ESG AND FIRM VALUE IN INDONESIAN LISTED COMPANIES: MULTIPLE MEDIATION MODELS OF FINANCIAL PERFORMANCE

Anisah[1*], Miftahul Jannah Alwi[2], Jusmawati[1], Erwan Sastrawan Farid[1], Rian Risendy[1]

[1]Universitas Tadulako
Jl. Soekarno Hatta KM. 9, Tondo Mantikulore, Kota Palu, Sulawesi Tengah 94148, Indonesia
[2]PSDKU Untad Morowali, Universitas Tadulako
Jl. Trans Sulawesi, Desa Bahomoleo, Bungku Tengah, Kab. Morowali, Sulawesi Tengah 94973, Indonesia

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Abstract:

Background: Firm value reflects investors' perceptions of corporate performance but may not fully correspond to a company's underlying financial condition, creating a potential gap between market valuation and fundamental performance. Environmental, Social, and Governance (ESG) performance has increasingly been associated with financial performance and firm value; however, empirical findings remain inconsistent, particularly in emerging markets such as Indonesia.
Purpose: This study examines the effect of ESG performance on firm value, measured by Tobin's Q, and investigates whether Return on Assets (ROA) and Return on Equity (ROE) mediate this relationship.
Design/methodology/approach: The study analyzes 80 companies listed on the Indonesia Stock Exchange (IDX) in 2024. The proposed relationships were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) with WarpPLS 8.0.
Findings/Results: ESG performance has a positive and significant effect on ROA but no significant effect on ROE or firm value. ROA positively and significantly affects firm value, whereas ROE does not. The mediation analysis indicates that neither ROA nor ROE significantly mediates the relationship between ESG performance and firm value at the 5% significance level.
Conclusion: Among the sampled IDX-listed companies in 2024, ESG performance is more strongly associated with operational profitability, as reflected in ROA, than with equity profitability or market valuation. These findings suggest that the financial benefits associated with ESG may not yet be fully reflected in investors' valuation of Indonesian listed firms.
Originality/value: This study contributes to the ESG literature in emerging markets by distinguishing between the roles of asset-based and equity-based profitability in linking ESG performance to firm value.

Keywords: ESG, Return on Assets (ROA), Return on Equity (ROE), Firm Value, Tobin's Q

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[*] Corresponding author:
Email: maomaos16icha@gmail.com

INTRODUCTION

According to the theory of the firm, the main financial objective of companies is to maximize firm value, which is ultimately reflected in the enhancement of shareholders wealth (Valencia, 2025), thereby driving market reactions to a company's performance, growth, and reputation (Lestari et al. 2025). Tobin's Q is often used to assess how well a firm's market value reflects its real asset value (Oktadewi & Diantini, 2025). However, stock prices can fluctuate due to investor sentiment, political issues, or market speculation rather than actual profitability, creating an information gap between a company's fundamentals and market perception. This phenomenon contributes to the persistent volatility in firm value (Anisah et al. 2022), indicates that firm value is influenced not only by financial performance but also by investor expectations regarding sustainability and governance practices (Albitar, K. et al. 2020; Nguyen et al. 2022).

The growing global awareness of the environmental consequences of business expansion has shifted stakeholders perspectives in responding to sustainability demands, particularly in relation to the process of creating firm value (Ifada et al. 2021; Shmelev & Gilardi, 2025). Such demands emphasize the need to balance financial sustainability with environmental performance, which is reflected in Environmental, Social, and Governance (ESG) scores (Sari et al. 2023; Sumunar & Djakman, 2020). ESG not only demonstrates a company's commitment to sustainability (Siagian & Sinaga, 2024), but also has the potential to influence both financial performance (Husnah, 2023; Subhani et al. 2025) and firm value (Putra & Budastra, 2024).

Nevertheless, the implementation of ESG often encounters various challenges. In the Indonesian context, ESG adoption is particularly constrained by low efficiency and audit quality (Handajani & Murhadi, 2025), as well as inconsistent trends between ESG scores and financial indicators such as Return on Assets (ROA) and Return on Equity (ROE) (Ihbal & Ifada, (2024). These conditions help explain why current empirical findings remain highly varied (Wulandari & Istiqomah, 2024).

While some studies highlight positive impacts of ESG on financial performance (Aydoğmuş et al. 2022) and firm value (Anis & Avrilia, 2024; Sany et al. 2024), largely due to its role in improving efficiency and reducing risks (Karyani & Perdiansyah, 2022; Sumunar & Djakman, 2020), others reveal insignificant or even negative effects (Anis & Avrilia, 2024; Subhani et al. 2025; Angir & Weli, 2024), suggesting that ESG is sometimes perceived merely as an additional cost burden that signals risk to investors (Ardian & Sari, 2024). However, limited evidence from emerging markets, particularly Indonesia, leaves an unresolved gap regarding how ESG influences firm value through financial performance indicators such as ROA and ROE. These contrasting results highlight not only a research gap but also the complexity of sustaining ESG scores alongside financial performance and firm value (Guo, 2024).

This underscores the importance of further investigation. To address this issue, the present study employs a double mediation model to clarify the relationship between ESG scores and firm value, with ROA and ROE as mediating variables, using Partial Least Squares based Structural Equation Modeling (PLS-SEM). ROA and ROE are selected as mediators because they reflect financial performance and are considered capable of enhancing investor confidence by shaping perceptions of risk and return (Putra & Budastra, 2024).

Thus, the urgency of this study lies in clarifying the role of ESG and financial performance in creating firm value, particularly in emerging markets that remain underrepresented in the literature. The findings are expected to contribute to strategic decision-making, both in academic and practical domains.

METHODS

This study uses secondary data obtained through the documentation method by accessing official IDX and company websites, including annual reports, financial statements, and ESG score disclosures of 85 companies listed on the Indonesia Stock Exchange (IDX) in 2024.

From this population, the sample was determined using purposive sampling with two main criteria, namely companies listed on the IDX that disclosed ESG scores and companies reporting positive financial performance. Based on these criteria, a total of 80 companies were selected as the final sample for analysis. The independent (exogenous) variable in this study is ESG implementation, measured by the ESG Score

reported by the Indonesia Stock Exchange (IDX). The mediating variables consist of Return on Assets (ROA) as the first mediator and Return on Equity (ROE) as the second mediator. The dependent (endogenous) variable is firm value, which is proxied by Tobin's Q.

This study used the analysis technique of Partial Least Squares Structural Equation Modeling (PLS-SEM) with the WarpPLS 8.0 software. PLS-SEM was used with several considerations of its advantages, including :Able to provide several fit model indicators that can be useful for comparing the best model between different models; and PLS-SEM was selected because it enables simultaneous estimation of direct and indirect relationships and can accommodate composite constructs without imposing strict distributional assumptions in the research model such as in this study, then only PLS-SEM can be used (Hair et al. 2021; Darsono et al. 2024).

Building on the theoretical foundation and considering the identified research gap, this study formulates seven hypotheses to explain the relationships between ESG performance, financial performance indicators, and firm value, namely:

1. ESG performance is widely recognized as a driver of firm value (Aydoğmuş et al. 2022; Zhou, 2024; Habib et al. 2025), because it improves transparency, lowers exposure to risks, and strengthens stakeholder trust (Juniarti et al. 2024). H1: ESG has an effect on firm value.
2. Moreover, companies with stronger ESG practices tend to operate more efficiently and manage resources better, which is expected to increase profitability as reflected in Return on Assets (ROA) (Yu et al. 2024; Yadav & Asongu, 2025). H2: ESG has an effect on ROA.
3. In a similar vein, ESG initiatives can foster operational efficiency, enhance investor confidence, and promote long-term sustainability, thereby improving Return on Equity (ROE) Financial indicators are also crucial in explaining firm value. (Haniev & Suhih, 2015; Rao et al. 2023). H3: ESG has an effect on ROE.
4. Higher ROA demonstrates more effective use of company assets and reflects stronger managerial performance, which is positively perceived by investors (Aydoğmuş et al. 2022). H4: ROA has an effect on firm value.
5. Likewise, ROE captures profitability from shareholders' equity and serves as an important signal for market confidence, ultimately contributing to firm value (Aydoğmuş et al. 2022). H5: ROE has an effect on firm value.
6. Beyond these direct effects, ROA is assumed to act as a mediator, as ESG-driven operational efficiency can improve asset returns, which then enhance firm value (Dsouza et al. 2025). H6: ROA mediates the effect of ESG performance on firm value.
7. Similarly, ROE is expected to mediate the relationship, since ESG initiatives may translate into higher shareholder profitability that strengthens the firm's market valuation Q (Pramono & Rohman, 2023). H7: ROE mediates the effect of ESG performance on firm value.

Based on these hypotheses, Figure 1 illustrates the research framework, showing that ESG performance influences firm value both directly and indirectly through ROA and ROE. ROA mediates the relationship by reflecting operational efficiency and asset utilization, while ROE captures the impact of ESG on shareholder profitability and investor confidence. This framework highlights ESG's dual role: directly enhancing firm value and indirectly boosting it through financial performance.

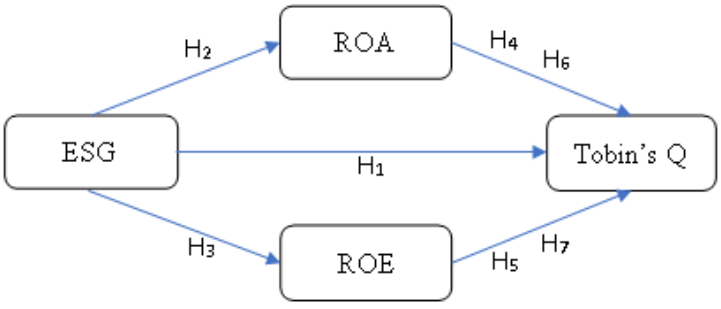


Figure 1. Conceptual framework of the relationship among Environmental, Social, and Governance (ESG), financial performance, and firm value (Return on Assets (ROA); Return on Equity (ROE))

RESULTS

Descriptive Statistic

Table 1 presents the descriptive statistics of all research variables based on 80 firm observations. The ESG variable has a mean value of 28.86 with a standard deviation of 9.81, indicating variations in ESG practices among Indonesian companies. Furthermore, ROA of 0.07 and ROE of 0.13 indicate that the sampled firms generally demonstrate relatively good profitability performance during the observation period. Tobin's Q has a mean value of 1.41 with a standard deviation of 1.16, suggesting differences in market valuation across firms. Therefore, all variables in this study have sufficient data variation to support further analysis using SEM-PLS.

Outer Model (Outer Loading)

The outer model evaluation was conducted to test the validity of the indicators in this study. Based on the WarpPLS results in Table 2, all outer loading values are above 0.70 with p-values below 0.001. These results indicate that each indicator has a strong and significant relationship with the measured construct. These findings indicate that the ESG, ROA, ROE, and Tobin's Q indicators accurately represent the research variables. Therefore, all indicators are deemed valid and suitable for use in further analysis.

Average Variance Extracted (AVE) dan Composite Reliability

Table 3 presents the results of the convergent validity and reliability tests for the research constructs. All AVE values are above 0.50, indicating that the constructs adequately explain the variance of their indicators. Furthermore, the composite reliability and Cronbach's alpha values for all variables are above 0.70, indicating that the data met reliability standards and had good internal consistency standards (Gio et al. 2022). These results indicate that all constructs in the study meet the validity and reliability standards of SEM-PLS. Therefore, the measurement model is deemed suitable for use in the structural testing phase.

Table 1. Descriptive statistics of study variables

Variabel	N	Mean	Std. Dev	Min	Max
ESG	80.00	28.86	9.81	7.11	54.02
ROA	80.00	0.07	0.06	0.01	0.30
ROE	80.00	0.13	0.07	0.02	0.34
Tobin's Q	80.00	1.41	1.16	0.14	6.67

Note: Environmental, Social, and Governance (ESG); Return on Assets (ROA); Return on Equity (ROE)

Table 2. Outer loading values

	ESG	ROA	ROE	Tobin's_Q	Type	P Value	Remarks
ESG	(1000)	0.000	0.000	0.000	Formative	< 0.001	Valid
ROA	0.000	(1000)	0.000	0.000	Formative	< 0.001	Valid
ROE	0.000	0.000	(1000)	0.000	Formative	< 0.001	Valid
Tobin's_Q	0.000	0.000	0.000	(1000)	Formative	< 0.001	Valid

Note: Environmental, Social, and Governance (ESG); Return on Assets (ROA); Return on Equity (ROE)

Table 3. AVE and composite reliability values

	ESG	ROA	ROE	Tobin's_Q
R-squared		0.052	0.030	0.339
Adj. R-squared		0.040	0.018	0.313
Composite reliab.	1.000	1.000	1.000	1.000
Crombach's alpha	1.000	1.000	1.000	1.000
Avg. var. extrac.	1.000	1.000	1.000	1.000

Note: Environmental, Social, and Governance (ESG); Return on Assets (ROA); Return on Equity (ROE)

Discriminant Validity (Fornell-Larcker Criterion)

Discriminant validity testing was conducted to ensure that each construct has distinct characteristics from the others. Based on the Fornell-Larcker criterion presented in Table 4, all constructs met the recommended threshold values. These results indicate that each variable has adequate uniqueness and represents different concepts within the research model. Thus, the ESG, ROA, ROE, and Tobin's Q constructs do not overlap conceptually or statistically. Therefore, the research model can be considered to have good discriminant validity (Gio et al. 2022).

Inner Model

Figure 2 presents the structural model and the R-square values of the endogenous variables in this study. The results show that the model explains 5% of the variance in ROA, 3% in ROE, and 34% in Tobin's Q. These findings indicate that ESG has a relatively limited contribution to explaining financial performance variables, particularly ROA and ROE, but demonstrates a stronger explanatory power toward firm value measured by Tobin's Q. Moreover, the goodness-of-fit (GoF) value of 0.679 exceeds the recommended threshold of 0.36, indicating that the overall model has a strong level of fit. This result suggests that the structural model is quite capable of explaining the relationships among ESG, financial performance, and firm value. Therefore, the model is considered appropriate for further analysis of both direct and indirect effects.

Direct Effects

Table 5 presents the results of the direct effect test between ESG, financial performance, and firm value. The results indicate that several relationships between variables are statistically significant. This finding indicates that ESG implementation has the potential to improve financial performance and firm value. Companies with better ESG practices tend to gain investor trust and more positive market valuations. Therefore, ESG can be viewed as a strategic factor in supporting sustainable corporate value creation.

The Effect of ESG on Firm Value

ESG does not significantly affect Tobin's Q (path coefficient = –0,104, p = 0,171 > 0,05). This finding indicates that ESG is not yet a primary consideration for investors in valuing Indonesian companies in 2024. Most companies implementing ESG tend to focus on regulatory compliance and reputational improvement rather than integrating it as a core business strategy. Consequently, the market has not consistently responded with an increase in firm value (Fatemi et al. 2018). In the context of the Indonesian capital market in 2024, which faced high volatility due to political uncertainty and global inflationary pressures, investors were cautious and did not fully integrate ESG into valuation decisions. This aligns with Agency Theory, as ESG expenditures are often seen as additional costs that reduce immediate profits (Grewal & Serafeim, 2020), while managerial efforts to enhance corporate image do not directly create shareholder value. In contrast, Signaling Theory assumes ESG should provide a positive signal to investors. The result is consistent with (Nizam et al. 2019), H1 is rejected.

Table 4. Fornell-Larcker Discriminant Validity

	ESG	ROA	ROE	Tobin's_Q
Environmental, Social, and Governance (ESG)	(1000)	0.153	0.086	-0.027
Return on Assets (ROA)	0.153	(1000)	0.800	0.547
Return on Equity (ROE)	0.086	0.800	(1000)	0.434
Tobin's_Q	-0.027	0.547	0.434	(1000)

Table 5. Results of direct effects between ESG, financial performance and firm value

Structural/hypothesised paths	Path Coefficients	P Value	Conclution
Environmental, Social, and Governance (ESG) → Tobin's_Q	-0.104	0.171	Rejected
Environmental, Social, and Governance (ESG) → Return on Assets (ROA)	0.229	0.016	Supported
Environmental, Social, and Governance (ESG) → Return on Equity (ROE)	0.174	0.052	Rejected
Return on Assets (ROA) → Tobin's_Q	0.559	<0.001	Supported
Return on Equity (ROE) → Tobin's_Q	0.029	0.398	Rejected

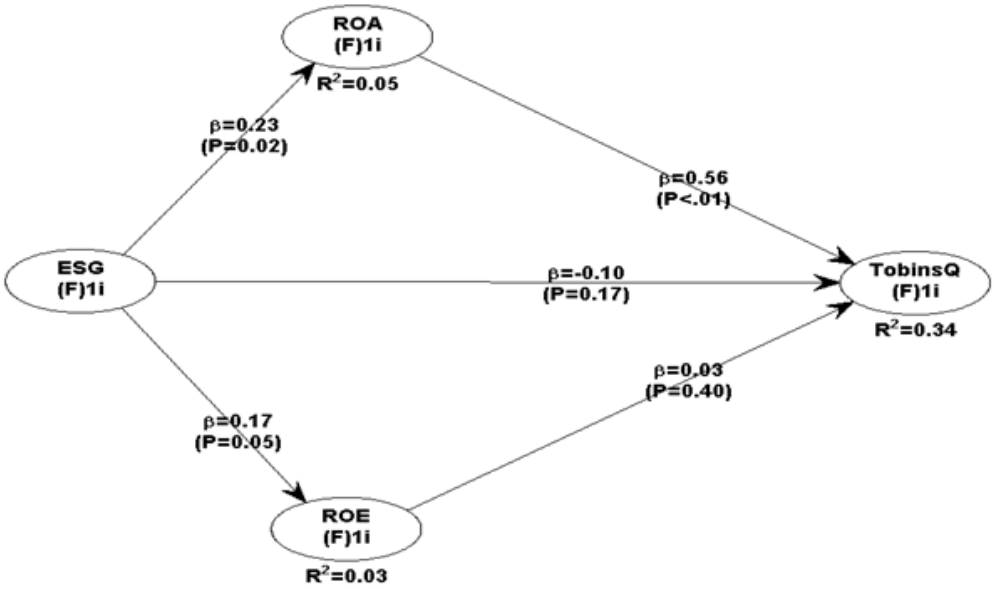


Figure 2. Model results of the relationship among ESG, financial performance, and firm value (Environmental, Social, and Governance (ESG); Return on Assets (ROA); Return on Equity (ROE))

The Effect of ESG on ROA

ESG significantly affects ROA (path coefficient = 0,229, p = 0,016 < 0,05), suggesting that ESG improves operational efficiency and the company's ability to generate profits from its assets. In 2024, Indonesian capital markets were characterized by economic uncertainty, Rupiah depreciation, and inflationary pressures, leading investors to focus on immediate, observable financial performance indicators such as ROA. ESG is perceived as a strategy to mitigate environmental and social risks, supporting short-term asset-based profitability through cost efficiency, positive reputation, and access to green financing. For companies in consumer, financial, and energy sectors, ESG contributes more to operational efficiency than to direct firm value creation (Fatemi et al. 2018). This finding aligns with Aydoğmuş et al. (2022); Naeem et al. (2022); Chouaibi et al. (2022), H2 is accepted.

The Effect of ESG on ROE

ESG does not significantly affect ROE (path coefficient = 0,174, p = 0,052 > 0,05). Despite ESG efforts in 2024, equity-based returns were not noticeably improved. This can be explained by market conditions in Indonesia, including high volatility, foreign capital outflows, financing fluctuations, and debt burdens, which shifted investor focus toward short-term fundamental indicators such as net income and profit margin rather than long term ESG benefits. Investors also considered financing costs, leverage, dividend policies, and capital structure when evaluating ROE (Velte, 2017; Gillan et al. 2021). The result is consistent with Trade off Theory, where ESG costs may suppress net income and ROE (Broadstock et al. 2021), and Agency Theory, as managers pursue ESG primarily for reputation rather than immediate shareholder gains (Parashar et al. 2024); (Rao et al. 2023). report similar findings. H3 is rejected.

The Effect of ROA on Firm Value

ROA positively affects Tobin's Q (path coefficient = 0,559, p < 0,001). Asset profitability serves as a key determinant of firm value, especially in 2024's volatile Indonesian capital market. ROA reflects efficient asset utilization, which investors perceive as a strong fundamental indicator for growth, driving market valuation. The positive path coefficient confirms that higher asset profitability translates into higher perceived firm value. The market context of 2024 marked by political uncertainty, Rupiah depreciation, and global inflation made investors more responsive to short term, tangible financial indicators like ROA. Signaling Theory supports this, as high ROA signals competent resource management, increasing investor confidence and firm valuation (Ghani et al. 2021; Aydoğmuş et al. 2022 and Setioko et al. 2024). H4 is accepted.

The Effect of ROE on Firm Value

ROE does not significantly affect Tobin's Q (path coefficient = 0,029, p = 0,398 > 0.05). Equity-based performance was not a main driver of firm valuation in 2024. ROE can be distorted by leverage; firms with high debt may report high ROE while facing increased financial risk. In the volatile 2024 Indonesian market, investors emphasized liquidity and asset efficiency rather than equity returns. Agency Theory explains this, reflecting potential conflicts between management and shareholders, while Trade-off Theory highlights that higher debt may provide tax benefits but increase bankruptcy risk. Findings align with Jonnius & Marsudi, (2021); Belinda & Dewi, (2023); and globally with Gillan et al. (2021). H5 is rejected.

Indirect Effects

Table 6 presents the results of the indirect effect test through the mediating variables ROA and ROE. This analysis aims to examine whether financial performance mediates the relationship between ESG and firm value. The results indicate that several indirect relationships are statistically significant, suggesting that ESG can influence firm value through its impact on financial performance. These findings provide additional evidence regarding the strategic role of ESG in enhancing firm value creation.

ROA mediates the effect of ESG performance on Firm Value

The indirect effect of ESG on Tobin's Q via ROA is 0,122, with a p-value of 0,056 > 0,05, indicating that ROA is not a significant mediator. Although ESG increases asset profitability, this effect is insufficient to translate into market valuation. The 2024 Indonesian capital market was characterized by high volatility, political uncertainty, and investor preference for short-term profitability, which led investors to focus on immediate ROA outcomes rather than the potential long-term benefits of ESG. Signaling Theory suggests that sustainability signals via ESG were not fully interpreted by the market, while Stakeholder Theory is partially confirmed as ESG contributions to profitability did not significantly affect firm value perceptions. These findings are consistent with Nurannisa & Bandi, (2024); Tyas & Prastiwi, (2025); Rumansyah & Nainggolan, (2025). H6 is rejected.

ROE mediates the effect of ESG performance on Firm Value

The indirect effect of ESG on Tobin's Q via ROE is 0.073, with a p-value of 0,173 > 0,05. Equity-based performance was not an effective mediator. In the 2024 Indonesian capital market, marked by high volatility and investor focus on short-term financial indicators, investors prioritized operational performance (ROA) over equity returns (ROE). ROE, influenced by dividend policy, leverage, and internal management efficiency, failed to transmit the ESG effect to market value. This explains why ROE was not a significant mediator. Agency Theory helps understand investor preference for immediate asset-based returns, while Stakeholder Theory shows that ESG benefits on social and environmental performance had not yet translated into consistenst equity returns. These results align with Pramono & Rohman, (2023), H7 is rejected.

Taken together, these results highlight a contextual gap between theory and market behavior in Indonesia. While ESG implementation improves firms' operational performance, it does not yet translate into higher market valuation. This indicates that investors in emerging markets may still prioritize short-term profitability over sustainability-driven value creation. Hence, this study contributes to the ongoing debate by demonstrating that, within emerging capital markets like Indonesia, profitability-based metrics (ROA) remain dominant in explaining firm valuation compared to sustainability indicators.

Table 6. Results of indirect effects of ESG on firm value through financial performance

Structural/hypothesised paths	Path Coefficients	P Value	Conclution
ESG → ROA →Tobin's Q	0.122	0.056	Rejected
ESG → ROE → Tobins Q	0.073	0.173	Rejected

Note: Environmental, Social, and Governance (ESG); Return on Assets (ROA); Return on Equity (ROE)

Based on the empirical findings and discussions presented above, several implications can be drawn from this study. These implications are categorized into theoretical and managerial aspects, highlighting how the results contribute to existing financial and sustainability theories, as well as providing practical guidance for companies, investors, and regulators operating in the Indonesian capital market.

Managerial Implications

The findings of this study provide several theoretical implications, which can be interpreted through the following perspectives. First, Signaling Theory is supported as ROA is a stronger signal for investors than ESG or ROE, indicating that operational profitability remains a key determinant of market perception. Second, Stakeholder Theory is partially confirmed ESG improves operational profitability but does not fully translate into market valuation. Third, Trade-off Theory explains that sustainability costs may suppress equity-based performance, rendering the ESG, ROE and Tobin's Q path insignificant. Lastly, Agency Theory provides insight into investor behavior, highlighting a bias toward short term financial outcomes over long term sustainability considerations.

From a managerial perspective, the findings of this study have several practical implications for managers, investors, and regulators in the Indonesian market context. For company management, the result suggest that managers should strengthen ESG initiatives that directly improve operational efficiency, thereby enhancing ROA as a key indicator of performance. For Investor, the study emphasizes the need to view ESG performance not merely as a reputational factor but as an important driver of sustainable profitability in the long run. For regulators, the findings imply the importance of encouraging transparent and standardized ESG reporting to minimize information asymmetry between firms and the market. Collectively, these implications underscore the importance of aligning ESG initiatives with measurable financial outcomes to enhance market recognition and value creation in emerging economies.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

These findings further suggest that ESG practices have not yet evolved into a fundamental driver of firm valuation. Although ESG initiatives may improve operational outcomes, the benefits are not yet fully recognized by the market due to limited investor awareness and the early stage of ESG integration within Indonesia's capital market. This reflects the transitional phase of ESG adoption in emerging economies, where financial efficiency remains the dominant concern among investors. This supports both Agency and Signaling Theory perspectives, which posit that investors in emerging economies remain focused on short-term profitability rather than long-term sustainability signals.

Recommendations

Future studies are encouraged to adopt a longer research period, ideally spanning three to five years, to capture more accurately the dynamic relationships between ESG, financial performance, and firm value over time. Moreover, incorporating additional variables such as leverage, cost of capital, or corporate governance as mediating or moderating factors could enhance the explanatory power of the research model. Sector-specific analyses are also recommended to identify clearer patterns and variations in how ESG impacts firm performance across different industries.

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carefully reviewed and edited the content and takes full responsibility for the final version of the manuscript.

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