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Environmental, Social, and Governance (ESG) Performance and Corporate Value: Examining the Mediating Role of Operational Efficiency in Indonesian Manufacturing Firms

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Abstract: This study examines the effect of Environmental, Social, and Governance (ESG) performance on the value of manufacturing firms listed on the Indonesia Stock Exchange during 2021–2023, with operational efficiency as a mediating variable. Using a quantitative approach with SmartPLS software, ESG performance is measured through Bloomberg's ESG score, operational efficiency through the Operating Efficiency Ratio, and firm value through Return on Assets. The results show that ESG performance has a positive effect on firm value, while operational efficiency does not significantly mediate this relationship. These findings suggest that the contribution of ESG to firm value is more likely driven by external market perceptions than by internal efficiency improvements, particularly in the short term. This implies that ESG plays a direct role in enhancing firm value, while its indirect effect through operational efficiency remains limited. The study provides practical insights for managers and policymakers on the importance of ESG initiatives in driving firm performance.

Keywords: Environmental, Social, and Governance (ESG), Firm Value, Operational Efficiency, Partial Least Squares Structural Equation Modeling (PLS-SEM), Manufacturing Companies.

INTRODUCTION

Environmental, Social, and Governance (ESG) has emerged as a central focus in both business practices and academic research, driven by increasing global awareness of sustainability challenges. Companies are now expected to integrate ESG considerations into their strategic frameworks, not only to enhance profitability but also to mitigate the broader social, environmental, and governance-related impacts of their operations. This paradigm shift reflects a growing consensus that long-term business success is intrinsically linked to sustainable and ethical corporate behavior.

In Indonesia, the relevance of ESG adoption is becoming increasingly pronounced, especially within the manufacturing sector, which is characterized by high resource consumption and significant environmental footprints. The Indonesian Financial Services

Authority (OJK) and other regulatory bodies have intensified efforts to promote ESG transparency, encouraging firms to align their business strategies with sustainable development goals. A 2022 report by the Global Sustainable Investment Alliance (GSIA) also highlights a notable increase in sustainable investment flows into emerging markets, underscoring the strategic importance of ESG performance for firms seeking to attract capital and maintain competitiveness.

Despite the rising attention towards ESG, empirical evidence on its impact on firm value remains inconclusive. Several studies, such as Meini et al. (2024) and Hersugondo (2024), found that robust ESG practices enhance firm reputation, reduce risk exposure, and ultimately contribute to improved firm value. However, contrasting findings by Mikołajek-Gocejna (2024) indicate that ESG performance does not always translate into financial gains, particularly in markets where ESG-related costs are perceived to outweigh their benefits. These inconsistencies suggest that the relationship between ESG and firm value may be contingent upon various internal and external factors, which have yet to be fully explored in the context of emerging economies like Indonesia.

One of the critical internal factors that could mediate the ESG-firm value relationship is operational efficiency. Operational efficiency reflects a firm's ability to optimize resource utilization, streamline processes, and reduce operational costs, thereby enhancing profitability and sustainability performance. ESG initiatives, such as energy conservation, waste reduction, and supply chain transparency, are designed to improve these internal processes. However, the extent to which operational efficiency serves as a transmission channel for ESG's impact on firm value remains underexplored, particularly within resource-intensive industries like manufacturing. Prior research has predominantly focused on the direct financial effects of ESG, overlooking the potential internal performance improvements that may amplify its value-creation potential.

Additionally, the recent issuance of OJK Regulation Number 13 of 2024 regarding transparency in credit interest rate disclosures further amplifies the relevance of ESG considerations in corporate risk assessments. By encouraging financial institutions to incorporate ESG criteria into their lending practices, this regulation underscores the strategic importance of operational efficiency as a measurable outcome of effective ESG implementation. Firms that can demonstrate tangible efficiency gains through ESG initiatives are likely to benefit from enhanced credibility and reduced financing costs, thereby strengthening their market position.

Given these dynamics, this study seeks to address the existing research gap by examining the mediating role of operational efficiency in the relationship between ESG performance and firm value among Indonesian manufacturing firms. By integrating internal efficiency mechanisms into the analysis, the study aims to provide a more comprehensive understanding of how ESG practices contribute to firm value creation, both directly and indirectly. The findings are expected to offer practical insights for managers and policymakers in developing strategies that leverage ESG initiatives not only for reputational benefits but also for enhancing operational excellence and long-term firm performance.

Freeman's Stakeholder Theory (1984) emphasizes that a company's responsibilities extend beyond its shareholders to include all stakeholders who have an interest in its operations, such as employees, customers, suppliers, local communities, governmental bodies, and the environment. Companies that address stakeholder concerns through Environmental, Social, and Governance (ESG) practices are more likely to earn social approval, customer loyalty, and investor confidence, thereby enhancing firm value. Similarly, the Resource-Based View (RBV) framework (Wernerfelt, 1984; Barney, 1991) explains that ESG-oriented capabilities can serve as strategic resources that are valuable, rare, inimitable, and non-substitutable (VRIN), offering companies a sustainable competitive advantage when effectively managed.

While Xu and Zheng (2024) found that ESG performance is positively associated with corporate reputation, suggesting that effective ESG practices enhance firm image and stakeholder trust, Huimin et al. (2025) identified that internal control mechanisms mediate the relationship between ESG and firm value, highlighting the role of governance in amplifying ESG benefits. In contrast, Hersugondo (2024) revealed that ESG exerts a stronger positive influence on larger companies, which are typically better resourced to implement ESG initiatives efficiently. Conversely, Ida Ayu Putu & Devi (2024) observed a negative correlation between ESG and firm value, suggesting that ESG activities may sometimes be perceived as financial burdens rather than strategic assets, especially in smaller firms with limited resources. This aligns with the Trade-Off Theory, which posits that ESG practices may hinder short-term profitability due to high implementation costs (Al Azizah & Haron, 2025).

Firm value, as a reflection of market perception, has been linked to ESG performance in various studies. Meini et al. (2024) found that ESG positively affects firm value in both Indonesia and Singapore, with a stronger influence observed in Indonesia, signifying ESG's growing relevance in emerging markets. Truong (2024) emphasized that ESG practices are more effective in firms with dispersed ownership structures, where transparency and governance are valued more highly. Tawfiq et al. (2024) further confirmed the positive effect of ESG by showing that it leads to lower leverage and reduced financing costs. However, Rizqillah et al. (2024) reported no significant effect of ESG and digitalization on firm value, indicating that sector-specific factors or measurement limitations might dilute ESG's financial impact. Sun and Zhang (2025) further added that while ESG enhances financial innovation capability, it might limit broader technological impact, especially when ESG initiatives are narrowly focused.

Regarding operational efficiency, Aroul et al. (2022) demonstrated that companies with higher ESG scores tend to exhibit better operational efficiency, owing to practices like sustainable resource management and enhanced process optimization. Similarly, Rohendi et al. (2024) identified Return on Invested Capital (ROIC) as a mediating variable between ESG and firm value, underscoring the role of internal efficiency. Yang et al. (2025) found that Earnings per Share (EPS) significantly mediates the ESG-financial performance relationship, particularly in firms facing financial constraints, further reinforcing the relevance of internal efficiency mechanisms. However, studies like Mikołajek-Gocejna (2024) reported no significant impact of ESG on firm value in Poland, suggesting that contextual differences, such as regulatory frameworks and market maturity, influence ESG's effectiveness. A more recent study by Azizah and Haron (2025) found that the relationship between ESG and operational efficiency evolved post-pandemic, with governance factors being the most consistently influential, while environmental dimensions remained statistically weak.

Likewise, ESG-oriented firms tend to foster innovation through sustainable practices, which act as a platform for knowledge development and strategic renewal (Sun & Zhang, 2025). This aligns with the knowledge-based view (KBV), which sees ESG as a driver of internal capability building through learning, adaptation, and stakeholder engagement (Mukhtar et al., 2024). Firms that strategically embed ESG into their innovation pipeline are also more likely to access external resources such as green financing or strategic partnerships (Cabaleiro-Cerviño & Mendi, 2025).

These mixed findings indicate that the relationship between ESG, operational efficiency, and firm value is complex and context-dependent. While many studies affirm ESG's positive impact through both external stakeholder perceptions and internal efficiency improvements, the mediating role of operational efficiency remains underexplored, particularly in Indonesia's manufacturing sector. This study seeks to address this research gap by examining how ESG performance influences firm value through operational efficiency, providing insights into the internal transmission mechanisms of ESG-driven value creation within the Indonesian context.

Companies that implement strong ESG practices tend to have better reputations, stronger relationships with stakeholders, and lower risk levels. These factors can enhance investor and market confidence, which ultimately contributes to increased firm value. Kim, Jang, and Seok (2023) also emphasize that ESG practices have a positive and significant impact on firm value, especially in industries that are highly sensitive to sustainability issues. Stakeholder Theory explains that companies that meet stakeholder expectations—including those of investors—are more likely to gain market trust and enhance their firm value. Conversely, robust ESG performance may serve as a market signal that the company upholds strong governance standards and is proficient in handling long-term risks. Well-executed ESG initiatives demonstrate the firm's dedication to sustainability and social accountability—factors that are becoming increasingly influential in guiding investor decisions.
H1: ESG has a positive and significant effect on firm value.

The implementation of strong ESG (Environmental, Social, and Governance) practices encourages companies to adopt environmentally friendly technologies, reduce waste, and improve the effectiveness of business processes, thereby directly impacting operational efficiency. Aroul, Sabherwal, and Villupuram (2022) found that companies with high ESG scores exhibit better operational efficiency, particularly in the real estate sector in the United States. In addition, consistent ESG practices contribute to the creation of a productive work culture, reduce operational risks, and lower long-term compliance costs. From the Resource-Based View (RBV) perspective, the operational efficiency resulting from strong ESG implementation can be regarded as a strategic asset that holds value, is uncommon, difficult to replicate, and cannot be replaced. Therefore, ESG practices are not merely compliance tools, but also managerial strategies that create sustainable competitive advantages.
H2: ESG has a positive and significant effect on operational efficiency.

Companies with high operational efficiency are able to generate greater profits at lower costs, thereby enhancing profitability and competitiveness. This attracts investor interest and increases the company’s market valuation, which is reflected in a higher Tobin’s Q. Effectively implemented ESG practices, such as improving energy efficiency, responsible supply chain management, and transparent governance, can improve operational efficiency and reduce long-term costs, ultimately contributing positively to firm value (Friede, Busch, and Bassen, 2015). This demonstrates that sound operational efficiency—driven by strong environmental practices—can positively impact firm value. Stakeholder Theory explains that companies that meet stakeholder expectations, including those of investors, enhance market trust and firm value. High operational efficiency reflects good resource management, which is appreciated by investors.
H3: Operational efficiency has a positive and significant effect on firm value.

Good ESG practices enhance operational efficiency, which in turn improves company profitability and market valuation. Thus, operational efficiency acts as a mediator in the relationship between ESG and firm value. From the Resource-Based View (RBV) perspective, operational efficiency enhanced through ESG becomes a valuable and inimitable strategic asset. At the same time, Stakeholder Theory emphasizes that stakeholders' positive response to ESG commitments can strengthen external relationships and business stability. Therefore, both theoretically and empirically, operational efficiency can be viewed as a crucial mechanism that bridges the impact of ESG on increasing firm value.
H4: Operational efficiency mediates the positive effect of ESG on firm value.

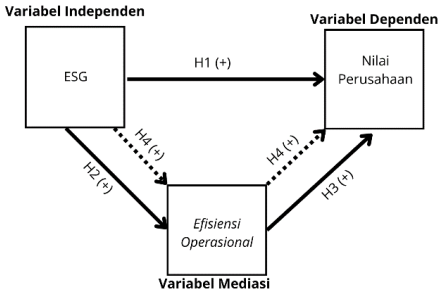


Figure 1. Conceptual Framework

METHODS

This research adopts a quantitative method to analyze the effect of Environmental, Social, and Governance (ESG) performance on firm value, considering operational efficiency as a mediating variable. The data is analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software. PLS-SEM is selected due to its suitability for small-to-medium sample sizes and its capacity to model complex relationships involving latent constructs using both formative and reflective indicators. Additionally, PLS-SEM is effective in assessing mediation effects and does not require strict assumptions regarding data normality, making it appropriate for this study.

The data collection technique involves extracting historical firm-level indicators from Bloomberg Terminal, focusing on manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period. The variables used in this study include ESG scores, Operating Efficiency Ratios (OER), and Return on Assets (ROA), all obtained from Bloomberg's database. Samples are determined through purposive sampling, focusing on companies that have complete and publicly available data relevant to the study's variables.

The data collection technique involved extracting historical firm-level indicators from Bloomberg for the 2021–2023 period.

Table 1. Research Sample

No	Criteria	
1	Manufacturing Companies Listed on the Indonesia Stock Exchange	350
2	Companies that do not have complete ESG data for the 2021–2023 period	(290)
3	Companies that have available data on ESG, OER, and ROA	60
4	Sample covers a 3-year period (2021–2023)	180

Source: Bloomberg Terminal

The objective of this study is to examine the effect of ESG on firm value with operational efficiency as a mediating variable. ESG is positioned as the independent variable, defined as a company's sustainability performance across three main aspects: environmental, social, and governance. ESG performance is measured using a composite ESG score obtained from the Bloomberg Terminal database. This score reflects a comprehensive assessment of how well a company manages sustainability-related risks and opportunities in the areas of environment (such as carbon emissions and energy efficiency), social (such as labor relations and community impact), and governance (such as board structure and shareholder rights).

The mediating variable in this study is operational efficiency, which is measured using the Operating Efficiency Ratio (OER). This ratio reflects the extent to which a company can manage its operating expenses in generating revenue. OER is considered a cost-efficiency indicator, where a lower ratio indicates greater efficiency in allocating operational expenses relative to net revenue generated. The use of this ratio was chosen because it more directly

reflects internal operational efficiency compared to profitability ratios such as ROA. OER is calculated using the following formula:

$$Operating\ Efficiency\ Ratio = \frac{Operating\ Expenses}{Net\ Revenue}$$

The data used to calculate this ratio is obtained from the Bloomberg Terminal, which provides components of the financial statements such as Operating Expenses and Net Revenue on an annual basis. By using this approach, operational efficiency can be analyzed as a potential mechanism that bridges the relationship between the company's sustainability performance (ESG) and firm value.

Firm value can be measured by Return on Assets (ROA), which is used to assess how efficiently a company generates profit from its assets. ROA shows how well a company uses its assets to generate earnings. The following is the calculation of ROA:

$$ROA = \frac{\text{Net Income}}{Total\ asset} \text{ x } 100\%$$

This study performs a series of analyses using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach through SmartPLS 4 software. PLS-SEM is chosen for its ability to handle small-to-medium sample sizes and model complex relationships involving latent constructs with formative and reflective indicators. Additionally, it is suitable for mediation analysis and does not require strict assumptions of data normality, making it appropriate for this research context.

The analytical process begins with the assessment of the measurement model, which adopts a reflective specification. Construct validity and internal consistency are evaluated through outer loadings (threshold >0.7), Composite Reliability (CR >0.7), and Average Variance Extracted (AVE >0.5). Indicators that do not meet these thresholds are subject to elimination to enhance model fit and reliability.

Once the measurement model's reliability and validity are established, the inner model evaluation is conducted to examine the structural relationships between constructs. This includes analyzing path coefficients, t-statistics, and the coefficient of determination (R^2) to assess the explanatory power of the model. Furthermore, mediation analysis is performed using the bootstrapping method with 5,000 subsamples to determine the significance of both direct and indirect effects. Bootstrapping provides robust estimates of standard errors and confidence intervals for the mediation pathways, ensuring the robustness and accuracy of the results.

RESULTS AND DISCUSSION

This part outlines the findings derived from data analysis using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, facilitated by SmartPLS 4 software. The main objective of this analysis is to examine how Environmental, Social, and Governance (ESG) factors impact firm value, with operational efficiency serving as an intermediary variable. The procedure begins with an assessment of the measurement model (outer model) to evaluate the validity and reliability of the indicators applied in the study. This is followed by an evaluation of the structural model (inner model) to analyze the interrelationships among constructs and to test the research hypotheses. The findings are detailed through various statistical outputs, such as outer loadings, Average Variance Extracted (AVE), Composite Reliability (CR), coefficient of determination (R^2), and path coefficients, all of which are interpreted in light of the proposed hypotheses and existing literature.

Table 2. Outer Loading Results

	Operational Efficiency	ESG	Firm Value
ESG 1		0.971	

ESG 2		0.992	
ESG 3		0.944	
OER 1	0.873		
OER 2	0.906		
OER 3	0.926		
ROA 1			0.914
ROA 2			0.966
ROA 3			0.948

Source: Smart PLS

Based on the results of the outer loadings test, all indicators for each construct have loading values greater than 0.7 (minimum: 0.873 and maximum: 0.992), indicating that all indicators are convergently valid. This suggests that each indicator consistently and accurately represents the construct being measured. Therefore, the measurement model in this study meets the criteria for convergent validity, which is an essential requirement in Structural Equation Modeling (SEM) analysis using the Partial Least Squares (PLS) approach.

Table 3. Discriminant validity test

	Operational Efficiency	ESG	Firm Value
Operational Efficiency	0.902		
ESG	-0.277	0.969	
Firm Value	0.290	-0.358	0.943

Source: Smart PLS

Discriminant validity testing using the Fornell-Larcker criterion also shows that the square root of the AVE for each construct is higher than the correlations with other constructs. Therefore, it can be concluded that the constructs possess adequate discriminant validity. This finding confirms that each construct in the model reflects its own variable more strongly than other variables, and that there is no conceptual overlap between constructs. Thus, the measurement model used in this study has fulfilled the criteria for discriminant validity, both statistically and theoretically.

Table 4. Reliability Test Results

No	Variabel	Cronbach Alpha	Composite Reliability (Rho C)	Results
1	Operational Efficiency (Z)	0.888	0.929	Reliabel
2	Firm Value (Y)	0.968	0.979	Reliabel
3	ESG (X)	0.937	0.960	Reliabel

Source: Smart PLS

Construct reliability testing shows that all variables have Cronbach's Alpha values greater than 0.7, composite reliability (including rho_C) values above 0.7, and average variance extracted (AVE) values exceeding 0.5. These values indicate that all constructs exhibit excellent internal reliability and convergent validity. This means that the indicators within each construct demonstrate strong internal consistency in measuring the intended variable. Moreover, the high composite reliability and AVE values further reinforce the confidence that the measurement model used in this study meets the statistical requirements for proceeding with structural model testing.

Table 5. R Square Test

No	Variabel	R Square	R Square Adjusted
1	Operational Efficiency (Z)	0.077	0.061
2	Firm Value (Y)	0.168	0.140

Source: Smart PLS

The R-square value for the Operational Efficiency variable is 0.077, and for the Firm Value variable, it is 0.168. This indicates that the ESG variable can only explain 7.7% of the variation in Operational Efficiency, while ESG and Operational Efficiency together can explain only 16.8% of the variation in Firm Value. The remaining variation is accounted for by other variables outside the model that were not included in this study. These relatively low R-square values suggest that although the influence of ESG on both variables is significant, its explanatory power is still limited. Therefore, future research is encouraged to consider additional variables that may contribute more significantly to operational efficiency or firm value, such as technological innovation, company reputation, ownership structure, or sustainable business strategies.

Table 6. F Test

	Operational Efficiency	ESG	Nilai Perusahaan
Operational Efficiency			0.047
ESG	0.083		0.101
Nilai Perusahaan			

Source: Smart PLS

The f-square values indicate that ESG has a small effect on Operational Efficiency (0.083) and a small to moderate effect on Firm Value (0.101). Meanwhile, Operational Efficiency also has a small effect on Firm Value (0.047). These values suggest that the impact of changes in the exogenous constructs (ESG and Operational Efficiency) on the endogenous constructs is not substantial, although some paths are statistically significant. Based on Cohen's (1988) interpretation, an f-square value below 0.02 is considered negligible, between 0.02–0.15 is small, 0.15–0.35 is moderate, and above 0.35 is large. Therefore, although ESG contributes to the model, the magnitude of its influence remains within the small to moderate range. This implies that while ESG practices do play a role, their current implementation may not be strong enough to drive significant changes in operational performance or firm value. Strengthening ESG strategies and exploring additional variables could enhance their impact on both operational outcomes and company valuation.

Table 7. Path Coefficient Test

	P-Value
Operational Efficiency → Corporate Value	0.229
ESG → Operational Efficiency	0.044
ESG → Corporate Value	0.020

Source: Smart PLS

The research findings indicate that ESG has a significant effect on both operational efficiency (p = 0.044) and firm value (p = 0.020). These results suggest that the adoption of sound Environmental, Social, and Governance (ESG) practices can enhance a firm's ability to manage its operational processes more effectively, thereby improving operational efficiency. This is consistent with the findings of Aroul, Sabherwal, and Villupuram (2022), who showed that firms with high ESG scores tend to exhibit better operational efficiency, particularly in the real estate sector in the United States.

Furthermore, ESG also contributes directly to increasing firm value, which may be explained by the positive perception of investors toward a company's sustainability commitment. This aligns with Stakeholder Theory, which posits that companies meeting the expectations of stakeholders—including investors—tend to gain trust and long-term support, ultimately enhancing firm valuation (Freeman, 1984). In addition, according to the Global Sustainable Investment Alliance (2023), there has been a global increase in investor preference

for ESG-aligned firms, reinforcing the relevance of sustainability in shaping market value. However, the relationship between operational efficiency and firm value was found to be statistically insignificant (p = 0.229), suggesting that operational efficiency does not act as a direct determinant of firm value in this context. This outcome implies that other factors—such as corporate reputation (Xu & Zheng, 2024), capital structure (Tawfiq et al., 2024), growth strategies, or market trust—may play a more dominant role in influencing investor perception and company valuation.

The non-significance of the mediating path also suggests that the effect of ESG on firm value is likely direct rather than mediated through internal performance measures such as operational efficiency, at least in the short term. From a Resource-Based View (Barney, 1991), while operational efficiency can be a valuable, rare, and hard-to-imitate resource, its impact on competitive advantage and firm value may require longer time horizons or synergies with other strategic capabilities to be realized. Additionally, this outcome could point to the need for complementary factors—such as innovation (Yang et al., 2025), digital transformation (Rizqillah et al., 2024), or sustained competitive advantage (Rohendi et al., 2024)—that might strengthen the pathway from efficiency to firm value. As suggested by Friede, Busch, and Bassen (2015), ESG performance often interacts with various internal and external dynamics to influence financial outcomes, which supports the complexity of the ESG–value relationship. Therefore, the findings open avenues for future research to explore alternative mediating or moderating variables that may better explain the mechanism by which ESG impacts firm value. Incorporating both quantitative and qualitative approaches in future studies could also provide a more comprehensive understanding of how ESG-related improvements translate into tangible long-term value for firms.

Table 8. Total Indirect Effect

	P-Value
ESG → Nilai Perusahaan	0.307

Source: Smart PLS

The analysis results show that ESG has a significant impact on operational efficiency and firm value, but no significant indirect effect of ESG on firm value through operational efficiency was found (p = 0.307). These findings suggest that although ESG can drive operational efficiency and directly affect firm value, operational efficiency does not serve as a significant mediating pathway in this relationship. It is likely that the impact of ESG on firm value is more influenced by other factors, such as investor perceptions, company reputation, or sustainability communication strategies. As explained by Stakeholder Theory (Freeman, 1984), companies demonstrating a commitment to sustainability through ESG practices tend to gain trust from investors and other stakeholders, which can directly affect firm value without complex intermediary factors. Furthermore, the insignificance of operational efficiency as a mediator could be due to the long-term nature of ESG initiatives, which have not yet directly reflected in cost efficiency or productivity during the observation period. This is consistent with the study by Aroul, Sabherwal, and Villupuram (2022), which indicated that the impact of ESG on firm performance is more pronounced in the long term, with improvements in operational efficiency emerging only after the company has deeply integrated sustainability into its operations.

This result also aligns with the findings of the study by Friede, Busch, and Bassen (2015), which revealed that while ESG may contribute to financial performance, its impact is not always mediated by operational efficiency. Instead, ESG often affects firm value directly through enhanced company reputation, better risk management, and increased attractiveness to sustainability-oriented investors. This study provides the understanding that although ESG initiatives may influence operational efficiency in the long term, their direct effect on firm

value is more significant. Therefore, these findings open opportunities for future research to explore other factors that may be more relevant in explaining the relationship between ESG and firm value, such as external factors, digitalization, and innovation, which may strengthen the long-term impact of sustainability on firm performance.

Table 9. Total Indirect Effect

	Path	P Value	Conclusions
H1	ESG → Firm Value	0.020	Supported
H2	ESG → Operational Efficiency	0.044	Supported
H3	Operational Efficiency → Firm Value	0.229	Not Supported
H4	ESG → Operational Efficiency → Firm Value	0.307	Not Supported

Source: Smart PLS

The finding that ESG significantly influences firm value (H1) aligns with the Stakeholder Theory, which posits that companies that address stakeholder concerns—including environmental and social responsibilities—tend to gain stronger reputations, investor trust, and long-term support, all of which contribute to improved firm performance. In the context of manufacturing firms listed on the IDX, ESG disclosures may serve as signals of responsible governance and risk management, especially in sectors exposed to environmental scrutiny.

Similarly, the positive and significant relationship between ESG and operational efficiency (H2) suggests that sustainable practices contribute to more streamlined operations. For example, initiatives related to energy efficiency, waste reduction, or employee well-being can lead to cost savings and productivity improvements. This supports the Resource-Based View (RBV), which considers ESG-oriented capabilities as strategic resources. However, the lack of a significant relationship between operational efficiency and firm value (H3), as well as the non-significant mediating role of operational efficiency (H4), implies that the market may place greater value on the symbolic and reputational aspects of ESG rather than its internal operational outcomes—at least in the short term. This may also suggest a time lag between efficiency improvements and their translation into financial performance.

These findings highlight that ESG contributes more through external stakeholder perceptions than through internal operational changes in determining firm value. Thus, firms may benefit from communicating their ESG strategies transparently to the public and investors, even while long-term internal benefits are still in progress. The empirical findings indicate that ESG performance has a significant positive effect on both operational efficiency and firm value. However, operational efficiency does not significantly influence firm value, resulting in the absence of a mediating effect. This outcome suggests that while ESG initiatives may enhance internal processes, the realization of these improvements in financial performance requires a longer timeframe to materialize.

One possible explanation for the insignificant mediation effect is the time lag inherent in operational changes. ESG-driven efficiency improvements, such as waste reduction or supply chain optimization, typically demand strategic alignment and long-term investment, which may not yield immediate financial returns. Given the relatively short observation period of this study (2021–2023), it is plausible that these internal efficiency gains have not yet been captured in firm value metrics like Return on Assets (ROA).

From a Resource-Based View (RBV) perspective, ESG initiatives represent valuable but latent resources. These resources, while difficult to imitate and potentially a source of sustained competitive advantage, necessitate consistent and long-term integration within the firm's operational and strategic processes. Until these ESG-oriented capabilities are fully embedded, their contribution to firm value remains unrealized in the short term.

Additionally, Stakeholder Theory emphasizes that firms engaging in proactive ESG practices build stronger relationships with their stakeholders, enhancing legitimacy and trust.

However, this stakeholder-driven value creation process often operates externally, through improved reputation and market perception, rather than immediate internal efficiency gains.

Signaling Theory further explains that the market responds more directly to the disclosure of ESG information as a signal of firm quality. Investors and other market participants may interpret ESG disclosures as indicators of ethical governance and risk management, which influence firm value perceptions regardless of whether internal operational improvements have materialized.

Therefore, the findings of this study suggest that while ESG initiatives are integral to enhancing firm value, the pathway through internal operational efficiency improvements may involve a delayed effect. In the short term, ESG's impact is more prominent through external signaling and stakeholder engagement rather than direct operational cost efficiencies.

CONCLUSION

This study provides empirical evidence that Environmental, Social, and Governance (ESG) performance exerts a direct and significant influence on firm value among Indonesian manufacturing firms. Operational efficiency, while positively influenced by ESG, does not significantly affect firm value, indicating the absence of a mediating effect. These findings contribute to the refinement of Stakeholder Theory by illustrating how ESG disclosures enhance corporate reputation, legitimacy, and investor confidence, thereby creating direct market value. Simultaneously, the results align with the Resource-Based View (RBV), suggesting that ESG-oriented internal processes possess the potential to function as strategic resources, although their value realization may require a longer timeframe.

The absence of a mediating role through operational efficiency highlights the tendency of capital markets to respond more immediately to external ESG signals rather than to internal performance improvements. This suggests that reputational benefits derived from ESG practices often precede tangible operational outcomes, which may take longer to manifest in financial performance. Such a dynamic adds nuance to existing theoretical frameworks by emphasizing the dual function of ESG as both a signaling mechanism and a latent operational asset.

In practical terms, firms should prioritize not only the integration of ESG practices within their operations but also the transparent and consistent communication of these initiatives to stakeholders. Proactive ESG disclosure strategies can strengthen market credibility and enhance firm value, even in the absence of immediate operational efficiency gains. Regulatory bodies, such as the Financial Services Authority (OJK), should further develop standardized ESG reporting frameworks to improve information transparency and support sustainable investment practices in emerging markets.

Future research is encouraged to explore alternative internal mechanisms through which ESG performance may influence firm value. Variables such as innovation capability, digital transformation readiness, and governance quality represent potential mediators that warrant further investigation. Extending the observation period in subsequent studies would also enable a deeper understanding of the time-lagged effects of operational efficiency improvements on firm value, thereby enriching the discourse on ESG's long-term value creation pathways.

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