating SDG indicators into sustainability reports enables companies to present measurable progress toward sustainability commitments, thereby enhancing the credibility of a company's sustainability efforts and influencing stakeholder perceptions and investment behavior (ISMAIL et al., 2022). As a result, organizations that effectively communicate their commitment towards the SDGs gain a competitive advantage in attracting investment and enhancing operational performance (Halid et al., 2023).

Indonesia, as a member of UN, has adopted the SDGs through Presidential Regulation No. 59/2017 on the Implementation and Achievement of Sustainable Development Goals, later updated by Presidential Regulation No. 111/2022.

These regulations do not explicitly mandate SDG disclosures for companies but create an overlapped through sustainability reporting obligations. This connection arises because OJK Regulation No. 51/POJK.03/2017 obligates issuers and public companies to prepare a sustainability report that contains information on environmental, social, and governance elements aligned with the GRI standards. The GRI framework itself shares several principles and disclosure items that align with SDG targets, making SDG disclosures applicable within sustainability reports. Thus, although SDG disclosures are not directly regulated, it is implicitly promoted through these interconnected obligations, enabling companies to demonstrate their commitment with global development goals.

2.1.6 Financial Performance

Financial performance reflects a company's overall ability to generate value from its resources and operations. It is often seen as a key indicator of how effectively management utilizes assets, equity, and capital to achieve profitability and long-term stability. Financial statements are the key method of measuring company performance. In the same line, Diroh & Mochlasin (2023) explain that financial performance represents the fiscal condition of a firm during a specific time period, assessed through financial analysis techniques. A strong financial performance signals managerial effectiveness and the firm's capacity to provide positive outcomes for stakeholders, while poor performance points inefficiencies or strategic flaws.

Financial performance can be assessed through various categories of ratios, including profitability, operational efficiency, growth, and solvency (Zhou et al., 2022). Among these, profitability ratios are the most widely used to measure the effectiveness of a company in generating returns. Two common measures in the profitability are Return on Assets (ROA) and Return on Equity (ROE). High levels of ROA and ROE indicate that the firm is using its resources and capital efficiently to create profits (Tudose et al., 2022).

While there are a number of metrics to assess profitability, this study focuses on Return on Equity (ROE). ROE measures how effectively a company generates net income relative to shareholders' equity by calculating net income divided by total equity. This ratio directly reflects the returns that investors receive from their capital, making it a key indicator of value creation from the shareholders' perspective (Alareeni & Hamdan, 2020).

2.2. Conceptual Framework

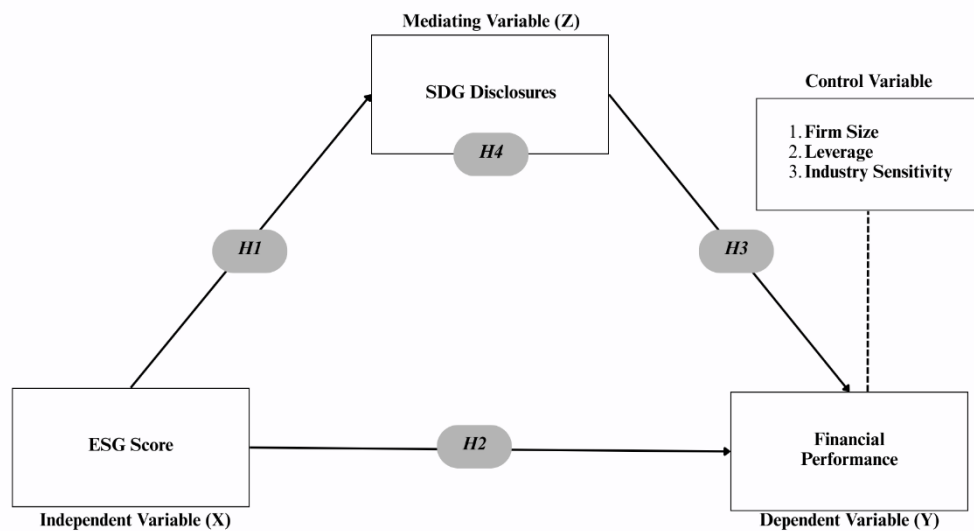


Figure 2. 1. Conceptual Framework

2.3. Previous Study

Previous studies have been conducted to evaluate the influence of sustainability reporting on financial performance.

Table 2. 2 Previous Study

No	Author	Title	Variables	Findings
1.	(Beretta et al., 2025)	From sustainability to financial performance: the role of SDG disclosure	Independent Variable: ESG Combined Score	The study shows that SDG disclosure significantly mediates the link between sustainability initiatives

			Dependent Variable: Financial Performance Mediating Variable: SDG Disclosure	and financial performance. Firms with detailed SDG disclosures report higher ROE and lower capital costs. Aligning strategies explicitly with SDGs attracts investors, underscoring transparency as a driver of financial gains.
2.	(Jorgji et al., 2024)	Sustainable Human Capital Management, ESG, and Firm Performance: Moderating Role of ESG Disclosure	Independent Variable: Sustainable Human Capital Management (SHCM) Dependent Variable: ESG Performance Moderating Variable: ESG Disclosure	Findings confirm a positive relationship between ESG engagement and firm performance. Firms with comprehensive ESG practices gain stronger stakeholder trust and market interest. State-owned enterprises, pressured by regulations, deliver higher-quality ESG disclosures, which enhance their financial standing.
3.	(Rachmat, 2024)	The Influence of Sustainability Disclosure on Financial Performance: A Study of Indonesian Firms	Independent Variable: Quality of Sustainability Disclosure Dependent Variable: Financial Performance Mediating Variable: Firm Size	The research on Indonesian firms reveals that robust sustainability disclosure improves profitability, particularly ROE. By strategically using disclosures, companies enhance legitimacy and achieve superior financial results, reflecting the value of transparency in emerging markets.
4.	(Jyoti & Khanna, 2021)	Does sustainability performance impact financial performance? Evidence from Indian service sector firms	Independent Variable: ESG Score Dependent Variable: Financial Performance	The combined ESG score and certain dimensions are negatively correlated with ROA, ROCE, and partially with ROE.
5.	(Lubis & Rokhim, 2021)	The Effect of Environmental, Social, and Governance (ESG) Disclosure and Competitive	Independent Variable: ESG Disclosure Score Dependent Variable:	This study finds that ESG disclosure strengthens competitive advantage and drives better financial performance. Firms with strong ESG

		Advantage on Companies Performance as An Implementation of Sustainable Economic Growth in Indonesia for Period of 2015-2019	Company Performance Moderating Variable: Competitive Advantage	policies report higher market valuations and efficiency, linking consistent disclosure to long-term resilience and growth in Indonesia's market context.
6.	(Nicolo' et al., 2024)	Does SDG disclosure reflect corporate underlying sustainability performance? Evidence from UN Global Compact participants	Independent Variable: Sustainability Performance Dependent Variable: SDG Disclosure	ESG performance is positively correlated with SDG disclosure, particularly in the environmental and social dimensions.

Source: Previous studies

The relationship between sustainable practices, disclosure, and financial performance has been the subject of conflicting research. According to (Jyoti & Khanna, 2021), environmental and social scores have a negative impact on profitability in Indian service firms. This suggests that sustainability programs may raise costs without producing obvious short-term benefits. Nicolo' et al. (2024), on the other hand, showed that higher SDG disclosure is correlated with stronger ESG performance, suggesting that companies use disclosure as a channel to signal accountability and differentiate themselves.

In Indonesia, (Lubis & Rokhim, 2021; Rachmat, 2024) confirmed that sustainability disclosure supports competitive advantage and improves profitability, especially ROE. However, their focus was on general sustainability reports rather than SDG-oriented disclosure. On a broader level, Beretta et al. (2025) showed that SDG disclosure directly strengthens the relationship between sustainability initiatives and financial outcomes, while Jorgji et al. (2024) found that ESG practices can enhance firm performance with transparent disclosure.

Together, these findings indicate that although ESG practices alone may not guarantee financial benefits, the way they are communicated, particularly through SDG disclosure, can make all the difference. This study expands the discussion to the Indonesian context by examining whether ESG performance influences financial performance through SDG disclosure, focusing on non-financial firms from 2021 to 2023.

2.4. Hypothesis

A hypothesis is a tentative answer to a research question, developed from theoretical foundations and previous empirical studies, and subject to verification through statistical testing. Based on legitimacy theory, and voluntary disclosure theory, and considering the Indonesian regulatory context, this research proposes the following hypotheses.

2.4.1 The Effect of ESG Score on SDG Disclosures

ESG score indicates a firm's capability to effectively handle environmental, social, and governance (ESG) elements. Companies with strong performance in these areas tend to disclose more detailed information to reduce information asymmetry and signal credibility to stakeholders. According to voluntary disclosure theory, companies share additional information beyond mandatory requirements to enhance transparency and boost investor confidence (Hummel & Schlick, 2016). Companies with better sustainability practices highlight these achievements to differentiate themselves and enhance legitimacy (Herbohn et al., 2014; Uyar et al., 2020).

This reasoning is backed by empirical evidence. Studies show that high-performing companies provide richer, higher-quality sustainability reports, characterized by greater clarity, optimism, and readability (Hummel & Schlick, 2016; Li et al., 2023). On the other hand, according to legitimacy theory, companies with weak sustainability performance might disclose information selectively or with low quality to maintain social acceptance (Hummel & Schlick, 2016).

Nicolo' et al. (2024) find a strong positive relationship between sustainability performance and SDG disclosures through environmental and social channels. However, they highlighted a lack of empirical evidence regarding the relationship between sustainability performance and the disclosure of information adopting the SDG framework and called for further research in this field especially in a

mandatory context. Since Indonesia mandated sustainability reporting for financial institutions in 2021 under OJK Regulation No. 51/POJK.03/2017 and promoted broader adoption across industries, companies with higher sustainability performance are expected to align their disclosures with SDG frameworks.

H1: There is a positive relationship between ESG Score and the level of SDG disclosures.

2.4.2 The Effect of ESG score on Financial Performance

The relationship between ESG score and financial performance has been the subject of widely discussed. From a theoretical perspective, sustainability initiatives can reduce operational risk, improve efficiency, enhance brand reputation, and foster long-term stakeholder trust, which collectively contribute to financial outcomes (Al-Tuwaijri et al., 2005). Legitimacy theory proposes that sustainability practices enhance corporate legitimacy, thereby maintaining investor and customer trust. Multiple studies indicate a positive correlation between sustainability performance and company's financial performance (Flammer, 2015; Marti et al., 2015). Similar findings were reported by (Al-Tuwaijri et al., 2005), who found that good environmental performance not only improves economic performance but also encourages companies to provide more measurable and detailed disclosures.

However, the literature is not entirely consistent. Hussain et al. (2018) emphasize the importance of how sustainability performance is measured because the results obtained are greatly influenced by the indicators used. Jyoti & Khanna (2021), for example, show mixed findings: environmental scores are negatively related to ROA and ROCE, while social scores are only negatively correlated with ROE. In fact, combined ESG scores are also negatively correlated with ROA and ROCE. Conversely, several earlier studies argue that involvement in sustainability issues can actually reduce financial performance (Cordeiro & Sarkis, 1997; Preston & O'Bannon, 1997). In Indonesia, this relationship is particularly relevant post-pandemic, as businesses encounter the dual challenge of recovery and compliance

with sustainability regulations. Empirical research in emerging markets indicates that sustainability can be a competitive advantage, especially for attracting ESG-sensitive investors.

H2: There is a positive relationship between ESG Score and financial performance.

2.4.3 The Effect of SDG Disclosures on Financial Performance

SDG disclosures act as a signal of corporate commitment to global sustainability goals, which can affect investor perception, enhance transparency, and possibly influence company valuation. In line with voluntary disclosure theories, transparent sustainability reporting minimizes information asymmetry, strengthens credibility, and can lower the cost of capital (Emma & Jennifer, 2021).

Empirical evidence on this relationship is unclear. Several studies support the notion that engaging in sustainable activities leads to sustainable outcomes (Emma & Jennifer, 2021; Mengistu & Panizzolo, 2023; Oh et al., 2017). Prior research indicates that sustainability-oriented reporting, such as SDG disclosure, can enhance firm performance by strengthening stakeholder trust and improving access to capital (Alareeni & Hamdan, 2020). As suggested by Beretta et al. (2025) that transparent sustainability reporting contributes positively to financial outcomes, particularly by reducing information asymmetry and reputational risk. In fact, a review conducted by Muhmad & Muhamad (2021) confirmed that most prior studies, approximately 96%, have demonstrated a positive relationship between sustainability practices and financial performance, especially when firms explicitly disclosed their SDG actions.

On the other hand, other research suggests that SDG disclosures may often be symbolic and created to satisfy legitimacy pressures rather than providing meaningful performance impacts (Cho et al., 2015; van der Waal & Thijssens, 2020). Certain companies simply present their current operations as SDG-related without providing specific implementation details, which reducing investor trust in the significance of these disclosures. However, reporting appears to have

significant value in controversial or environmentally sensitive industries, where SDG commitments help in reducing reputational risk (Emma & Jennifer, 2021). In Indonesia, where SDG reporting practices are still developing and lack of uniform standard, exploring this relationship provides relevant insights.

H3: There is a positive relationship between the level of SDG disclosures and financial performance.

2.4.4 The Mediating Role of SDG Disclosures

SDG disclosures can serve as a mechanism through which ESG score translates into financial outcomes. Companies with strong sustainability performance often utilize SDG reporting to build stakeholder trust and attract socially responsible investors, thereby enhancing financial performance. This aligns with legitimacy theories, as disclosure enhances the reputational and market benefits of sustainability initiatives (Faisal et al., 2023; Raimo et al., 2022)

Prior studies show that sustainability-related disclosures mediate relationships in governance and performance contexts such as the effect of board diversity, audit committee, political connections, and green accounting on firm performance (Alodat, Al Amosh, et al., 2023; Alodat, Salleh, et al., 2023; Faisal et al., 2023; Srouji et al., 2023). Similarly, Wagner & Schaltegger (2004) discussed how the selection of corporate environmental strategy acts as a mediator between the relationship between the environment and economic performance of European industrial companies. They concluded that firms adopting shareholder value-based strategies possess a more positive relationship between economic and environmental performance than firms with no such strategy. However, there is lack of empirical research directly investigating SDG disclosures as a mediator linking ESG score and financial performance, especially in emerging economies under mandatory reporting requirements (Nicolo' et al., 2024).

H4: The level of SDG disclosures mediates the relationship between ESG score and financial performance.

III. RESEARCH METHODOLOGY

3.1. Type and Source of Data

This research applies a quantitative research design featuring a panel data methodology, which combines cross-sectional and time-series observations for the period 2021-2023. The information utilized consists of secondary data obtained from company documents and third-party databases. Information regarding Environmental, Social, and Governance (ESG) performance is obtained from the Refinitiv Eikon database. Data regarding SDG disclosures, financial outcomes, and various financial variables is sourced from annual and sustainability reports available on the official Indonesia Stock Exchange website and the individual company websites.

3.2. Research Population and Sample

3.2.1 Research Population

A population consists of a collection of objects or subjects possessing specific quantities and traits identified by researchers for examination and subsequent analysis to derive significant conclusions (Sugiyono, 2020). The population in this study consists of all non-financial and non-banking companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period. These years represent the post-COVID-19 recovery phase in Indonesia, during which companies faced pressure to demonstrate both financial resilience and commitment to sustainability, especially following the implementation of OJK

Regulation No. 51/POJK.03/2017 on sustainability reporting that became fully effective in 2021 (Otoritas Jasa Keuangan, 2017).

3.2.2 Research Sample

Research sample represents a portion of the traits and amount held by the population. This research utilizes secondary data concerning companies that are listed on the Indonesia Stock Exchange as its population and companies that possess complete data concerning the variables as the sample. The sample is determined using a purposive sampling method, a method of determining samples based on specific considerations (Sugiyono, 2020). The table below displays the scheme for selecting samples for the study.

This study was conducted to determine the effect of ESG scores on corporate financial performance mediated by SDG Disclosure. The object of this study is non-financial companies listed on the Indonesia Stock Exchange (IDX) during the 2021-2023 period. This study applies a purposive sampling method, in which samples are selected based on specific criteria relevant to the research objectives. The table 4.1 below displays the scheme for selecting samples for the study.

Table 3. 1 Sample Selection Scheme

No.	Criteria	Quantity
1.	Companies listed on IDX and not delisted during the observation period 2021–2023	903
2.	Companies that did not publish complete annual reports and/or sustainability reports for the years 2021–2023, accessible through IDX or the companies' official websites	(31)
3.	Companies that did not have ESG scores available on Refinitiv Eikon during the observation period 2021-2023	(790)
4.	Financial and banking companies due to differences in financial structures and reporting standards	(23)
5.	Sample	59
Total observations (59 companies × 3 years)		177

Source: Secondary data, processed by the author (2025)

Through purposive sampling, from 903 companies listed on the Indonesia Stock Exchange during the research period, this study eliminated several samples until only 59 multisector companies remained. These were then multiplied by three

years to provide 177 samples that met the criteria remained. The purposive selection ensures that only firms with consistent sustainability disclosures and measurable ESG performance are included, thereby providing reliable empirical evidence of the relationship between ESG score, SDG disclosures, and financial performance in the Indonesian context.

3.3. Data Collection Method

This research follows a documentation approach, and will be collecting and reviewing secondary data from official company reports and a reputable financial database. For the relevant evidence regarding sustainability performance, the data uses the ESG score from the Refinitiv Eikon database which was calculated as a composite score consistent of environmental, social, and governance factors. For financial performance measures, using Return on Equity (ROE), data uses the audited financial statements of the company and annual report.

Data for SDG disclosures will be manually collected and coded, using the sustainability reports of companies meeting the sample criteria. The coding task included reading through each company's sustainability report and assigning score counting the number of Sustainable Development Goals (SDG) disclosed as a signal, using a pre-prepared checklist. All data collected is then organized and processed for further quantitative analysis in accordance with the research objectives.

3.4. Operational Variable

This section provides the explanation and description of each variable used in this study, including the definition, operationalization, and measurement.

3.4.1 Dependent Variable

The dependent variable in this study is Financial Performance, measured using Return on Equity (ROE). ROE is a profitability ratio that shows the return generated for shareholders from the equity invested in the company (Brigham & Houston, 2019). A higher ROE indicates better company performance in generating profits from its equity. In this study, ROE is included as a one-year lagged variable to avoid simultaneity with ESG disclosures.

$$ROE = \frac{Net\ Income}{Total\ Shareholders\ Equity}$$

Data on ROE are obtained from audited annual financial statements published through the IDX or the respective company websites.

3.4.2 Independent Variable

The independent variable in this study is the ESG combined score obtained from Refinitiv Eikon. This score provides a single, comprehensive measure of a company's sustainability performance by integrating environmental, social, and governance aspects into one composite indicator. Each company is assigned a score ranging from 0 to 100, where higher values represent stronger sustainability performance (Beretta et al., 2023).

$$ESG\ Score = Combined\ ESG\ Score\ from\ Revitiniif$$

3.4.3 Intervening Variable

Intervening variables or mediating variables are factors that exist between or mediate the correlation between independent and dependent variables. Intervening variables arise when researchers explore the theory in greater depth (Hardani et al., 2020). The intervening variable in this study is the SDG disclosures index, which measures the extent to which companies disclose information aligned with

the 17 United Nations Sustainable Development Goals (SDGs). The measurement of SDG disclosures is using binary coding method. Following (Nicolo' et al., 2024), the index is calculated as:

$$SDGD = \frac{\sum_{i=1}^{17} SDG S_i}{N}$$

Each SDG reported is assigned a score of 1; non-disclosure is scored 0. Thus, the index ranges from 0% (no disclosure) to 100% (disclosure of all 17 goals). The analysis is performed through manual content analysis of sustainability and annual reports accessible via IDX and company websites. The evaluation focuses solely on the existence of disclosure by referencing the SDG number or name and does not consider the depth or quality of implementation, similar to the approach used in the study by Raimo et al. (2022).

3.4.4 Control Variables

Control variables are the factors that are maintained constant to guarantee that the impact of independent variables on dependent variables remains unaffected by external factors beyond the study (Sugiyono, 2020). Below is the description of the control variables used in this research.

a. Firm Size (SIZE)

Firm size represents the total resources owned by a company. Larger firms generally have better access to capital markets, stronger stakeholder visibility, and more stable cash flows, which can directly influence financial performance (Melinda & Wardhani, 2020). In this study, firm size is measured as the natural logarithm of total assets.

$$Firm\ Size = Ln(Total\ Assets)$$

b. Leverage (LEV)

Leverage reflects the extent to which a company uses debt financing relative to its assets. Higher leverage indicates greater financial risk, which

can negatively influence both firm value and investor perceptions (Alareeni & Hamdan, 2020). At the same time, a moderate level of leverage may enhance returns through the tax shield on interest expenses. Leverage is measured using the debt-to-assets ratio.

$$Leverage = \frac{Total\ Liabilities}{Total\ Assets}$$

c. Industry Environmental Sensitivity (ENVS)

Prior studies argue that ESG performance varies significantly across industries, especially those exposed to environmental risks (oil & gas, mining, utilities, and basic materials) compared to less-sensitive industries (Izzo et al., 2020; Low et al., 2023). To capture this, a dummy variable is assigned: 1 if the firm operates in an environmentally sensitive sector, and 0 otherwise.

Table 3. 2 Operational Definition of Variables

No	Variables	Proxy	Scale
1.	ESG Score	<i>ESG Score</i> = <i>Combined ESG Score from Revinitif</i> (Beretta et al., 2023; Refinitiv, 2025)	Ratio
2.	Financial Performance	$ROE = \frac{Net\ Income}{Total\ Equity}$ (Brigham & Houston, 2019)	Ratio
3.	SDG Disclosures	$SDGD = \frac{\sum_{i=1}^{17} SDGs_i}{N}$ (Nicolo' et al., 2024)	Ratio
4.	Firm Size	$Firm\ Size = Ln(Total\ Assets)$ (Melinda & Wardhani, 2020)	Ratio
5.	Leverage	$Leverage = \frac{Total\ Liabilities}{Total\ Assets}$ (Alareeni & Hamdan, 2020)	Ratio
6.	Environmental Sensitivity	Dummy = 1 if in sensitive sector; 0 otherwise (Izzo et al., 2020; Low et al., 2023)	Nominal

Source: Secondary data, processed by the author (2025)

3.5. Data Analysis Method

Once all the required data has been gathered, data analysis is carried out in quantitative research. Data analysis involves combining, tabulating, presenting data for each variable under study, and computing to respond to research questions and test hypotheses (Sugiyono, 2020). This research examined the relationship among the variables using panel data regression method and assessed the indirect effect of the intervening variable using the Sobel test. Stata version 18 and Excel software were used as data processing tools to support the analysis process.

3.5.1 Descriptive Statistics

Descriptive statistics is a statistical technique designed to analyze data by objectively describing or representing the collected data, without aiming to generalize or derive conclusions applicable to the broader population (Sugiyono, 2020). Descriptive statistics are utilized to create a profile of the companies included in the research sample. This study will illustrate or outline the processed data for each variable by displaying the minimum value, maximum value, mean, and standard deviation for every variable under investigation.

3.5.2 Panel Data Analysis

In this research, the method of analysis used is panel data regression analysis. Panel data is also known as pooled data, micro-panel data, longitudinal data, event history analysis, or cohort analysis, and is a dataset with both cross-sectional and time-series dimensions. In short, it tracks the behavior of cross-sectional units such as individuals, firms or countries across multiple time periods (Ghozali & Ratmono, 2017). Panel data is a dataset with multiple longitudinal observations on several objects in a specified time frame, allowing the investigation of both individual heterogeneity and temporal variation within the variables of interest.

Ghozali & Ratmono (2017) indicate two kinds of panel data classification based on whether there is the same number of time series observations for each object of analysis. A balanced panel is when every object has an observation for the whole duration of the study. An unbalanced panel is when there is a different number of observations across objects of analysis because some objects are missing reports from some years, or because objects enter and exit from the sample at different times. The data in this study includes ESG scores, SDG disclosures, and control variables in a sample set with complete data for the period of 2021–2023. Therefore, the panel is classified as balanced.

In the panel data regression, the general equation can be expressed as:

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \dots + \varepsilon_{it}$$

Based on this framework, the models adopted in this research, following (Beretta et al., 2025), are specified as follows:

Model I

$$SDGD = \alpha + \beta_1 ESG + \beta_2 SIZE + \beta_3 LEV + \beta_4 ENV S + \varepsilon$$

This model examines whether ESG performance influences the extent of SDG disclosure.

Model II

$$ROE = \alpha + \beta_1 ESG + \beta_2 SIZE + \beta_3 LEV + \beta_4 ENV S + \varepsilon$$

This model tests the direct relationship between ESG performance and firm financial performance (ROE).

Model III

$$ROE = \alpha + \beta_1 SDGD + \beta_2 SIZE + \beta_3 LEV + \beta_4 ENV S + \varepsilon$$

This specification evaluates the impact of SDG disclosure on financial performance, independent of ESG.

Model IV

$$ROE = \alpha + \beta_1 SDGD + \beta_2 ESG + \beta_3 SIZE + \beta_4 LEV + \beta_5 ENV S + \varepsilon$$

This model combines ESG and SDG disclosure as explanatory variables of ROE to investigate whether SDG disclosure mediates the effect of ESG on financial performance.

Description:

<i>ROE</i>	= Return on Equity
<i>SDGD</i>	= The extent of disclosure related to SDG in the company's sustainability or annual report
<i>ESG</i>	= The aggregate ESG score obtained from Revinitif
<i>SIZE</i>	= Company size
<i>LEV</i>	= Financial leverage
<i>ENV S</i>	= Industry sensitivity to environmental issues
α	= Constant
ε	= Error

3.5.3 Panel Data Regression Test

In panel data regression analysis, the goal is to find the best estimation model that captures the cross-sectional and time-series variability. The three common panel data models are the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Each model has its distinct assumptions and estimation method, which are further explained below:

a. Common Effect Model (CEM)

The common effect model is the most straightforward method for panel data, which consists of both a time-series and cross-sectional observations. Under the common effect model assumption, firm behavior will be identical across both time and entities, and there are no individual or time effects. Usually, the data is estimated by the Pooled Least Squares (PLS) model, or OLS on pooled data (Gujarati & Porter, 2015) The main limitation of the common effects model is this unrealistic assumption because, in practice, firms may differ across periods and across entities, which could result in biased estimators.

b. Fixed Effect Model (FEM)

The fixed effect model differentiates between time-series and cross-section data by assuming that the slopes of the regression function are constant across the entities while the individual differences are measured in their intercepts. The fixed effect model assumes that unobservable individual differences can be handled by allowing each entity to have its own intercept. Generally, the estimation is based on the use of dummy variables that applies to the specific intercepts across companies while maintaining the slopes (regression coefficients) constant over time and across entities (Gujarati & Porter, 2015) This technique is also referred to as the Least Squares Dummy Variable (LSDV) approach and it properly controls for time invariant heterogeneity across entities. The advantage of the LSDV approach is that it takes into account unobserved factors that remain stable over time, which enhances the interpretation of variable effects with natural context that is dynamic.

c. Random Effect Model (REM)

The random effects model, as opposed to the fixed effects model, assumes that the differences across entities are random and are not correlated with the independent variables. The model splits the error term into two parts, an error term which accounts for the variation across entities, and a random disturbance error term. To improve efficiency, estimation is carried out using

the Generalized Least Squares (GLS) method, which deals with heteroskedasticity and serial correlation while still producing unbiased and consistent estimators. The random effects model is particularly useful if the sample is taken randomly from a larger population, and when fixed effects have been considered useless because they are inefficient given a loss of degrees of freedom.

3.5.4 Panel Data Regression Selection

In data panel analysis, to ensure the best model for this study, various tests must be conducted to improve the accuracy of the results analysis. Below are the testing methods commonly used to identify the optimal model.

a. Lagrange Multiplier (LM) Test

The Lagrange Multiplier is based on the residuals from the OLS estimation and was established by Breusch and Pagan. This test is utilized to choose between the Common Effect Model (CEM) and the Random Effect Model (REM). The rule for decision is:

- a) If the probability value (p-value) ≥ 0.05 then H_0 is accepted, and the Common Effect Model is preferred.
- b) If the probability value (p-value) < 0.05 then H_0 is rejected, and the Random Effect Model is more suitable.

Hypotheses:

H₀: Common Effect Model (CEM) is appropriate.

H₁: Random Effect Model (REM) is appropriate.

b. Chow Test

The Chow test helps to choose between the Common Effect Model (CEM) and the Fixed Effect Model (FEM). This test compares the goodness of fit of

the pooled regression with the fixed effect specification. The decision rules are:

- a) If the probability value (p-value) ≥ 0.05 then H_0 is accepted, and the Common Effect Model is chosen.
- b) If the probability value (p-value) < 0.05 then H_0 is rejected, and the Fixed Effect Model is more appropriate.

Hypotheses:

H₀: Common Effect Model (CEM) is appropriate.

H₁: Fixed Effect Model (FEM) is appropriate.

c. Hausman Test

The Hausman test is applied to determine whether the Fixed Effect Model (FEM) or the Random Effect Model (REM) is more appropriate. The Hausman test evaluates whether the unique errors are correlated with the regressors. If correlation exists, the random effect estimator becomes inconsistent, making the fixed effect approach preferable. The rules are:

- a) If the probability value (p-value) ≥ 0.05 then H_0 is accepted, and the Random Effect Model is preferred.
- b) If the probability value (p-value) < 0.05 then H_0 is rejected, and the Fixed Effect Model should be used.

Hypotheses:

H₀: Random Effect Model (REM) is appropriate.

H₁: Fixed Effect Model (FEM) is appropriate.

3.5.5 Classical Assumption

Classical assumption tests are conducted to ensure that the regression model meets the required conditions for producing valid and unbiased estimators.

a. Normality Test

The normality test aims to examine whether the residuals in the regression model follow a normal distribution. This assumption is essential, particularly when the sample size is relatively small, to ensure the validity of statistical inferences (Ghozali, 2018). The null hypothesis (H₀) assumes that the residuals are normally distributed, while the alternative hypothesis (H₁) assumes they are not. Decision-making in normality testing is based on:

- a) If the probability (sig.) > 0.05, residuals are normally distributed.
- b) If the probability (sig.) < 0.05, residuals deviate from normality.

b. Multicollinearity Test

The multicollinearity test is used to test if the independent variables have a high correlation among themselves. A high correlation can yield distorted estimates of regression coefficients (Ghozali, 2018). This study utilizes the Variance Inflation Factor (VIF) to quantify multicollinearity among the independent variables. A good regression model should not show multicollinearity, meaning the explanatory variables are sufficiently independent. These thresholds indicate that the explanatory variables contribute independently and that the estimated coefficients remain statistically valid.

The rules to detect multicollinearity:

- a) $VIF \leq 10$ and $Tolerance \geq 0.10$, no multicollinearity problem.
- b) $VIF > 10$ or $Tolerance < 0.10$, indication of multicollinearity.
- c) Correlation coefficients among independent variables below 0.90 also suggest the absence of multicollinearity.

c. Heteroskedasticity Test

The heteroskedasticity test is meant to check if the variance of the error terms is constant across observations. If the variances are inconsistent, it may lead to inefficiency in estimating parameters. If the variance from one observation to another remains constant, it is called homoscedasticity, and if it differs, it is called heteroscedasticity (Ghozali, 2018). This study conducts the Breusch and Pagan Lagrange Multiplier (LM) test for testing heteroskedasticity. The criterion for the decision is based on the probability value. If the probability value is greater than 0.05, the null hypothesis of homoskedasticity cannot be rejected, suggesting that heteroskedasticity is not a problem in the model.

- a) If p-value > 0.05 , residuals are homoskedastic (no heteroskedasticity).
- b) b) If p-value < 0.05 , heteroskedasticity is present.

d. Autocorrelation Test

The autocorrelation test identifies whether residuals from one period are correlated with residuals from the previous period. This problem frequently arises in time-series or panel data, where observations across time are not independent (Ghozali, 2018). To detect the presence or absence of autocorrelation, the Breusch-Godfrey test is used in this study. The following are the basis for deciding whether autocorrelation is present or not:

- a) If the probability value is > 0.05 , then there is no autocorrelation
- b) If the probability value is < 0.05 , then autocorrelation is present

3.5.6 Statistical Hypothesis

After formulating the research question and hypothesis to obtain the results, the formulated hypothesis needs to be further tested using appropriate hypothesis testing. This study used individual parameter significance testing (t-test), simultaneous parameter significance testing (F-test), and the coefficient of determination (R^2).

a. Simultaneous Test (F-Test)

According to Ghozali (2018), the F-test aims to determine whether all of the independent variables collectively have significant effect on the dependent variable. Formally, the hypothesis can be expressed as:

H0: $\beta_1 = \beta_2 = \dots = \beta_i = 0$, means that none of the independent variables significantly influence the dependent variable.

H1: at least one $\beta_i \neq 0$, means at least one independent variable significantly influences the dependent variable.

The F-test is often referred to as the “model existence test,” it verifies whether the regression model is statistically meaningful as a whole. The significance level applied is $\alpha = 5\%$. The basis on F-test are:

- a) If p-value > 0.05 , accept H0, then independent variables, as a group, do not significantly affect the dependent variable.
- b) If p-value < 0.05 , reject H0, then independent variables collectively have a significant effect on the dependent variable.

b. Partial Test (t-Test)

The t-test is used to measure the effect of each independent variable to the dependent variable separately (Ghozali, 2018). The requirements at the 5% significance level are:

- a) If t-statistic $< t$ -table and p-value > 0.05 , accept H0, then the independent variable does not have a significant effect on the dependent variable.
- b) If t-statistic $> t$ -table and p-value < 0.05 , reject H0, then the independent variable has a significant effect on the dependent variable.

c. Coefficient of Determination (R^2)

The coefficient of determination (R^2) measures how much of the variation in the dependent variable can be explained by the independent variables (Ghozali, 2018). The range of its value is between 0 and 1 ($0 < R^2 < 1$).

- a) A low R^2 , closer to 0, indicates that the independent variables explain very little of the dependent variable's variation (weak relationship).
- b) A high R^2 , closer to 1, suggests that the independent variables explain most of the variation (strong relationship).

However, R^2 will always increase as more independent variables are added, regardless of whether those variables are meaningful. Therefore, many researchers prefer to use the adjusted R^2 , which accounts for the number of predictors included in the model. If the adjusted R^2 produces a negative value, it is conventionally interpreted as zero (Ghozali, 2018).

d. Sobel Test

This study applies sobel test to examine whether SDG disclosures mediates the relationship between ESG score and financial performance. Sobel test is a mediation testing developed by Sobel (1982). Mediation analysis is an extension of linear regression that introduces an additional variable known as the mediator (M) to explain the process which a dependent variable (Y) is influenced by an independent variable (X) (Abu-Bader & Jones, 2021). This theory states that the independent variable first affect the mediator, which then transfers some or all of this effect to the dependent variable.

The Sobel test evaluates whether the indirect effect ($X \rightarrow M \rightarrow Y$) is statistically significant. In other words, it tests if the mediator significantly reduces or alters the direct effect of X on Y. If the Sobel statistic (Z) is significant, it supports the presence of mediation, either partial or full. The sobel test formule is as follows.

$$Z = \frac{a \times b}{\sqrt{(b^2 \times S_a^2) + (a^2 \times S_b^2)}}$$

Description:

α = regression coefficient of $X \rightarrow M$

b = regression coefficient of $M \rightarrow Y$

S_a = standard error of a

S_b = standard error of b

Z = Sobel test statistic

V. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

Based on the research examining the effect of ESG score on financial performance with SDG disclosure as a mediating variable in Indonesian listed companies during 2021–2023, several key findings emerge. The results show that ESG score does not have a significant effect on the extent of SDG disclosures, indicating a decoupling phenomenon where firms' sustainability performance is not aligned with their reporting practices. Despite a relatively high average level of SDG disclosure, this finding suggests that disclosure is largely driven by symbolic compliance with regulatory requirements, particularly POJK No. 51/2017, rather than a substantive integration of ESG into corporate strategy.

In terms of financial performance, ESG score is also found to have no significant impact. This suggests that ESG-related investments in Indonesia are still perceived as short-term costs, where implementation expenses outweigh immediate financial benefits. As a result, ESG practices remain at an early stage and have not yet translated into improved accounting-based profitability.

A similar pattern is observed for SDG disclosure, which does not significantly affect financial performance. Although firms increasingly disclose SDG-related information, the market does not interpret such disclosure as a credible signal of economic value. Instead, it tends to function more as a reputational or administrative tool rather than a driver of profitability.

Furthermore, SDG disclosure is not proven to mediate the relationship between ESG score and financial performance. The Sobel test confirms that the indirect effect is statistically insignificant, reinforcing the presence of a credibility gap. This indicates that ESG performance cannot yet be effectively translated into

financial outcomes through sustainability reporting. Overall, investors in Indonesia continue to rely more on traditional financial indicators, while sustainability disclosures remain limited in their ability to create measurable economic value.

5.2. Research Limitations

This study has several limitations that should be considered when interpreting the results.

1. ESG data availability is limited. Only 59 listed firms consistently reported ESG scores in the Refinitiv database during the observation period, resulting in a relatively small sample that may not fully represent all industries in Indonesia.
2. The three-year observation period (2021-2023) may be insufficient to capture the long-term financial effects of sustainability practices, which often require a longer time horizon to materialize.
3. SDG disclosure is measured using a quantitative content analysis approach that focuses on the presence of disclosure rather than its depth or quality, limiting the ability to assess substantive implementation.
4. The high volatility of ROE, indicated by a standard deviation far exceeding the mean, suggests that profitability is strongly influenced by macroeconomic and industry-specific factors beyond sustainability variables.

5.3. Recommendations

Based on the above conclusions and limitations, the researchers propose the following recommendations.

1. For Companies
Companies are encouraged to move beyond SDG disclosures as a formal reporting exercise or image-building effort. Integrating SDG targets into

core business strategies is essential so that sustainability practices can generate operational efficiency and long-term financial benefits, rather than remaining a reporting burden.

2. For Investors

Investors should adopt a more critical approach when evaluating sustainability reports. Rather than focusing on SDG logos or general narratives, investors should assess measurable performance indicators to determine whether ESG commitments reflect real value creation or merely symbolic legitimacy.

3. For Regulators

Regulatory bodies are expected to develop more detailed and standardized SDG reporting guidelines in Indonesia. Clearer technical standards would improve the quality and comparability of sustainability information, reduce information asymmetry, and help the market better identify firms with genuine sustainability performance.

4. For Future Research

Future studies are advised to extend the observation period to five to ten years to better capture the long-term financial effects of ESG practices. Researchers may also consider using market-based performance measures, such as Tobin's Q or stock returns, which may respond more quickly to non-financial information. In addition, expanding ESG data sources beyond Refinitiv or conducting independent assessments based on sustainability reports could help increase sample size and improve representativeness.

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