JOURNAL INTELEKTUAL
2026, VOL. 5, NO. 1, PP. 64-76
https://ejournal.institutppi.ac.id/index.php/jin/

Catalyzing ESG Disclosures on Extractive Sector Firm Value: Integrating Environmental, Financial, and Audit Committee Performance

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ARTICLE INFO

ABSTRACT

Keywords:
Environmental Performance, Financial Performance, Audit Committe, ESG Disclosure, Firm Value.

Introduction/Main Objectives: This study examines the effects of environmental performance, financial performance, and audit committees on firm value, with ESG disclosure as a moderating variable. Background Problems: The study responds to growing market sensitivity to sustainability issues and regulatory pressures in the mining sector. Research Methods: A quantitative approach with panel data analysis was applied to mining companies listed on the Indonesia Stock Exchange during 2020–2024 using EViews. Finding/Results: Environmental performance positively affects firm value, while financial performance has a negative effect. The audit committee has no significant effect. ESG disclosure strengthens the effects of environmental and financial performance on firm value and changes the financial performance effect from negative to positive. However, ESG disclosure does not moderate the relationship between the audit committee and firm value. Conclusion: ESG disclosure serves as a strategic instrument for enhancing corporate credibility and firm value while supporting long-term sustainability in the mining sector.

Pendahuluan/Tujuan: Penelitian ini menguji pengaruh kinerja lingkungan, kinerja keuangan, dan komite audit terhadap nilai perusahaan, dengan pengungkapan ESG sebagai variabel moderasi. Latar Belakang Masalah: Penelitian ini dilatarbelakangi oleh meningkatnya perhatian pasar terhadap isu keberlanjutan dan tekanan regulasi pada sektor pertambangan. Metode Penelitian: Pendekatan kuantitatif dengan analisis data panel diterapkan pada perusahaan pertambangan yang terdaftar di Bursa Efek Indonesia selama periode 2020–2024 menggunakan EViews. Temuan/Hasil: Kinerja lingkungan berpengaruh positif terhadap nilai perusahaan, sedangkan kinerja keuangan berpengaruh negatif. Komite audit tidak berpengaruh signifikan. Pengungkapan ESG memperkuat pengaruh kinerja lingkungan dan kinerja keuangan terhadap nilai perusahaan serta mengubah pengaruh kinerja keuangan dari negatif menjadi positif. Namun, pengungkapan ESG tidak memoderasi hubungan antara komite audit dan nilai perusahaan. Kesimpulan: Pengungkapan ESG merupakan instrumen strategis untuk meningkatkan kredibilitas dan nilai perusahaan serta mendukung keberlanjutan jangka panjang di sektor pertambangan.

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INTRODUCTION

The mining sector is a strategic sector that significantly contributes to the Indonesian economy. Its wealth of natural resources, including minerals and coal, such as nickel, gold, bauxite, and coal, makes Indonesia one of the world's leading producers. This sector's role extends beyond providing industrial raw materials, contributing significantly to state revenue, job creation, and increased investment. According to national economic data, the mineral and coal sector contributed approximately 10.5% to Indonesia's Gross Domestic Product (GDP) in 2023. This demonstrates the mining sector's strategic role in supporting national economic growth.

Furthermore, mining companies listed on the Indonesia Stock Exchange (IDX) are also a highly sought after sector by investors. This is due to the mining sector's characteristics, which offer high profit potential in line with fluctuations in global commodity prices. From an investment theory perspective, this sector falls into the high risk category high return, where the high level of risk is offset by the potential for large profits (Tandelilin, 2017). Therefore, firm value in the mining sector is an important indicator reflecting investor perceptions of the company's future performance and prospects.

However, despite its significant contribution to the economy, the mining sector also has complex characteristics due to its potential negative impacts on the environment and society. Intensive natural resource exploitation often leads to environmental damage such as deforestation, water pollution, and land degradation. This indicates that the mining sector has a high level of externalities (Gray et al., 1995). This situation puts pressure on companies to focus not only on profit but also on environmental sustainability.

In recent years, the Indonesian government has demonstrated a strong commitment to increasing oversight of the mining sector. This is demonstrated through various policies such as mandatory reclamation, tightening of mining business permits, and imposing sanctions on companies that fail to comply with environmental regulations. The phenomenon of suspension of mining operations and revocation of Mining Business Permits (IUP) demonstrates that environmental compliance is no longer voluntary but has become an obligation that companies must fulfill. From an institutional theory perspective, this reflects regulatory pressures that force companies to adjust their behavior to comply with prevailing norms (DiMaggio & Powell, 1983).

Empirical phenomena in Indonesia further reinforce the urgency of environmental management in the mining sector. One event that drew attention was the floods and landslides that struck Aceh, North Sumatra, and West Sumatra in late 2025. The disaster had a devastating impact, with deaths ranging from hundreds to nearly a thousand and millions of people affected. Data shows that at least 969 people died and more than 3 million people were affected by the disaster (Indonesia Business Post, 2025). In addition to extreme weather factors, various parties believe that environmental degradation, including deforestation and extractive industry activities such as mining, also exacerbated the impact of the disaster. International media reports also stated that environmental damage was a factor that exacerbated the massive flooding in Sumatra (Reuters, 2025).

This phenomenon demonstrates that environmental damage not only impacts ecological aspects but also poses broad economic and social risks. Within the framework of legitimacy theory, companies are required to maintain alignment between operational activities and social values to maintain legitimacy within society (Suchman, 1995). Failure to manage environmental impacts can have financial consequences such as increased operational costs, litigation risk, and decreased investor confidence (Clarkson et al., 2008). Therefore, environmental performance is a critical factor in determining a company's sustainability and value.

In addition to environmental disasters, the Indonesian government has also demonstrated its commitment to enforcing environmental regulations by revoking problematic mining permits. In 2025, the government officially revoked four Mining Business Permits (IUP) in the Raja Ampat region for violations of environmental regulations (The Jakarta Post, 2025). This policy demonstrates that compliance with environmental aspects has become a crucial factor in the sustainability of the company's operations.

However, this policy also has implications for the investment climate. On the one hand, regulatory enforcement enhances the government's credibility in maintaining sustainability. However, on the other hand, regulatory uncertainty can increase investment risks for companies. This situation suggests that companies need to have appropriate strategies for managing environmental performance to maintain corporate value amidst increasingly stringent regulatory pressures.

As a form of evaluation of corporate environmental performance, the government, through the Ministry of Environment and Forestry, developed the Corporate Performance Rating Program in Environmental Management (PROPER). This program assesses companies based on their level of compliance and performance in environmental management. The PROPER rating serves not only as a monitoring tool but also as a means of communicating to the public about a company's environmental performance. From a signaling theory perspective, the PROPER rating can serve as a signal for investors in assessing a company's risk and quality (Spence, 1973). Companies with good PROPER ratings tend to gain higher investor trust.

Despite this, some companies still receive low PROPER ratings, such as red and black. This indicates that corporate environmental performance in the mining sector is still suboptimal. This raises questions about the extent to which companies truly prioritize environmental performance and how this impacts corporate value.

With increasing attention to sustainability issues, the concept of Environmental, Social, and Governance (ESG) has become increasingly prominent in the business and investment world. ESG disclosure is a form of non financial information disclosure that reflects how a company manages environmental, social, and governance aspects. ESG disclosure is important because it can reduce information asymmetry between companies and investors (Dhaliwal et al., 2011). Stakeholder theory requires companies to meet the information needs of various stakeholders (Freeman, 1984).

For the mining sector, ESG disclosure is highly relevant due to the high environmental risks inherent in its operations. Companies that transparently disclose ESG information tend to have better reputations and higher levels of investor trust (Friede et al., 2015). However, the level of ESG disclosure in Indonesia varies widely across companies, leading to differences in investor perceptions of corporate value.

In addition to environmental and sustainability aspects, financial performance remains a key factor in assessing a company's success. Financial performance reflects a company's ability to generate profits and manage resources efficiently (Brigham & Houston, 2019). In the mining sector, fluctuations in global commodity prices cause financial performance to become unstable. Therefore, companies with strong financial performance are better able to maintain their value. Signaling theory suggests that high financial performance provides investors with positive information about a company's future Prospect (Ross, 1977).

Furthermore, corporate governance plays a crucial role in enhancing corporate transparency and accountability. One crucial mechanism within GCG is the audit committee. The audit committee oversees the financial reporting process, internal control systems, and regulatory compliance. An effective audit committee can mitigate agency conflicts between management and shareholders (Jensen & Meckling, 1976).

Although various studies have examined the relationship between environmental performance, financial performance, corporate governance, and firm value, previous research findings remain inconsistent. Some studies show a positive effect, while others show insignificant results. This inconsistency suggests that the relationship between these variables is not simple and is influenced by other factors.

Furthermore, most previous studies have examined variables partially and have not integrated all variables into a comprehensive model. The use of ESG disclosure as a moderating variable is also relatively limited, even though this variable has the potential to strengthen the relationship between company performance and firm value. Furthermore, the role of the audit committee as a governance mechanism has received little attention in previous research.

Based on the description, this study was conducted to fill the research gap by integrating environmental performance, financial performance, and audit committees in one research model, and placing ESG disclosure as a moderating variable. This study is expected to provide a more comprehensive understanding of the factors that influence firm value in the mining sector. The introduction includes, among other things, the background of the problem in accordance with the focus of the study, revealing the gap between the ideal and the reality, supported by relevant theories and current research on the problem, and revealing the novel contribution of the article. The final section of the introduction clearly states the research objectives.

LITERATURE REVIEW

Legitimacy Theory

Legitimacy theory explains that companies need to align their operational activities with societal values and expectations to maintain social support. According to Suchman (1995), legitimacy arises when a company's actions are perceived as conforming to prevailing norms. In the mining sector, this theory is crucial because corporate activities often result in environmental impacts such as pollution, deforestation, and land degradation. Therefore, companies need to demonstrate their responsibility through environmental performance and ESG disclosure to gain public and investor trust. On the other hand, Narula, Rao, and Rao (2023) dan Ayem et al., (2025) explain that ESG can increase firm value because it strengthens relationships with stakeholders and increases market trust. Therefore, legitimacy theory is used in this study to explain that environmental performance and ESG disclosure are a form of company effort to gain social acceptance, which ultimately can influence firm value.

Signal Theory

Signaling theory emphasizes that firms convey information to investors to reduce information asymmetry between internal and external parties (Spence, 1973; Ross, 1977). Within this framework, companies act as signal senders, communicating their condition, prospects, and intrinsic value through various forms of disclosure, while investors, as signal receivers, use this information to assess the company and reduce uncertainty (Jones & Murrell, 2001; Connelly et al., 2011). These signals can include environmental performance, financial performance, audit committee effectiveness, and Environmental, Social, and Governance (ESG) disclosures, which reflect the quality of governance, sustainability commitments, and long term orientation of the company (Ching & Gerab, 2017; Bergh et al., 2014). Good performance and credible ESG disclosures will strengthen investor confidence because they demonstrate the company's ability to manage risk and create value sustainably (Sundani & Arsjah, 2024; Buallay, 2022). Conversely, limited or poor quality disclosures can create market distrust and reduce firm value (Huang, 2022; Xie et al., 2019).

Firm value

Firm value reflects the market's assessment of the company's performance and prospects, which is reflected in the share price (Hafidz & Deviyanti, 2022). This indicator shows management's ability to create sustainable financial performance while building investor confidence. In the context of this research, firm value is influenced by environmental performance, financial performance, and audit committee effectiveness as internal factors that signal company quality. Firm value measurement generally uses the Tobin's Q ratio because it is able to reflect the comparison between market value and book value of assets as well as investor expectations regarding growth and risk (Broadstock et al., 2018; Keter et al., 2024). A high Tobin's Q value indicates that the company is perceived as having good prospects and is attractive to investors. In addition, ESG disclosure acts as a moderating variable that can strengthen the influence of these factors on firm value, because it increases transparency and investor confidence in business sustainability.

Environmental Performance

Environmental performance reflects a company's ability to manage ecological impacts through waste control, emissions, and sustainability efforts, which is a crucial aspect, particularly in high risk sectors (Mishra & Mohanty, 2020). In Indonesia, this performance is measured through PROPER, a rating system that reflects a company's level of environmental compliance and management (Juniarti et al., 2019).

Table 1. Indonesian PROPER Rating System

PROPER Rating	Score
Gold	5
Green	4
Blue	3
Red	2
Black	1

In this study, environmental performance is seen as a factor that influences firm value because it can increase efficiency, reputation, and investor attractiveness (Eccles et al., 2014). Transparency of environmental performance also serves as a positive signal of sustainability commitment that can strengthen investor confidence (Clarkson et al., 2008; Choi et al., 2023). This role is further strengthened when supported by ESG disclosure as a moderating variable, which clarifies sustainability information and thus has a greater impact on increasing firm value (Hafidz & Deviyanti, 2022).

H1: Environmental performance has a positive effect on firm value

Financial performance

Financial performance reflects a company's ability to generate profits through operational efficiency and optimal asset management (Vaitiekuniene et al., 2024). Profitability, particularly as measured by Return on Assets (ROA), is a key indicator in assessing management's effectiveness in creating corporate value (Aydogmus et al., 2022). A higher ROA

indicates greater asset utilization efficiency and greater potential for increasing corporate value, particularly in asset intensive sectors (Endri et al., 2019; Dorothy & Endri, 2024). Furthermore, companies with strong financial performance tend to have a better capacity to consistently implement sustainability practices. In this context, ESG disclosure acts as a moderating variable, strengthening the influence of financial performance on firm value by increasing transparency and stakeholder trust (Sulistyawati & Dwi, 2023).
H2: Financial performance has a positive effect on firm value

Audit Committee

The audit committee is a governance mechanism that plays a crucial role in overseeing the quality of reporting and ensuring the transparency of corporate information. The effectiveness of an audit committee is reflected in its independence, expertise, and the intensity of oversight, which can improve accountability and the quality of disclosure, including ESG information (Belouadah, 2026; Seow, 2025). In practice, the audit committee functions as an internal control mechanism, ensuring that reports are relevant, reliable, and free from managerial bias, thereby reducing information asymmetry between management and investors (Pasaribu & Soeratin, 2024). Furthermore, audit committee characteristics such as independence, financial expertise, and diversity have been shown to improve the quality of ESG disclosures and strengthen the company's monitoring function. This role is increasingly strategic because audit committees not only oversee financial reports but also ensure the credibility of non financial information related to the company's sustainability (Burca et al., 2024). Therefore, an effective audit committee can increase investor confidence, strengthen transparency, and contribute to increased firm value through improved disclosure quality.
H3: The audit committee has a positive effect on firm value.

Environmental, Social, and Governance (ESG)

Environmental, Social, and Governance (ESG) is an indicator that assesses a company's commitment to sustainability practices through environmental, social, and governance aspects (Bhaskaran et al., 2020). In this study, ESG disclosure is positioned as a moderating variable that can strengthen the influence of environmental performance, financial performance, and audit committees on firm value. ESG disclosure increases transparency and reduces information asymmetry, thereby strengthening investor confidence and corporate accountability (Ching & Gerab, 2017; De Villiers et al., 2022). In addition, the implementation of standards such as GRI also increases the legitimacy and credibility of companies in the eyes of the market (Khan et al., 2023). Although several studies have found that ESG contributes positively to firm value Quintiliani (2022), inconsistent results suggest that its effectiveness depends on context and investor perceptions (Behl et al., 2022; Duque Grisales & Aguilera Caracuel, 2021). However, ESG still plays a strategic role in strengthening governance and stakeholder relationships, thus potentially increasing firm value (Friske et al., 2023).
H4: Environmental, Social, and Governance (ESG) can moderate environmental performance on firm value.
H5: Environmental, Social, and Governance (ESG) can moderate financial performance on firm value.
H6: Environmental, Social, and Governance (ESG) can moderate the audit committee's impact on firm value.

RESEARCH METHOD

This study uses a quantitative approach with an explanatory (causal) design to examine the functional relationship between environmental performance, financial performance, and audit committees on firm value, with Environmental, Social, and Governance (ESG) disclosure as a moderating variable. The research focuses on the mining sector listed on the Indonesia Stock Exchange (IDX) during the 2020-2024 period. The data used is secondary data harvested through documentation methods on annual reports and sustainability reports officially published by issuers.

The sample was determined using a purposive sampling technique to obtain credible and relevant data representation for the research objectives. Inclusion criteria included: (1) mining companies consistently listed on the IDX without being delisted during the observation period; (2) consecutively publishing audited financial statements ending on December 31; and (3) presenting comprehensive information regarding PROPER ratings, audit committee composition, and ESG disclosure parameters. Based on these criteria, 17 companies met the requirements, forming a unit of analysis of 85 observations (balanced panel data).

The dependent variable, Firm Value, is proxied by Tobin's Q to capture market perceptions of management efficiency and future growth prospects (Broadstock et al., 2018; Keter et al., 2024). The first independent variable, Environmental Performance, is measured using the PROPER rating score from the Ministry of Environment and Forestry, which reflects a corporation's level of ecological compliance (Juniarti et al., 2019). Second, Financial Performance is measured using the Return on Assets (ROA) ratio as an indicator of profitability (Aydogmus, 2022). Third, the Audit Committee is measured by the size of the committee membership to represent the strength of internal oversight (Burca et al., 2024; Kholillulloh et al., 2024). Meanwhile, ESG Disclosure acts as a moderating variable measured through a content analysis method based on the Global Reporting Initiative (GRI) Standards (Ching & Gerab, 2017). The moderation effect is analyzed through the interaction variable between the ESG score and the three main independent variables.

Data analysis was performed using panel data regression methods with the aid of EViews software. The testing phase began with descriptive statistical analysis and classical assumption testing to ensure the model was free from estimation bias. The selection of the most efficient estimation model is carried out using the Chow test, the Hausman test, and the Lagrange Multiplier test to choose between the Common Effect Model (CEM), the Fixed Effect Model (FEM), or the Random Effect Model (REM). Furthermore, hypothesis testing is conducted using Moderated Regression Analysis (MRA) to examine the significance of ESG interactions in strengthening or weakening the relationship between the independent variables and firm value at a 5% significance level (Sugiarto, 2022).

RESULTS

Panel Model Feasibility Test

Table 2. Model Selection Summary

Model Testing	Probability	Decision
Chow Test	0.0000	Fixed Effect
Hausman Test	0.0085	Fixed Effect

Source: Processed data (EViews 12)

Based on the results of the Chow and Hausman tests, the probability values obtained were 0.0000 and 0.0085, respectively, which are less than 0.05, so the best model selected was the Fixed Effect Model (FEM). This model is considered capable of capturing heterogeneity between companies that cannot be explained by other models (Widarjono, 2018).

t-Test (Partial & Effect Interpretation)

Table 3. Partial Test and Interaction Effect Test – MRA

Variables	Coefficient	Prob.	Direction	Decision	Interpretation
PROPER	0.1151	0.0000		Accepted	Significant positive
ROA	-16.814	0.0217	-	Rejected	Significant negative
KA	2.3791	0.4452	-	Rejected	Not significant
PROPER*ESG	0.2659	0.0328	+	Accepted	Moderation strengthens
ROA*ESG	5.3666	0.0002	+	Accepted	Moderation strengthens
KA*ESG	-0.2784	0.9452	-	Rejected	Moderation is not significant

Source: Processed data (EViews 12)

Partial test results indicate that environmental performance (PROPER) has a positive and significant effect on firm value, indicating that better environmental performance leads to higher investor appreciation. Financial performance (ROA) has a significant negative effect, indicating that profitability is not always positively responded to by the market, possibly due to risk or sustainability considerations. Meanwhile, the audit committee has no significant effect on firm value, thus not being a primary factor in investor assessments.

In terms of moderation, ESG disclosure proved to act as a pure moderator, as the interaction variable showed a significant effect, while in some cases the primary variable was inconsistent. Specifically, ESG was able to strengthen the influence of environmental and financial performance on firm value, meaning sustainability transparency increases the relevance of information for investors. However, ESG was unable to moderate the relationship between audit committees and firm value, as the interaction result was insignificant. This confirms that the effectiveness of ESG as a moderating variable is selective and depends on the type of information a company provides to the market.

Goodness of Fit Model Test

Table 4. Overall Model Evaluation

Criteria	Mark	Interpretation
Adjusted R-Square	0.698703	The model explains 69.87% of the variation in firm value.
Prob (F-statistic)	0.000000	Simultaneous significant model

Source: Processed data (EViews 12)

The test results show that the Adjusted R-Square value is 0.698703, which means that the variables of environmental performance, financial performance, audit committee, and ESG moderation interaction are able to explain the variation in firm value by 69.87%, while the rest is explained by other factors outside the model. The Prob value (F-statistic) of 0.000000 <0.05 indicates that the model is simultaneously significant. Thus, the Fixed Effect model used has a good ability to explain the relationship between the research variables. A simultaneously significant model indicates that the combination of independent variables is relevant in explaining the phenomenon under study (Ghozali, 2021).

DISCUSSION

Environmental performance has a positive effect on firm value

The results of the analysis show that environmental performance, as represented by the PROPER rating, has a significant positive influence on firm value. This phenomenon indicates that in the Indonesian mining sector during the 2020-2024 period, the efficiency of ecological risk management has transformed into a major determinant of market valuation. Amid tightening regulations and increasing risks of environmental degradation, investors tend to place higher value on companies with superior environmental performance, as they are perceived to have greater operational resilience and measurable long term sustainability prospects.

Theoretically, this finding strengthens the Legitimacy Theory, where achieving a high PROPER rating functions as an instrument of social recognition that aligns corporate activities with public expectations. Compliance with environmental standards creates a positive image that reduces the potential for social conflict and regulatory demands. From the Signaling Theory perspective, environmental performance acts as a crucial non financial information load to mitigate information asymmetry. This “green” signal provides confidence to the market that the company is capable of internalizing environmental costs into its competitive value strategy.

Empirically, this study aligns with the findings of Eccles et al. (2014) and Fatemi et al. (2018), which emphasized the role of reputation and risk mitigation in transmitting value enhancement. In the domestic context, similar findings also indicate that PROPER based environmental performance can increase transparency and corporate legitimacy in the eyes of investors (Hafidz & Deviyanti, 2022; Lestari & Restuningdiah, 2021). However, this study also confirms the discourse regarding the "cost burden" of environmental investment, which in some literatur is considered to degrade short term value (Duque Grisales & Aguilera Caracuel, 2021; Behl et al., 2022; Nollet et al., 2016). At the national level, there are also findings that environmental disclosures are not necessarily responded positively by investors if they are not accompanied by strong financial performance or are considered merely symbolic (Sedyasana & Wijaya, 2024). However, in the context of the extractive industry on the IDX, the effectiveness of environmental performance has been shown to be linear to valuation. This proves that environmental disclosure in Indonesia is not merely a symbolic act, but a strategic instrument in investment decision-making. Thus, environmental performance is no longer a cost center, but a strategic asset in creating shareholder value.

Financial performance has a negative impact on firm value

The analysis shows that financial performance, as measured by Return on Assets (ROA), has a significant negative impact on firm value. This phenomenon indicates a paradigm shift among investors in the mining sector, where high profitability is no longer the sole determinant of market value appreciation. This finding reflects market sentiment that tends to link short-term profits to the intensity of natural resource exploitation, which inherently increases a company's environmental and sustainability risk profile.

Theoretically, this anomaly reflects a distortion in the signaling theory mechanism. A strong profitability signal can be diminished in significance if it isn't accompanied by adequate transparency of non-financial information. Investors today tend to mitigate risk through a holistic approach, leading to a more conservative response to high returns (overreaction) if it isn't supported by quality governance and credible ESG commitments.

These findings reinforce the literature suggesting that the correlation between financial performance and market valuation is nonlinear and dependent on long-term risk mitigation (Nollet et al., 2016; Duque Grisales & Aguilera Caracuel, 2021; Putri & Lismawati, 2023; Sedyasana & Wijaya, 2024). While several traditional studies (Jensen, 1986; Fama & French, 1992; Dahlan et al., 2023) maintain the argument that asset efficiency is a positive catalyst for firm value, the results of this study confirm the dominance of sustainability oriented investment trends in the domestic market (Buallay, 2022). These differing discourses demonstrate that the impact of financial performance is highly dependent on the industry context and the evolution of investor preferences, which now prioritize the integration of profitability with ecological responsibility and corporate governance.

The audit committee has no effect on firm value

Empirical results indicate that audit committees have no significant influence on firm value. This phenomenon reflects that structural governance mechanisms are not necessarily capable of transforming market perceptions if their implementation is merely an administrative formality. Within the framework of signaling theory, audit committees fail to articulate a sufficiently strong signal of supervisory credibility for investors to respond. The market tends to divest attention from normative governance indicators and prioritize signals that directly impact the company's fundamental risk and performance.

From a legitimacy theory perspective, the existence of audit committees in the research sample tends to serve as symbolic instruments for regulatory compliance. Meeting minimum standards for audit committee structure is insufficient to establish strong legitimacy in the eyes of shareholders, resulting in marginal contribution to valuation enhancement. This finding aligns with studies by (Saputra et al., 2024; Anjani, 2023; Belouadah, 2026), which emphasize that audit committee effectiveness is often indirect and focuses more on reporting quality than on creating immediate market value.

However, these results contradict Velte's (2023) findings, which suggest a positive correlation through independence and competence. This discrepancy suggests that the audit committee's impact is contingent and highly dependent on the substantive expertise of its members. In the context of the Indonesian mining industry for the 2020-2024 period, the audit committee does not appear to be functioning optimally as a determinant of firm value, but rather merely as a regulatory artifact that requires strategic capacity strengthening to make a real contribution to corporate valuation.

Environmental, social, and governance (ESG) can moderate by strengthening environmental performance towards firm value

The analysis results prove that ESG disclosure acts as a moderator that strengthens the influence of environmental performance on firm value. Empirically, a company's commitment to providing comprehensive ESG disclosure serves as an amplification mechanism that clarifies the ecological quality signal to the market. Based on signaling theory, this transparency reduces information asymmetry by validating real environmental performance into financially relevant data. This finding aligns with Fatemi et al. (2018) and Ching & Gerab (2017), who assert that the quality of non financial disclosure can increase the relevance of information for investors, thereby strengthening the impact of sustainability performance on market valuation. Without adequate ESG transparency, a company's environmental achievements are at risk of information discounting, where the market fails to appreciate the intrinsic value of ecological compliance.

Viewed from the perspective of legitimacy theory, the integration of superior environmental performance and ESG disclosure reflects the fulfillment of multidimensional accountability to stakeholders. This synergy confirms that mining issuers are not simply complying with formal regulations but are proactively addressing global social expectations. However, these results contrast with the findings of Duque Grisales & Aguilera Caracuel (2021) and Behl et al. (2022), who argued that investing in ESG aspects is often viewed as an operational cost burden that can distort short term profitability. Contrary to these skeptical views, this study shows that in high-risk sectors like mining, high quality ESG disclosure is actually an effective risk mitigation tool. The validity of this signal can eliminate concerns regarding greenwashing practices, thus strategically accelerating investor confidence and increasing firm value in a sustainable manner.

Environmental, social, and governance (ESG) can moderate by strengthening financial performance towards firm value

Data analysis reveals the crucial finding that ESG disclosure functions as a moderating variable that not only strengthens but also corrects the directional relationship between financial performance and firm value. Empirically, financial performance, as proxied by ROA, initially showed a negative effect on Tobin's Q. This phenomenon indicates a skeptical perception of investors in the mining sector, where high profitability is often associated with the risk of aggressive resource exploitation and significant environmental externalities. However, through interaction with ESG disclosure, this effect transformed into a positive and significant one. This demonstrates that transparency on environmental, social, and governance issues acts as a clarifying mechanism that shifts market interpretation from viewing profits as a short term risk to viewing them as an indicator of long-term sustainability.

Within the signaling theory framework, ESG disclosure acts as a complementary signal that improves the quality and credibility of financial information. Without ESG validation, high financial performance tends to create information ambiguity that triggers a negative market response. Conversely, integrating ESG reports signals that a company's operations are managed responsibly, effectively reducing information asymmetry and increasing investor confidence. This aligns with the findings of Fatemi et al. (2018) and Buallay (2022), which state that non financial disclosures can increase the value relevance of financial indicators by lowering a corporation's risk profile.

Furthermore, based on legitimacy theory, ESG disclosure serves to "normalize" social acceptance of corporate profits. In the extractive industry for the 2020-2024 period, superior financial performance effectiveness will only be seen as a source of value creation if accompanied by transparent social accountability. These findings confirm that ESG is not merely an administrative obligation, but rather a strategic instrument capable of changing market perceptions of mining companies' financial performance. Thus, quality ESG disclosure is an absolute prerequisite for companies to transform profitability into sustainable market valuation increases.

Environmental, social, and governance (ESG) does not moderate the audit committee's impact on firm value

Statistical testing results revealed that ESG disclosure had no moderating effect on the relationship between audit committees and firm value. This finding confirms that high levels of sustainability disclosure do not necessarily escalate or reform the impact of internal oversight functions on market valuation. Conceptually, this phenomenon indicates a domain separation between the role of the audit committee, which focuses on the rigidity of internal control and financial reporting, and the ESG disclosure orientation, which places greater emphasis on transparency of social and ecological externalities. This insignificance indicates that investors tend to decompose their assessments of internal governance mechanisms and sustainability practices separately, so that the synergy between the two does not produce relevant incremental value for the market.

Viewed from the perspective of signaling theory, the signals emitted through the audit committee structure appear to be perceived by the market only as fulfilling baseline compliance, thus not having a strong enough resonance to be amplified by ESG disclosure. This aligns with the argument of Alareeni & Hamdan (2023), who stated that not all governance elements contribute uniformly to firm value when interacting with ESG parameters. Furthermore, although legitimacy theory emphasizes the importance of accountability, the role of internal audit committees is often less publicly exposed than more visible sustainability narratives. These findings also provide empirical support for the study by Behl et al. (2022), which emphasized that the effectiveness of ESG as a moderating variable is contextual and not universal, particularly in the mining sector, where investor attention is more focused on operational performance indicators and direct environmental impacts than on formal corporate oversight structures.

CONCLUSION

This study yielded several findings that support the argument that investor assessment of mining companies has shifted beyond conventional financial metrics. Between 2020 and 2024, empirical data shows that measurable and consistent environmental performance significantly contributes to positive market perceptions. Companies achieving higher PROPER scores tend to be perceived as having stronger operational resilience, as environmental compliance is not simply a matter of meeting norms but rather a signal of robust long term risk management. One interesting finding that challenges common assumptions is that profitability, typically considered a reflection of business success, is negatively perceived by the market when viewed alone. This dynamic suggests that some investors now view high profits in the extractive sector with caution, as high profits could potentially reflect excessive exploitation intensity. In other words, the market has begun to value the method of profit generation, not just the amount. The presence of an audit committee within a corporate governance structure has not yet had a significant impact on firm value. This does not mean that audit committees are irrelevant, but rather indicates that establishing an audit committee solely based on meeting minimum requirements is insufficient to build market confidence. The market appears to be seeking concrete evidence of effective oversight, rather than merely its formal presence.

The role of ESG disclosure in this study emerged as a crucial element. When companies disclose sustainability information comprehensively and in a structured manner, the relationship between environmental performance and firm value becomes stronger. Furthermore, ESG disclosure can shift the market's perception of profitability, shifting it from a negative perception to a positive signal when accompanied by transparency regarding social and environmental management. This confirms that ESG disclosure is not merely a supplementary report, but rather an information bridge that substantively influences investor interpretation. However, the ability of ESG disclosure to strengthen the relationship between audit committees and firm value was not proven in this study. This suggests that investor trust in internal oversight mechanisms is more independent and not automatically boosted by the volume or quality of sustainability disclosures. Overall, these findings broaden our understanding of the architecture of corporate value creation in the ESG era, while also opening up further discussion about how governance, environmental, and financial aspects can be synergistically integrated.

MANAGERIAL IMPLICATION

The findings of this study suggest that mining companies should integrate environmental performance and ESG disclosure into their core business strategy to enhance firm value and strengthen investor confidence. Environmental performance should be viewed as a strategic investment rather than merely regulatory compliance, while financial performance should be supported by transparent ESG disclosure to demonstrate that profitability is achieved through sustainable business practices. In addition, companies should improve the effectiveness of audit committees by strengthening their competence, independence, and oversight of sustainability-related risks, as formal governance structures alone are insufficient to influence market valuation. These findings also highlight the importance of high-quality ESG disclosure as a strategic communication tool that reduces information asymmetry, enhances corporate credibility, and supports long-term value creation through the alignment of financial, environmental, and governance performance.

LIMITATION AND FUTURE RESEARCH

As with most empirical research, this study is not without several limitations. Focusing solely on mining companies listed on the Indonesia Stock Exchange (IDX), the results cannot necessarily be generalized to other sectors, as each industry has different risk characteristics, regulations, and disclosure patterns. Furthermore, the limited sample size of 17 companies with 85 observations was due to the uneven availability of ESG, PROPER, and audit committee data during the study period. Measuring ESG disclosure using GRI-based content analysis also contains elements of researcher subjectivity, despite the internationally recognized standard. Meanwhile, the audit committee variable is only measured by the number of members, thus failing to capture more substantive aspects such as independence, meeting frequency, and member competence. Finally, the research model only explains 69.87% of the variation in firm value. Therefore, more than 30% of the variance is attributed to factors outside the model, such as ownership structure, leverage, corporate reputation, market sentiment, and macroeconomic conditions, which can also influence firm value.

For academics and researchers, expanding the sample to other sectors such as manufacturing, renewable energy, or financial services could provide a broader perspective on whether the relationships found are sectoral or universal. A longer research period is also important to capture long-term dynamics. In terms of measurement, future research should use more multidimensional audit committee indicators, such as independence, meeting frequency, and member competency. ESG disclosure could also be measured using scores from independent institutions such as MSCI or Refinitiv for more objective results. For companies, these findings emphasize that transparency is not only a reporting obligation but also a value-building tool. Environmental performance and ESG disclosure need to be integrated into business strategies, while audit committees need to play a more active and substantive role. For regulators, these research findings support the importance of standardizing ESG disclosure in Indonesia to ensure that the information received by the market is more qualified, measurable, and able to encourage sustainability-oriented investment.

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