

The Effect of ESG Disclosure on Investment Decisions with Independent Commissioners as a Moderating Variable in Technology Companies Listed on the Indonesian Stock Exchange (2021–2024)

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Abstract

This study examines the effect of Environmental, Social, and Governance (ESG) disclosure on investment decisions in technology companies listed on the Indonesian Stock Exchange (IDX) during the period 2021–2024. It also investigates the moderating role of independent commissioners in strengthening or weakening the relationship between ESG disclosure and investment decisions. Using secondary data obtained from annual reports and sustainability reports of technology sector companies, this study employs a quantitative approach with multiple linear regression and moderated regression analysis. The results indicate that ESG disclosure has a negative and significant effect on investment decisions. Independent commissioners significantly influence investment decisions and are proven to moderate the relationship between ESG disclosure and investment decisions. These findings suggest that corporate governance mechanisms, particularly the presence of independent commissioners, play a crucial role in shaping investor responses to ESG information. This study contributes to the literature by focusing on investment decisions rather than firm value and by emphasizing the technology sector in the Indonesian capital market.

Keywords

Raw Material Waste, Operational Efficiency, PDCA, Food and Beverage Industry, Cafeesg Disclosure, Investment Decision, Independent Commissioner, Corporate Governance, Technology Companies

Introduction

In recent years, corporate sustainability has become a major concern in global business practices and capital markets. This growing attention is driven by increasing awareness of environmental degradation, social inequality, and governance issues that may affect long-term corporate performance. The concept of sustainable development was formally introduced through the Brundtland Report, emphasizing the balance between economic growth, environmental protection, and social welfare to ensure long-term sustainability (Qureshi et al., 2020). In response to this paradigm, companies are increasingly encouraged to disclose not only financial information but also non-financial information related to sustainability practices.

Environmental, Social, and Governance (ESG) disclosure represents an integrated framework that reflects a company's commitment to sustainable and responsible business practices.

ESG disclosure provides investors with information regarding how companies manage environmental impacts, social responsibilities, and governance structures. Prior studies indicate that ESG disclosure functions as an important signal for investors in assessing corporate transparency, risk management, and long-term value creation (Yang et al., 2022). As capital markets evolve, ESG information has become a complementary factor alongside traditional financial indicators in influencing investment decisions.

Investment decisions refer to the process by which investors evaluate available information to allocate their funds with the expectation of obtaining optimal returns while managing risk. Traditionally, these decisions relied heavily on financial performance indicators such as profitability, liquidity, and firm value. However, recent empirical evidence suggests that investors increasingly consider sustainability-related information, including ESG disclosure, when making investment decisions, particularly in emerging markets (Cohen et al., 2023). ESG disclosure is perceived as a tool to reduce uncertainty and information asymmetry between companies and investors (Cakranegara, 2021).

The relevance of ESG disclosure is particularly significant in the technology sector, which is characterized by rapid innovation, high growth potential, and elevated uncertainty. Technology companies face unique sustainability challenges, including environmental impacts from energy consumption, data security, and social responsibility related to digital inclusion. These characteristics make ESG disclosure an essential source of information for investors in evaluating the sustainability and credibility of technology firms. Nevertheless, empirical research focusing on ESG disclosure in technology companies listed on the Indonesian Stock Exchange (IDX) remains limited.

From a theoretical perspective, stakeholder theory explains that companies are accountable not only to shareholders but also to a broader group of stakeholders. ESG disclosure is used as a mechanism to maintain legitimacy and trust by demonstrating corporate responsibility toward stakeholders (Ardiansyah & Hersugondo, 2024). In addition, signaling theory suggests that transparent ESG disclosure serves as a positive signal to the market, indicating management's commitment to long-term sustainability and ethical governance (Judhistira Audito, 2024).

Corporate governance mechanisms also play a crucial role in shaping investor perceptions of ESG disclosure. Independent commissioners are responsible for supervising management performance and ensuring that corporate disclosures are objective and reliable. According to agency theory, the presence of independent commissioners can mitigate conflicts of interest between management and shareholders, thereby enhancing the credibility of disclosed information (Salira & Prasetyo, 2024). Effective governance structures may strengthen investor confidence in ESG disclosure and influence investment decisions.

Despite the growing literature on ESG disclosure, most studies in Indonesia focus on its impact on firm value or financial performance. Research that directly examines the effect of ESG disclosure on investment decisions is still scarce. Moreover, independent commissioners are often treated as control variables rather than as moderating variables that may influence the relationship between ESG disclosure and investment decisions (Shafira & Astuti, 2024).

Therefore, this study aims to examine the effect of ESG disclosure on investment decisions with independent commissioners as a moderating variable in technology companies listed on the

Indonesian Stock Exchange during the period 2021–2024. This study contributes to the literature by focusing on investment decisions as a direct reflection of investor behavior and by highlighting the strategic role of independent commissioners in strengthening the credibility of ESG disclosure.

Methods

Research Type and Design

This study adopts a quantitative research approach using a causal associative research design to examine the cause–effect relationship between Environmental, Social, and Governance (ESG) disclosure and investment decisions, with independent commissioners as a moderating variable. A quantitative method is applied because the analysis is based on numerical data and statistical testing to evaluate the strength and direction of relationships among variables in the capital market context.

Population and Sample

The population of this study consists of all technology sector companies listed on the Indonesian Stock Exchange (IDX) during the period 2021–2024. The sample is selected using a purposive sampling technique to ensure data availability and relevance. The sampling criteria include:

1. Technology companies consistently listed on the IDX from 2021 to 2024,
2. Companies that publish annual reports and sustainability reports.
3. Companies that disclose ESG information and provide complete data related to investment decisions and board structure. Based on these criteria, the final sample yields 48 firm-year observations.

Data Type and Data Collection

This study utilizes secondary data obtained through documentation methods. The data are collected from annual reports, sustainability reports, corporate governance reports, and financial statements of technology companies listed on the IDX during the observation period. All data are accessed through the official IDX website and the official websites of the respective companies.

Variable Measurement

ESG Disclosure (Independent Variable)

ESG disclosure represents non-financial information related to environmental, social, and governance aspects disclosed by companies. ESG disclosure is measured using an ESG disclosure index, which is constructed by assessing the presence of ESG items reported in annual and sustainability reports. Each disclosed item is scored 1, while undisclosed items are scored 0. The ESG disclosure index is calculated by dividing the total disclosed items by the total disclosure items.

Investment Decision (Dependent Variable)

Investment decisions are proxied using market-based indicators that reflect investor behavior, namely Price to Book Value (PBV) and Trading Volume Activity (TVA). These indicators represent market valuation and trading intensity, which reflect investors' responses to corporate

information.

Independent Commissioner (Moderating Variable)

Independent commissioners are measured using the proportion of independent commissioners on the board of commissioners. This ratio is calculated by dividing the number of independent commissioners by the total number of board commissioners, reflecting the effectiveness of corporate governance oversight.

Moderating Variable (Interaction Term)

The moderating variable is measured through an interaction term between ESG disclosure and the proportion of independent commissioners. This interaction is used to examine whether independent commissioners strengthen or weaken the relationship between ESG disclosure and investment decisions.

Data Analysis Technique

Data analysis is conducted using Statistical Package for the Social Sciences (SPSS). The analysis includes descriptive statistics to summarize data characteristics, followed by classical assumption tests comprising normality, multicollinearity, heteroscedasticity, and autocorrelation tests. Hypothesis testing is performed using multiple linear regression analysis to examine the direct effects of ESG disclosure and independent commissioners on investment decisions. Moderated regression analysis (MRA) is employed to test the moderating role of independent commissioners through the interaction term. Statistical significance is determined at a 5 percent significance level.

Results and Discussion

The descriptive statistics indicate that the level of ESG disclosure among technology companies listed on the Indonesian Stock Exchange (IDX) during the period 2021–2024 is moderate, with noticeable variation across firms. This variation reflects differences in corporate awareness, governance quality, and commitment to sustainability reporting within the technology sector. Investment decision indicators, measured by Price to Book Value (PBV) and Trading Volume Activity (TVA), exhibit relatively high dispersion, suggesting heterogeneous investor responses to firm-specific information. Meanwhile, the proportion of independent commissioners generally meets regulatory requirements, with limited variation among sampled companies.

The results of classical assumption tests confirm that the regression model satisfies the requirements of normality, multicollinearity, heteroscedasticity, and autocorrelation, indicating that the model is statistically valid for hypothesis testing.

The regression analysis reveals that ESG disclosure has a negative and significant effect on investment decisions. This finding indicates that an increase in ESG disclosure is associated with a decline in investment decision indicators in technology companies. Contrary to expectations derived from signaling theory, ESG disclosure in this context does not immediately generate a positive market response. This result suggests that investors in the Indonesian technology sector may perceive ESG disclosure as an additional cost or burden rather than as a value-enhancing signal, particularly in the short term.

This outcome can be explained by the characteristics of the technology sector, which is typically associated with rapid growth, high uncertainty, and strong emphasis on innovation and short-term financial performance. Investors may prioritize growth potential, profitability, and market expansion over long-term sustainability initiatives. As a result, ESG disclosure has not yet become a dominant factor in shaping investment decisions, especially during periods of market volatility between 2021 and 2024. This finding aligns with stakeholder theory, which posits that ESG disclosure is intended to address broader stakeholder interests and may not directly influence investor behavior if the market has not fully internalized sustainability considerations (Ardiansyah & Hersugondo, 2024).

Furthermore, the analysis shows that independent commissioners have a positive and significant effect on investment decisions. This result indicates that a higher proportion of independent commissioners enhances investor confidence, as independent oversight improves transparency and reduces agency conflicts. From the perspective of agency theory, independent commissioners serve as an effective monitoring mechanism that mitigates opportunistic behavior by management and increases the credibility of corporate disclosures (Salira & Prasetyo, 2024).

The moderated regression analysis demonstrates that independent commissioners significantly moderate the relationship between ESG disclosure and investment decisions. The interaction term between ESG disclosure and independent commissioners has a positive and significant coefficient, indicating that the presence of independent commissioners strengthens the influence of ESG disclosure on investment decisions. This finding suggests that although ESG disclosure alone tends to have a negative effect, its impact becomes more favorable when supported by strong corporate governance.

This result implies that independent commissioners play a crucial role in enhancing the reliability and trustworthiness of ESG information. Effective oversight reduces the risk of symbolic disclosure or “window dressing,” ensuring that ESG reports reflect actual corporate practices rather than mere compliance. Consequently, investors are more likely to consider ESG information in their investment decisions when it is monitored by independent commissioners. This finding is consistent with prior studies suggesting that strong governance mechanisms enhance investor responses to sustainability disclosures (Shuai et al., 2022; Ariasinta et al., 2024).

Overall, the findings indicate that ESG disclosure has not yet been fully integrated into investor decision-making processes in the Indonesian technology sector. However, corporate governance particularly the role of independent commissioners can transform ESG disclosure into a more credible and meaningful signal for investors. This underscores the importance of aligning sustainability reporting with effective governance structures to enhance its relevance in capital market decisions.

Conclusion

This study concludes that raw material waste represents a significant operational challenge for cafe businesses and has a direct impact on operational efficiency. At Cafe Hoffmann Lane, raw material waste was primarily caused by inaccurate demand planning, suboptimal storage systems, portioning inaccuracies, overproduction, and human resource-related issues, particularly inconsistent adherence to standard operating procedures.

The implementation of raw material waste control using the Plan–Do–Check–Act (PDCA) approach proved effective in reducing waste and improving operational efficiency. The findings show a substantial reduction in food cost from approximately 45% to 33%, indicating improved cost efficiency. In addition, improvements were observed in time efficiency, workflow effectiveness, labor productivity, and quality control as a result of more structured operational processes and continuous monitoring.

Overall, this study highlights the importance of systematic waste control and continuous improvement in the food and beverage industry. The application of the PDCA cycle provides a practical and sustainable framework for cafes to control raw material waste, enhance operational efficiency, and maintain competitiveness in an increasingly competitive market environment.

References

- Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance: The International Journal of Business in Society*, 20(7), 1409–1428. <https://doi.org/10.1108/CG-06-2020-0258>
- Ardiansyah, R., & Hersugondo. (2024). Stakeholder theory and sustainability disclosure: Evidence from emerging markets. *Journal of Accounting and Investment*, 25(1), 45–60.
- Ariasinta, D., Nugroho, A., & Prasetyo, E. (2024). Corporate governance mechanisms and ESG disclosure quality: Evidence from Indonesian listed companies. *Asian Journal of Business and Accounting*, 17(2), 89–108.
- Bannier, C. E., Bofinger, Y., & Rock, B. (2022). Doing safe by doing good: ESG investing and corporate social responsibility. *Journal of Banking & Finance*, 140, 106498. <https://doi.org/10.1016/j.jbankfin.2022.106498>
- Broadstock, D. C., Chan, K., Cheng, L. T. W., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19. *Journal of Sustainable Finance & Investment*, 11(4), 1–19.
- Cakranegara, P. A. (2021). Corporate social responsibility disclosure and firm value: Evidence from Indonesia. *Journal of Asian Finance, Economics and Business*, 8(2), 817–826.
- Cohen, G., Holder-Webb, L., & Wood, D. (2023). ESG disclosure and investor decision-making: An empirical analysis. *Journal of Sustainable Finance & Investment*, 13(1), 1–20.
- Daugaard, D., & Ding, A. (2022). Global drivers for ESG performance: The role of board independence. *Finance Research Letters*, 46, 102371. <https://doi.org/10.1016/j.frl.2021.102371>
- El Ghoul, S., Guedhami, O., Kim, H., & Park, K. (2023). Corporate environmental responsibility and investor behavior. *Journal of Corporate Finance*, 78, 102325. <https://doi.org/10.1016/j.jcorpfin.2022.102325>
- Friede, G., Busch, T., & Bassen, A. (2021). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 11(1), 1–19.
- García-Sánchez, I. M., Raimo, N., Marrone, A., & Vitolla, F. (2022). How does integrated reporting change investor perceptions? *Business Strategy and the Environment*, 31(6), 2431–2446.
- Judhistira Audito, M. (2024). Signaling theory in sustainability reporting: The role of ESG disclosure in capital markets. *International Journal of Financial Research*, 15(1), 112–124.

- Khan, M., Serafeim, G., & Yoon, A. (2021). Corporate sustainability: First evidence on materiality. *The Accounting Review*, 96(4), 169–203. <https://doi.org/10.2308/TAR-2019-0505>
- Lins, K. V., Servaes, H., & Tamayo, A. (2021). Social capital, trust, and firm performance during crises. *Journal of Finance*, 76(4), 1777–1824.
- Lokuwaduge, C. S. D. S., & Heenetigala, K. (2021). Integrating ESG risk into corporate decision-making. *Journal of Risk and Financial Management*, 14(7), 314. <https://doi.org/10.3390/jrfm14070314>
- Nekhili, M., Nagati, H., Chtioui, T., & Rebolledo, C. (2021). Corporate social responsibility disclosure and market value. *Journal of Business Ethics*, 171(3), 555–577.
- Orazalin, N., & Mahmood, M. (2023). ESG reporting, board characteristics, and firm performance. *International Journal of Accounting & Information Management*, 31(1), 1–23.
- Qureshi, M. I., Elashry, A., & Hassan, A. (2020). Sustainability reporting and corporate performance: Evidence from emerging economies. *Sustainability*, 12(10), 1–18.
- Saidat, Z., Silva, M., & Seaman, C. (2022). The relationship between ESG disclosure and firm value: The moderating role of governance. *Sustainability*, 14(19), 12345.
- Salira, R. P., & Prasetyo, A. B. (2024). Independent commissioners and agency conflict: Evidence from Indonesian public companies. *Journal of Governance and Regulation*, 13(1), 67–79.
- Shafira, N., & Astuti, D. A. (2024). ESG disclosure and firm performance: The moderating role of corporate governance. *Jurnal Akuntansi dan Keuangan Indonesia*, 21(1), 55–72.
- Shuai, C., Zhou, Y., & Zhang, J. (2022). Corporate governance and the effectiveness of ESG disclosure. *Business Strategy and the Environment*, 31(4), 1681–1695.
- Taliento, M., Favino, C., & Netti, A. (2021). Impact of environmental, social, and governance information on economic performance. *Business Strategy and the Environment*, 30(1), 1–14.
- Yang, Y., Li, X., & Lin, Z. (2022). ESG performance, disclosure, and firm value: Evidence from Asian capital markets. *Sustainability Accounting, Management and Policy Journal*, 13(4), 987–1010.
- Zumente, I., & Bistrova, J. (2021). ESG importance for long-term shareholder value creation. *Baltic Journal of Economics*, 21(1), 1–20.