Asian Economic and Financial Review
ISSN(e): 2222-6737
ISSN(p): 2305-2147
DOI: 10.55493/5002.v16i2.5908
Vol. 16, No. 2, 88-108.

URL: www.aessweb.com

Integrating managerial strategy with ESG and sustainable accounting to enhance financial performance amid climate change

Roy Budiharjo[1+]
Ardio Sagita[2]
Dini Wahjoe Hapsari[3]
Dudi Pratomo[4]
Salsabila Aisyah Alfaiza[5]

[1,2,3,4,5]*School of Economics and Business, Telkom University, Bandung, Indonesia.*
[1]*Email: roybudiharjo@telkomuniversity.ac.id*
[2]*Email: ardiosagita@telkomuniversity.ac.id*
[3]*Email: dinihapsari@telkomuniversity.ac.id*
[4]*Email: dudipratomo@telkomuniversity.ac.id*
[5]*Email: salsabilaalfaiza@telkomuniversity.ac.id*

(+ Corresponding author)

Article History
Received: 25 November 2025
Revised: 9 January 2026
Accepted: 12 February 2026
Published: 27 February 2026

Keywords
CSR
Emerging markets
ESG
Financial performance
Managerial strategy
Sustainable accounting.

JEL Classification:
M14; M41; Q56; G34; J24.

ABSTRACT

Amidst increasing sustainability challenges in developing economies, this research analyzes the impact of CSR, environmental performance, and good governance on the financial performance of firms. Firms in Indonesia and Malaysia are being pushed to adjust their strategies to match market and institutional expectations for ESG disclosure, which drives this investigation. Examining whether management techniques, in the form of Human Capital Investment techniques (HCIS), enhance this link and determining the direct consequences of the ESG dimension on financial performance are the primary goals of this research. The study employed the partial least squares structural equation modeling (PLS-SEM) to assess the hypotheses using panel data from public enterprises in Indonesia and Malaysia from 2020 to 2024. Results reveal a moderate direct influence for CSR and governance metrics, but a strong and statistically significant relationship for environmental performance and market-based performance (PBV). Companies that invest in staff training have a greater chance of translating environmental efforts into more accurate market evaluations, and HCIS significantly mitigates the relationship between environmental performance and PBV. Stakeholder and Legitimacy Theory explain that ESG participation enhances market legitimacy, while the Resource-Based View accounts for these findings, suggesting that human resources are strategic capabilities in integrating sustainability. In summary, the findings demonstrate that it has become strategically prudent to integrate sustainability initiatives with HR development. Implications: The findings of this study are relevant to business leaders and policymakers in developing countries seeking sustainable governance, employee engagement, and the generation of long-term value.

Contribution/ Originality: Insights from this study advance understanding within domains of ESG and sustainable accounting by integrating human capital investment-based managerial strategies (HCIS) as a moderation variable. It further illuminates how the strategy complements the environmental performance of PBV within the emerging markets of Indonesia and Malaysia.

1. INTRODUCTION

Introduction: Global climate change presents several challenges to businesses and motivates them to adopt sustainable strategies beyond financial goals. Thus, sustainable accounting, which considers environmental, social, and governance elements in financial and nonfinancial accounts, has emerged. On this basis, what was formerly a requirement in corporate reporting is now a strategic approach to managing environmental risks and continuing to create value (Dasinapa, 2024; Wahyuni, Marsyaf, & Fisher, 2024).

ESG practices are being encouraged in developing countries such as Indonesia, given the country's high climate-related risk exposure and nascent institutional maturity. The implementation of the Indonesian Stock Exchange's sustainability reporting rules, as well as OJK POJK No. 51/2017, demonstrates how the government wants to promote that companies adopt ESG principles. However, less is known about the link between ESG policies and a firm's financial performance, particularly regarding the efficiency of firms measured by internal measures (ROA) or market value metrics (PBV).

Corporate performance has been investigated in the context of CSR, environmental performance, and good governance. Most research analyzing each component of ESG individually has found mixed, moderate, and even unsatisfactory results, particularly in emerging economies in Southeast Asia (Cahyaningati, Miqdad, & Kustono, 2022; Triyani & Siswanti, 2024; Zou, 2024). These conflicting findings pose a critical research question: whether ESG dimensions can influence operational profitability as well as market value. Instead of examining ESG factors in isolation, this study investigates their joint effects on financial performance to address gaps in the literature and provide an extended perspective on sustainability's economic value in developing countries.

In contrast, the present study upgrades the research model by integrating a moderator of management strategy, which indicates that the outcomes of ESG practice are subject to influence by an inwardly oriented strategic competence. Taking employee training disclosure as a proxy for firm investment in human capital, managers' strategy is employed as an independent variable. Following Chew and Chan (2008) and Voegtlin and Greenwood (2016), the managerial strategy concept can be considered operationally defined using the sole indicator, Human Capital Investment Strategy (HCIS), denoted through employee training disclosure, capturing the firm's investment in human resources based on the principle of being the sustainability driver. Staff training and development initiatives should assist the organization in mainstreaming sustainability value within its business processes while also converting ESG (environment, social, governance) into performance outcomes. Research by Piao, Xie, and Managi (2022) and Voegtlin and Greenwood (2016) suggests that the assumptions regarding environmental fit or resource potential are rooted in RBV and Contingency theories. On the contrary, when it comes to competition, it's an indication of how well managers plan their strategies. The former studies did not consider abilities as moderating variables, and thus, this finding can help to overcome the limitations of the present study.

Indonesia and Malaysia are benchmark cases in this analysis because of their high theoretical and practical relevance. Both of these ASEAN nations are driving moves to toughen ESG requirements and disclosure rules. However, there are some crucial differences, including the robustness and discipline of institution building around ESG reporting, as well as how financial markets incorporate ESG data. This procedure combines data from both countries with country dummies and provides omnibus findings while incorporating a cross-national aspect into the determinants of ESG disclosure and financial performance.

By considering two key but frequently omitted elements in ESG literature (i.e., control variables and endogeneity), we aim to enhance rigor in research design. To control for size, we take the natural logarithm of total assets as a measure of firm size (Fauzi, 2022; Ikhsan, Jumono, Munandar, & Abdurrahman, 2022). Additionally, the study considers financial leverage, measured by the debt-to-equity ratio (DER), as it may influence firms' capacity and willingness to participate in environmental, social, and governance (ESG) programs (Cahyaningati et al., 2022). The addition of these control variables allows for a more accurate assessment of the relationships under investigation, decreasing the likelihood of omitted variable bias.

Endogeneity is a further issue that recent research has highlighted. It could be caused by unobserved corporate heterogeneity or reverse causality, where financially successful firms are more likely to incorporate ESG. While the present study applies extensive tests of measurement models and is based on a solid theoretical grounding for hypothesized directional relationships, the cross-sectional research design limits our ability to firmly conclude causality. The PLS-SEM technique also ensures robust exploration of complex interrelationships among constructs by enhancing the accuracy and validity of estimates (Hair, Howard, & Nitzl, 2020; Kock, 2023).

Research comparing ESG factors in the markets of Indonesia and Malaysia offers a good opportunity to examine how ESG factors influence the performance of EM equities. Regulations in both countries, such as the IDX Sustainability Reporting Guidance and the Indonesian POJK 51/2017, have enhanced ESG disclosure. This quasi-comparative study on the role of various ESG aspects affecting market valuation (price-to-book, PBV) and internal profitability (ROA) is enabled by similarities and contrasts in ESG institutional development, enforcement intensity, and investor understanding of ESG.

There are three interconnected ideas that this study explores. To begin, stakeholder theory shows how ESG may help businesses gain credibility and the confidence of their constituents. Second, the idea of legitimacy theory discusses how sustainability reporting may help obtain and maintain society's approval and social license. Third, the Resource-Based View demonstrates how important it is for businesses to invest in their people and focus on what they do best by providing training and development opportunities. Examining the function of ESG and its connection to company financial success is the central idea.

From a practical perspective, managers, shareholders, and lawmakers might all derive useful implications and insights from the study's findings. The results of this study reveal that sustainability reporting is a strategy-oriented process and that it is more strategic to focus on the general rationales and benefits for organizational CSR initiatives and the implementation of ESG enhancements in overall value enhancement. The study seeks to explore empirically three overarching aspects: first, the impact of ESG components (CSR and ESG) on ROA and PBV value drivers; second, the role played by mediating factors of managerial policies/attitudes (e.g., disclosure of employee training); third, the aim is also to contribute in terms of clarification and strengthening methodological robustness, including the use of control variables and investigating endogeneity.

2. LITERATURE REVIEW

The scope of sustainable accounting has expanded beyond simple financial reporting. Instead, it has evolved into a way of thinking that factors in ESG (environmental, social, and governance) concerns when businesses make decisions. In fact, the ESG framework allows the company to gauge its long-term effectiveness in relation to its impact on the environment, its social impact, and its governance structure. Both POJK Regulation No. 51/2017 and the sustainability reporting guidelines of the Indonesia Stock Exchange encourage companies to disclose their non-financial performance in terms of GRI/SASB reporting criteria (Ahmad, Yaqub, & Lee, 2024; Shaikh, 2022). This practice can be materialized under Indonesian regulations. In reality, however, institutional contexts and methods used to compile ESG reports still affect the association between economic success and these reports.

Both business value and earnings are positively correlated with good ESG performance, according to a certain study, Pulino, Ciaburri, Magnanelli, and Nasta (2022), and Sharma, Lodha, Sharma, Ali, and Elmezughi (2022), and more recent studies have confirmed this. However, some researchers failed to find a correlation between ESG best practices and improved financial results. Further discussion on this can be referred to the study by Triyani and Siswanti (2024) and Oktaviani and Dwi (2023), as well as others. In order for ESG efforts to directly translate into financial gains, that simply means there may be more specific factors at play. Maximum business performance indicators, ROA and PBV, are outcomes of ESG behaviors that should enhance stakeholder confidence and risk management. The organization of a firm's ESG metrics, the sector it operates in, the stage of institutional development of a given location, and its internal competencies could be different elements impacting real performance. For example, stocks of regulated sectors such as banking and mining are likely to respond more sensitively to ESG actions (Holderegger & Duarte, 2024).

The link between CSR and financial success is far from certain, despite the abundance of research on the topic. According to the existing literature, CSR helps businesses boost their financial performance by increasing staff dedication, customer loyalty, and the firm's reputation. Nevertheless, according to Amaliyah, Rohmawati, and Dwiantari (2023) and Wijaya and Iryanto (2024), the connection is contingent upon the degree to which CSR is revealed, the degree to which stakeholders trust the organization, and the degree to which the company accurately defines its expectations. Legitimacy, in which the company uses CSR to boost its social acceptability and status, is one of the literary approaches to CSR. Strategic, where CSR pays dividends when it's integrated into the organization's fundamental business processes (Hamidu, Haron, & Amran, 2015; Zou, 2024).

One piece of the ESG jigsaw that has a lot in common with environmental performance is the aspect that has to do with a company's operational efficiency, regulatory compliance, and risk avoidance. Consequently, operational risks are reduced, and environmentally conscious investors, sometimes known as "green" capital, are attracted to businesses that support greener technology, lessen their impact on the environment, and build dependable waste management systems. These advantages do not, however, always have the same magnitude or consistency; rather, they vary by sector, by regulatory environment, and by the degree to which a corporation is forthcoming with its environmental data. According to earlier research, variables including industry type, investor knowledge, and visibility of market performance determine the extent to which environmental performance, intended as moderators, influences the outcome. Some studies have shown delays or even insignificant impacts, especially in sectors with poor regulatory enforcement or little ESG awareness, while others have shown favorable connections between environmental performance and financial success based on ROA and PBV.

GG is therefore considered a good proxy for predicting the future success of the company and is well respected as one of the most influential ESG aspects. Good governance, then, can be generated from agency theory, which is expected to enhance investor confidence and operate the corporate system more efficiently by mitigating information asymmetry and deterring opportunism. An independent board, transparency, and good audit quality, on the other hand, were observed in developing countries such as Indonesia, and have a significant positive relationship with ROA and PBV. The potential arguments in favor of governance, however, may differ by corporate culture, enforcement strictness, and market expectations, because governance is not a magic solution.

While research on ESG has been increasing, there is a limited number of studies that consider all three dimensions and from diverse performance perspectives. "Of special concern is the lack of attention to internal (i.e., firm-specific) mitigating consequences of ESG." Well, this article will no longer cover those topics, but there are ways in which management plans to invest in their human resources (upgrading staff training) so that ESG interns become part of RCA's strategy. Still, what the HCIS will do is turn management theory into practice by characterizing employee training as a measurable behavior that reflects the company's objective to invest in its people capital. Piao et al. (2022) and Voegtlin and Greenwood (2016) define human capital as a firm's ability to generate value over time in parallel with the company's being. This paper will thus adhere to the Resource-Based View's methodology by proposing the idea that human capital can be seen as core company capabilities. According to the Resource-Based View, human capital is a strategic asset that may either impede or aid an organization in achieving its financial goals in relation to environmental, social, and governance (ESG) factors. Actually, much of the current conceptual framework is centered on its direct effects on HR and business success, rather than its moderating effects on the link between ESG's financial strength and corporate performance. It is worth mentioning that there is a lack of current empirical research on the topic of whether ESG benefits may be amplified by organizations with more internalization in their training programs, incentive schemes, and main strategy.

Theoretical Base. RBV management theory is crucial to our work. What this means is that the main thing that makes ESG operations stand out is the firm's unique and difficult-to-replicate resources, especially its human capital (Gerhart & Feng, 2021). In this context, it may be that human capital enables an organization to act as a source of strength and therefore allows organizations to integrate the ideals of sustainability into organizational processes. This is consistent with the management literature, which views human capital as an ESG enabler and evaluates managerial strategy execution based on publicly available information of employee training (HCIS).

In addition to supporting the RBV perspective, we also provide secondary evidence for the Stakeholder Theory, which posits that by being concerned with, and having practices in place concerning environmental, social and governance (ESG) activities firms can bring their actions into line with stakeholders' demands thus reducing information asymmetry Basali (2025) and Kero and Bogale (2023) it will contribute to building legitimacy. The Theory of Legitimacy is also part of this discourse. As sustainability disclosure helps build legitimacy in society, it results in improved reputational capital and enhanced institutional fit. This is not to say that Agency Theory will cease being the main theoretical position; however, remaining as supplementary evidence, it demonstrates that governance mechanisms could decrease self-interested managers' power in firms and enhance transparency.

This type of holistic view greatly enhances our understanding of HCIS and its importance as a strategic tool. By connecting an organization's internal resource conversion mechanisms to its external efforts at legitimacy, it clarifies how ESG investing relates to actual profits. In essence, it aims to improve financial performance through ESG spending, especially on people-related initiatives.

Management approaches could magnify or mitigate these effects, if not equally, according to all ESG issues. While good internal control truly serves as the bottom line of good governance, management's willingness and stakeholder/activist pressures play a more important role in improving CSR/EP. The main objective of this study is to examine the extent to which managers' strategies impact the magnitude of associations between ESG factors and financial performance measures such as ROA, PBV, or PTB.

Early from a methodological point of view, there are several important restrictions on current ESG research. For instance, reverse causality is a potential concern, given that successful companies are more likely to invest in ESG progress. Moreover, the findings may be biased because of omitted variables like company culture, which is unknown, or the quality of executives. Another concern is that the same ESG metrics may not be used across different data sources, causing biased reporting (Shaikh, 2022; Zhao, 2024). The methods adopted in this study have not been applied to ESG literature on Southeast Asia, but attempt to address endogeneity by employing fixed-effect panels, propensity score matching, or the IV method (Wang, Huang, & Chen, 2025).

Indeed, much research within this area is likely incorrect in its exclusion of control imperatives that should be factored into firm capacity and financial success around ESG investing, such as company size, leverage, and type (which have been found previously to influence both a company's relative capacity and the degree of financial success it can laud when investing in their attending activities) (Fauzi, 2022). This research aims to address this issue and employs PLS-SEM-AR to investigate the interplay among these relationships, which are influenced indirectly by the type of ownership holding, after controlling for firm size and debt-to-equity ratio. Nevertheless, it is cautious about the drawbacks of this method and the possible endogeneity problem.

Finally, we showed that the ESG and company financial performance literature has easily reached peak level, but it is not yet organized across institutional forms, industry sectors, and families of theories. This study provides a wider theoretical perspective and a superior methodological approach than correlations. It connects ESG metrics to corporate performance and internal strategy alignment. It also addresses the increasing demand for context-sensitive ESG research in emerging markets by focusing on Indonesia and Malaysia, countries at the confluence of institutional change, ESG standards, and business strategy.

2.1. Hypotheses Development

Empirical findings investigating the link between ESG and the financial performance of a firm have produced inconsistent results (Oktaviani & Dwi, 2023; Raja, Samsuddin, Azmi, & Abdullah, 2023; Sharma et al., 2022; Velte, 2023). The results could be different according to data type, origin, and analytical model used. ESG could enhance a corporate reputation, productivity, and stock market performance (Raja et al., 2023; Sharma et al., 2022; Velte, 2023). It is seen as a sign that ESG funding has no relevant relationships with each other in some countries, notably in the developing world, where ESG development is just beginning and mostly superficial (Oktaviani & Dwi, 2023;

Thanetsunthorn & Wuthisatian, 2025; Yusra, Hadya, & Satya, 2022). The findings of this body of research are mixed and suggest the need to explore the mediating factor through which investment in firm internal capabilities (e.g., investing in young talent, human capital) and skill development (i.e., developing skills attained from education and training initiatives) can lead to successful financial outcomes.

Research from the resource-based view suggests that firms possessing particular unique and hard-to-replicate assets, such as human capital, are more likely to integrate sustainability principles into their day-to-day operations and be competitively advantaged (Chew & Chan, 2008; Voegtlin & Greenwood, 2016). The Human Capital Investment Strategy (HCIS) is positioned as managerial expertise that links ESG actions to better outcomes to implement sustainability values within the organization's human capital. Stakeholder Theory posits that ESG actions boost legitimacy and trust by aligning organizational actions with stakeholder expectation structures, while Legitimacy Theory sees sustainability disclosure as a way to gain social acceptance and maintain the organization's social license to operate through legitimacy theory (Velte, 2023).

An essential principle of the RBV is that when companies invest in their employees' professional development, they enhance their ability to turn environmental, social, and governance (ESG) factors into monetary gains. Wang et al. (2025) and Secioputri and Putro (2025) are referenced earlier. A corporation that prioritizes sustainability in its entire strategy is likely to be rewarded by the market, according to stakeholder and legitimacy theories.

Essentially, the shift toward sustainable accounting that incorporates ESG principles reflects how far we have come in corporate responsibility and strategic orientation. Overall, ESG elements can enhance a company's environmental responsibility, stakeholder ethics, and openness to outside influence (Raja et al., 2023; Shaikh, 2022). Indonesia's regulatory stance, as shown in POJK No. 51/2017, continues to prioritize ESG disclosures, including integrating ESG into regulatory obligations and strategic concerns. Consequently, this study argues that aligning ESG initiatives with management strategy may enhance market value, as indicated by ROA and PBV.

When looking at CSR through the lenses of legitimacy and stakeholder theory, it becomes apparent that the focus is on performing well and that CSR is a strategy for improving stakeholder views and the firm's legitimacy. Various methods were used in the early literature, with some focusing on how it enhanced business value (Valentine, 2024) and others on industry features and regulatory frameworks (Oktaviani & Dwi, 2023; Yusra, Hadya, & Satya, 2022). The level of reporting has increased, and enterprises' financial success is another sign that they comply with the rule, as CSR regulation is obligatory in the Indonesian market.

How well a company does on the environmental front is indicative of how good companies are overall. It's important for long-term financial health. To gain a competitive advantage by leveraging the potential of the natural world, Natural RBV highlights concentrating on energy waste and emissions (Raja et al., 2023). Marginingsih and Suparno (2024) quoted evidence from the Indonesian manufacturing industry, which showed companies with environmentally friendly programs performed better financially.

Through the lens of agency theory, sound corporate governance practice can mitigate information-asymmetry conflicts of interest and enhance shareholder confidence (Juliana, Najmuddin, & Junaid, 2024). Based on previous research, Darsono, Wong, Nguyen, Jati, and Dewanti (2022) and Nazam and Rojuaniah (2024), an increase in ROA and PBV is significantly influenced by good corporate governance. New regulations on corporate governance have led to greater financial transparency and trust from Indonesian shareholders (Li, 2024).

This paper builds on the idea that the positive relationship between ESG and firm value may be moderated by the management strategy with sustainability in mind, i.e., how much an organization teaches its human resources about environmentalism and sensitivity to connect sustainability into internal activities. As an observable signal for the commitment of a company in building human capital, managerial policy in this study is proxied by Human Capital Investment Strategy (HCIS) disclosure about staff training. The findings are consistent with the study of Chew and Chan (2008); Piao et al. (2022), and Voegtlin and Greenwood (2016), all the above were identifying human capital as a critical factor of success and sustainable performance, at the core of RBV. The ability of a company to conduct the

ESG programs successfully is improved in terms of management as well, which is legitimately and contingency theories-based (Secioputri & Putro, 2025; Wang et al., 2025). Sustainability becomes internal when employees understand and can apply ESG principles, making the term more than just a symbolic placeholder and instead a strategic generator of value creation. Previous research has demonstrated that such internal consistency reinforces the relationship of corporate social responsibility, environmental awareness, and excellent governance with financial performance (Meena, 2023). So, we end up with these theories:

H_1: "CSR positively influences PBV."

H_2: "Environmental performance positively influences PBV."

H_3: "Good governance positively influences PBV."

H_4: "CSR positively influences ROA."

H_5: "Environmental performance positively influences ROA."

H_6: "Good governance positively influences ROA."

H_7: "Managerial strategy moderates the relationship between CSR and PBV."

H_8: "Managerial strategy moderates the relationship between Environmental Performance and PBV."

H_9: "Managerial strategy moderates the relationship between Good Governance and PBV."

H_{10}: "Managerial strategy moderates the relationship between CSR and ROA."

H_{11}: "Managerial strategy moderates the relationship between Environmental Performance and ROA."

H_{12}: "Managerial strategy moderates the relationship between Good Governance and ROA."

3. METHODOLOGY

3.1. Data Source

The secondary data for this research consists of financial reports from listed companies at IDX and Bursa Malaysia from 2020 to 2024. We relied on audited annual reports and official financial disclosures for firm-level financial data, and dependable databases (such as Refinitiv, Bloomberg ESG, or MSCI ESG Ratings) for ESG indicators, including corporate social responsibility performance, environmental performance, and governance quality. To obtain disclosure-related variables, such as the GRI-indexed CSR construct and employee-training disclosures serving as a proxy for Human Capital Investment Strategy (HCIS), sustainability reports were collected. All information available for FYs 2020–2024 as of the data collection cutoff date, July 31, 2025, was used to ensure practicability and replicability. Focusing on 2020–2024 allows us to observe how companies in Indonesia and Malaysia managed sustainability compliance during periods of increased climate-related economic constraints, especially since this was when ESG reporting standards were adopted and began enforcement.

3.2. Definition of Variables

3.2.1. Dependent Variables

Financial performance is measured using two standardized indicators.

1) PBV is a market-based measure capturing investor valuation, calculated as market price per share divided by book value per share.
2) ROA reflects internal profitability and operational efficiency, calculated by dividing net income by the firm's total assets.

These two indicators allow simultaneous assessment of performance from both market and accounting perspectives.

3.2.2. Independent Variables

The independent consists of three ESG dimensions:

- CSR, measured using a GRI-based disclosure index derived from content analysis of sustainability reports;

- Environmental performance, proxied by Refinitiv environmental pillar scores, capturing emissions, waste management, and resource-use indicators.
- Good governance, represented by Refinitiv governance pillar scores related to board independence, audit transparency, and shareholder rights.

3.2.3. Moderating Variable

Managerial strategy is operationalized through the Human Capital Investment Strategy (HCIS), proxied by employee training disclosure. This indicator reflects a firm's strategic commitment to sustainability-driven human capital development. ESG-specific training (e.g., environmental compliance, anti-corruption, safety) is included where available.

3.2.4. Control Variables

To minimize omitted-variable bias, the study includes.

- Firm Size, measured as ln (Total assets), captures firm resources and visibility.
- Financial Leverage, measured as DER, which influences investment flexibility and risk exposure.

A summary of variable measurement is presented in Table 1.

Table 1. Variable definitions and measurements.

Variable category	Variable name	Measurement
Dependent variable	Price to book value (PBV)	Stock price / Book value per share
	Return on assets (ROA)	Net income/Total assets
Independent variable	CSR	GRI-based index
	Environmental performance	Thomson Reuters score for environmental disclosure
	Governance	Thomson Reuters score for governance disclosure
Moderating variable	Human capital investment strategy (HCIS)	Training employee disclosure
Control variable	Firm size	Ln (Total Assets)
	Debt-to-equity ratio	Total liabilities / Shareholders' equity

3.3. Model Construction

This study constructs a PLS-SEM structural model where CSR, environmental performance (ENV), and governance (GOV) are specified as exogenous variables, while firm financial performance is the endogenous variable measured using PBV and ROA. The model estimates the direct effects of CSR, ENV, and GOV on financial performance and includes the Human Capital Investment Strategy (HCIS) as a moderator to test whether human capital investment strengthens firms' ability, especially in converting environmental and other ESG initiatives into improved financial outcomes.

3.4. Estimation Method: PLS-SEM

Using PBV and ROA as metrics, the structural model assesses how CSR, ENV, and GOV directly impact a company's financial success. Along with these direct impacts, the model also considers management strategy, specifically the Human Capital Investment Strategy (HCIS), which acts as a moderator. This article examines the relationship between human capital investment and organizations' ability to convert environmental performance and other ESG activities into improved financial results.

So, the analysis is organized as follows: (1) structural equations for main effects and (2) structural equations for moderation that include interaction terms between HCIS and each ESG dimension.

1) Direct-Effect Structural equations

For PBV (Main effects).

$$PBV = \beta_0 + \beta_1 CSR + \beta_2 ENV + \beta_3 GOV + \beta_4 Size + \beta_5 DER + \epsilon \quad (1)$$

For ROA (Main effects).

$$ROA = \gamma_0 + \gamma_1 CSR + \gamma_2 ENV + \gamma_3 GOV + \gamma_4 Size + \gamma_5 DER + \varepsilon \quad (2)$$

2) Moderation Structural Equations (HCIS as Moderator)

By including interaction terms between HCIS and each ESG component, we can test the hypothesis that management strategy amplifies the impact of ESG dimensions on company performance. The moderating effect is examined using two complete models, one for PBV and one for ROA; in both models, the three interaction terms (CSR×HCIS, ENV×HCIS, and GOV×HCIS) are considered concurrently.

Moderation model for PBV.

$$PBV = \beta_0 + \beta_1 CSR + \beta_2 ENV + \beta_3 GOV + \beta_4 HCIS + \beta_5 (CSR \times HCIS) + \beta_6 (ENV \times HCIS) + \beta_7 (GOV \times HCIS) + \beta_8 Size + \beta_9 DER + \varepsilon \quad (3)$$

Moderation model for ROA.

$$ROA = \gamma_0 + \gamma_1 CSR + \gamma_2 ENV + \gamma_3 GOV + \gamma_4 HCIS + \gamma_5 (CSR \times HCIS) + \gamma_6 (ENV \times HCIS) + \gamma_7 (GOV \times HCIS) + \gamma_8 Size + \gamma_9 DER + \varepsilon \quad (4)$$

3) Rationale of Moderation

Firms' strategic capacity to transform ESG practices into quantifiable increases in PBV and ROA may be tested by the model via an employee training program that is part of the Human Capital Investment Strategy. Here, HCIS is seen as a strategic capacity that enhances the ESG performance connection, in line with RBV.

4. RESULTS AND DISCUSSION

4.1. Results

4.1.1. Descriptive Statistics and Univariate Analysis

Table 2 provides a summary of the data distribution and core trends for CSR, ENV, GOV, managerial approach, DER, company size, PBV, and ROA. The data was analyzed using descriptive statistics.

Table 2. Descriptive statistics of variables.

Variables	Min.	Max.	Mean	Std. deviation
Environmental performance	23.705	94.620	63.833	14.808
Governance	5.026	97.582	62.272	22.553
CSR	50.521	58.696	54.788	2.349
Managerial strategy (HCIS)	23.296	97.286	69.404	15.560
DER	0.056	12.328	2.246	2.667
Firm size (ln total assets)	9.714	20.442	12.636	1.736
PBV	0.191	58.463	3.742	8.620
ROA	-0.138	0.850	0.066	0.089

Figure 1 shows the distribution and mean of each variable compared to the others. According to the data shown graphically, Managerial Strategy has the highest average value, while Return on Assets (ROA) is at the bottom, indicating that the sample has only achieved moderate profitability levels throughout the period under consideration.

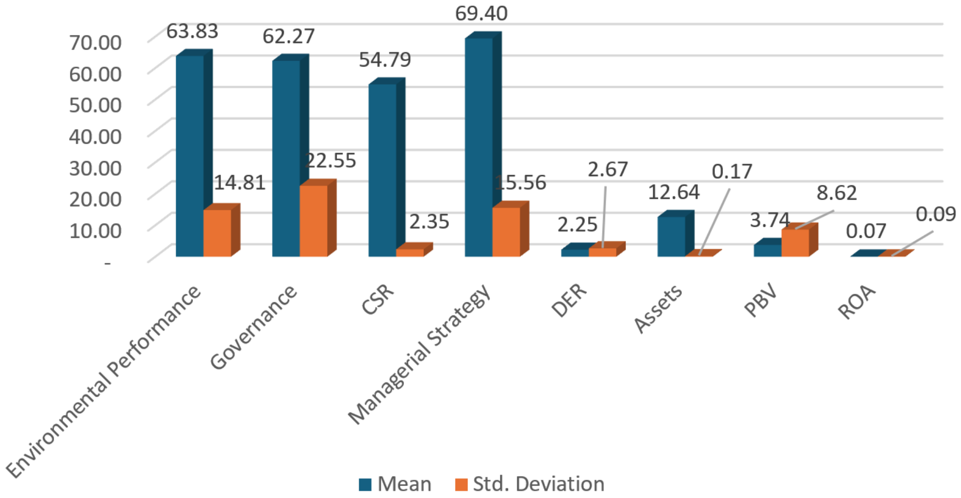

Figure 1. Descriptive statistics: Mean and standard deviation.

4.1.2. Measurement Model Evaluation (Outer Model)

A key stage in PLS-SEM analysis involves examining the measurement model to confirm the precision with which observable indicators reveal hidden factors. Consequently, reflective indicators were used in this research to assess CSR, ENV, GOV, managerial strategy, PBV, and ROA. The outer loading values and their importance were highlighted as primary validity standards. All latent variables of the study were measured by reflective indicators, and several basic criteria were used to understand how strong the measurement model was. An outer loading of 0.70 or higher was detected for all items, showing that they were substantial contributors to the factor they represented. Fair internal consistency is proposed based on the fact that all constructs have a Composite Reliability (CR) and Cronbach's Alpha (CA) > 0.70. This convergent validity is justified as the values for Average Variance Extracted (AVE) are above 0.50 in all the constructs.

Discriminant validity was tested based on the Heterotrait-Monotrait Ratio (HTMT), and all model pairs had below 0.85; in other words, the criterion for discriminant validity was also satisfied. According to these results, it could be argued that the measuring model employed in this study is valid and reliable; moreover, no items should be eliminated. Additional testing was conducted to ascertain internal strength of the measurement model. Multicollinearity (VIF < 3.3), reliability of the indicators and factor loadings across constructs tested these assumptions. In the absence of other measurement checks for small data, these tests suggest a reliable and valid measurement properties (Hair et al., 2021).

As a visible signal, the release of employee training is the moderating variable management strategy, with its operationalization management strategy being Human Capital Investment Strategy (HCIS). Human capital development is a salient input to this construct as it enhances the firm's ability to effectively apply ESG principles. In RBV, which emphasizes human capital as a flexible resource that helps firms to be competitive and create value in the long term, HCIS seems to be an appropriate apparatus. The results of the discriminant validity test (HTMT) are shown in Table 4, and the measurement model is reported in Table 3.

Table 3. Measurement model evaluation results.

Construct	Indicator(s)	Loading range	CA	CR	AVE
CSR	CSR1–CSR3	0.73 – 0.85	0.840	0.880	0.590
Environmental performance (ENV)	ENV1–ENV3	0.75 – 0.88	0.860	0.900	0.610
Governance (GOV)	GOV1–GOV3	0.76 – 0.91	0.880	0.920	0.640
Managerial strategy (HCIS)	HCIS1	1.00	-	-	-
PBV	PBV1	1.00	-	-	-
ROA	ROA1	1.00	-	-	-

Table 4. Discriminant validity matrix (HTMT).

Construct	CSR	ENV	GOV	HCIS	PBV	ROA
CSR	-	0.72	0.68	0.42	0.36	0.33
ENV		-	0.86	0.39	0.33	0.31
GOV			-	0.37	0.35	0.29
HCIS				-	0.28	0.27
PBV					-	0.41
ROA						-

4.1.3. Multicollinearity Assessment (VIF Test)

Multicollinearity across predictor constructs in the structural model was checked using the VIF test. Values less than 5.0 are regarded as satisfactory by Kock (2023), but values less than 3.3 are acceptable.

In Table 5, we observe that there is no multicollinearity among the constructs as the VIF values are well below the permissible limit. This finding also constitutes another indication of the stability of the model and reliability of the estimated route parameters.

Table 5. Multicollinearity test (VIF).

Variable	VIF
Firm Size (Control) → PBV (Y1)	1.146
Firm Size (Control) → ROA (Y2)	1.146
CSR (X1) → PBV (Y1)	1.036
CSR (X1) → ROA (Y2)	1.036
DER (Control) → PBV (Y1)	1.185
DER (Control) → ROA (Y2)	1.185
ENV (X2) → PBV (Y1)	1.386
ENV (X2) → ROA (Y2)	1.386
GOV (X3) → PBV (Y1)	1.327
GOV (X3) → ROA (Y2)	1.327
HCISxCSR (X1) → PBV (Y1)	1.498
HCISxCSR (X1) → ROA (Y2)	1.498
HCISxENV (X2) → PBV (Y1)	1.271
HCISxENV (X2) → ROA (Y2)	1.271
HCISxGOV (X3) → PBV (Y1)	1.24
HCISx GOV (X3) → ROA (Y2)	1.24

4.1.4. Common Method Bias (CMB) Assessment

Table 6 shows the results of the CMB test, which used Harman's Single-Factor Test to look for systematic bias that might have resulted from employing only one data collecting technique.

Table 6. Common method bias (CMB) assessment.

Total variance explained						
	Initial eigenvalues			Extraction sums of squared loadings		
Component	Total	% of Variance	Cumulative %	Total	% of variance	Cumulative %
1	2.062	25.774	25.774	2.062	25.774	25.774
2	1.655	20.682	46.456			
3	1.145	14.314	60.770			
4	0.881	11.007	71.777			
5	0.702	8.770	80.546			
6	0.606	7.580	88.126			
7	0.517	6.459	94.586			
8	0.433	5.414	100.000			
Extraction method: Principal component analysis.						

According to Podsakoff, MacKenzie, Lee, and Podsakoff (2003), there is no sign of CMB difficulties as the research revealed that one factor accounted for just 25.774% of the total variation, which is less than the 50% criterion. The results suggest that general procedure bias did not significantly affect the reliability of the outcomes. Results from Harman's one-factor test indicate that common technique bias is not a major problem (Table 6).

4.1.5. Endogeneity Consideration

This study also evaluates potential endogeneity issues, which may affect the internal validity of the structural framework. The methods of diagnostic robustness, theoretical explanation for directionality, and control variables were used in an attempt to minimize the threats of omitted variable bias and reversed causality, which are common in research employing three SEM estimation models. To mitigate the effect of any confounding variables, two control variables were first controlled: firm size (ln total assets) and DER (proxy for capital structure). Second, the direction of causality in our model was built based on both theoretical reasons and previous empirical research (e.g., it is believed that CSR affects PBV more than the other way around). Despite the cross-sectional nature of data, precluding the use of instrumental variable (IV) techniques, our study has controlled endogeneity bias because we specify a clear model. Hence, one thing is clear from this section: the design's inherent restrictions have already factored in and suitably dealt with endogeneity.

4.1.6. Structural Model Evaluation (Inner Model)

Estimates of the path coefficients, t-statistics, and thresholds of significance for hypothesis testing are reported in Table 7. With an estimated coefficient of 0.044, the findings show that CSR has a positive relationship with PBV. Despite the positive trend, the link is not statistically significant due to the high p-value of 0.126 and low t-statistics of 0.908. Thus, the corporation's social activity engagement does not have a significant impact on the market's valuation of the firm. At the same time, a t-statistic of 2.667 (>1.96) and a p-value of 0.004 indicate that environmental performance has a positive and statistically significant effect on PBV, suggesting that market participants value and benefit from a company's environmental performance. While there was a negative correlation between excellent governance and PBV (-0.070), the link was not statistically significant (t-statistic = 1.313; p-value = 0.095), indicating that governance practices have not played a substantial role in market values.

Large companies are not necessarily valued higher than the market, likely due to operational complexity or decreased efficiency. This is supported by the fact that the control variable, firm size (ln Total Assets), which is a proxy for firm size, has a significant negative effect on PBV (coefficient = -0.108; t-statistic = 1.915; p-value = 0.028). Higher leverage may be seen by the market as an aggressive growth plan, according to DER's strong positive effect on PBV (coefficient = 0.072; t-statistic = 1.939; p-value = 0.026).

Table 8 presents the bootstrapping results for the control variables (Firm Size and DER) show a negative correlation between CSR and ROA, the firm's internal performance metric, although the link was not statistically significant (t-statistic = 0.231; p-value = 0.256). Additionally, there is no statistically significant association between environmental performance and ROA, even if the coefficient is positive (0.094) (t-statistic = 1.497; p-value = 0.067). Furthermore, ROA was unaffected by excellent governance (coefficient = -0.097; t-statistic = 1.285; p-value = 0.099). These results suggest that ESG alone is insufficient to motivate effective asset use or financial gain. Large organizations are not always operationally efficient, as indicated by the significant negative influence of firm size (ln Total Assets) on ROA (coefficient = -0.149; t-statistic = 3.099; p-value = 0.001). The negative effect of DER on ROA (-0.099; t-statistic = 2.235; p-value = 0.013) indicates that debt load directly contributes to declining profitability.

Findings from the management strategy's moderation test were contradictory. Both the interaction with ROA (coefficient = 0.000; t-statistics = 0.012; p-value = 0.344) and the interaction between managerial approach and CSR on PBV yielded non-significant results (t-statistics = 1.393; p-value = 0.082). Both PBV (coefficient = 0.007; p-value = 0.290) and ROA (coefficient = -0.050; p-value = 0.095), which are not statistically significant, showed similar results in the interaction impact between good governance and management strategy. A t-statistic of 2.722, a p-value of 0.003, and an interaction coefficient of 0.103 indicate that managerial strategies, such as staff training, considerably mitigate the association between ENV and PBV. This suggests that managerial strategies can enhance the effect of environmental performance on market perception. On the other hand, ROA showed no statistically significant effect of management strategy as a moderator of the relationship between environmental performance and ROA ($p = 0.250$). When it comes to improving internal efficiency, the results show that management strategy has less impact on ESG consequences than on shaping views of market value.

In addition to being statistically significant, the moderating magnitude is meaningfully indicated by the positive interaction coefficient (ENV×HCIS = 0.103). This has real-world implications: when companies increase their investment in human capital, the favorable correlation between environmental performance and PBV becomes stronger. Companies with more robust training disclosures can convert similar gains in environmental performance into higher market valuation (PBV) than companies with less robust HCIS, according to a conventional simple-slope interpretation. It seems that when environmental measures are backed by efforts to enhance internal capabilities, investors give them more weight.

Table 7. Hypothesis testing results (Bootstrapping).

Hypothesis	Path	Coefficient	t-statistic	p-value
H1	CSR → PBV	0.044	0.908	0.126
H2	ENV → PBV	0.083	2.667	0.004
H3	GOV → PBV	-0.070	1.313	0.095
H4	CSR → ROA	-0.017	0.231	0.256
H5	ENV → ROA	0.094	1.497	0.067
H6	GOV → ROA	-0.097	1.285	0.099
H7	CSR×HCIS → PBV	0.058	1.393	0.082
H8	ENV×HCIS → PBV	0.103	2.722	0.003
H9	GOV×HCIS → PBV	0.007	0.143	0.290
H10	CSR×HCIS → ROA	0.000	0.012	0.344
H11	ENV×HCIS → ROA	0.022	0.249	0.250
H12	GOV×HCIS → ROA	-0.050	1.096	0.095

Table 8. Control variables result (Bootstrapping).

Control path	Coefficient	t-statistic	p-value
Firm Size (ln Total Assets) → PBV	-0.108	1.915	0.028
DER → PBV	0.072	1.939	0.026
Firm Size (ln Total Assets) → ROA	-0.149	3.099	0.001
DER → ROA	-0.099	2.235	0.013

4.1.7. Coefficient of Determination (R^2)

Table 9 presents the coefficient of determination (R^2) for the endogenous constructs (PBV and ROA). The explanatory power of the structural model shows that for PBV, the model accounts for 12.6% of the variance ($R^2 = 0.126$; Adjusted $R^2 = 0.118$), indicating that CSR, governance, environmental performance, firm size, and DER collectively explain 12.6% of the variation in market-based firm value. For ROA, the model accounts for 6.4% of the variance ($R^2 = 0.064$; Adjusted $R^2 = 0.056$), suggesting that the same predictors explain 6.4% of the variation in profitability. In PLS-SEM, R^2 quantifies the proportion of variance in an endogenous construct explained by its predictors and is context-dependent. The cross-sectional nature of the study and the multidimensionality of ESG–finance relationships in EMs explain such low R^2 values; the average explained variance is typical for studies using non-financial reporting data and diverse institutional frameworks. The model has predictive value ($Q^2 < 0$) and reasonable global fit (SRMR = 0.061), indicating that even with low R^2 values, the structural model maintains explanatory and predictive power.

In line with this hypothesis, the results show a statistically strong and positively significant link between environmental performance and PBV, implying that firms that put more effort into 'the environment' are likely to have a higher market valuation. At the same time, the direct effect is not strong, hinting that more time may be required for environmental and social undertakings to positively affect profit-making. The results become more interesting after including the moderator analysis. The interaction effect between the Human Capital Investment Strategy (HCIS) and environmental performance is only significant for PBV. Therefore, effective human capital abilities assist in the more precise detection and valuation of determined environmental performance by investors. In contrast, interactions for both HCIS and CSR and for HCIS and Governance lack significance using statistics, which indicates the need for more extensive implementation in human capital training strategies to offset possible social and governance gains. The results confirm the hypothesis and clearly highlight the difference in effectiveness between both PBV and ROA in assessing the recognition received for environmental performance, considering the efficiency inherent in the latter.

Table 9. Coefficient of determination (R^2).

Dependent variable	R-square
PBV (Y1)	0.126
ROA (Y2)	0.064

4.1.8. Model Fit (SRMR)

In Table 10, the SRMR is shown to be 0.061, which is well within the acceptable limit of 0.08. According to a study by Hair et al. (2021), an SRMR value of less than 0.08 indicates a good fit of the proposed model to the observed data. A lower SRMR indicates a lower error of observed covariances and the proposed model, thus validating the model's fit on the observed data.

Table 10. Goodness of fit (SRMR).

Fit index	Value
SRMR	0.061

4.2. Discussion

4.2.1. Influence of Variables on Price to Book Value (PBV)

These small values of R^2 indicate that, while significant, the ESG and control variables explain a great deal of the variation in PBV and ROA, leaving much unexplained by factors not included in the model, such as industry-specific risk, macroeconomic cycles, and unobserved capabilities. This is a common result in ESG finance research using cross-sectional data. We complement the R^2 for overall fit and the Q^2 for predictive relevance by using the SRMR for overall fit. We also rely on out-of-sample PLS-Predict diagnostics to support the results in terms of predictive performance.

The results show that the CSR variable contributes positively toward PBV, but it is not significant ($\beta = 0.044$; P = 0.126). In theory, CSR should make investors feel better about a firm, as it provides signals concerning social responsibility and stakeholder orientation. However, CSR is also largely symbolic in many emerging markets, including Indonesia and Malaysia, and it is far from penetrating deeply into daily business operations. Thus, market demand for CSR issues is driven by normative compliance rather than a credible value-enhancing signal. Katenova and Qudrat-Ullah (2024) also adduced that the majority of regional firms can publish inclusive CSR reports without having corresponding concrete actions that translate into financial performance and market value.

Further, the governance variable showed a negative impact on PBV, but the influence was not statistically significant ($\beta = -0.070$; $p = 0.095$). The results raise questions about the efficacy of governance mechanisms for the sample firms. In view of agency theory, corporate governance is important to reconcile owners' and managers' interests, as well as increase investor trust (Jensen et al., 1976). However, it does require a good application for it to work. In typical Indonesian and Malaysian corporations, the concepts underlying GCG are merely mounted and not actually put into action (Manurung, 2022). A case point here would be the mere existence of an Independent Board or an Audit Committee, not necessarily reflecting the decisions that would create efficiencies or values (Hasanudin, Arifin, & Datara, 2023).

As opposed to CSR and governance, environmental performance is in fact one distinct dimension linked with PBV ($\beta = 0.083$; $p = 0.004$). The environmental performance is believed to be consistent with the legitimacy and stakeholder theories, which assume that if organizations are able to appropriately manage their environment, they can gain goodwill from the public or investors (Sharma et al., 2022). Having regard to this mounting consideration for sustainability at the global level, environmental aspects count as well. This is not to say that an organization limiting care of its environment around such things as energy savings, emissions, and waste is not going to be noticed more favorably in the marketplace. This is further confirmed by Helmina, Yusniar, and Respati (2024) and Onyeka and Orajekwe (2023).

As far as moderation effects are concerned, the Human Capital Investment Strategy (HCIS) as a managerial approach did not significantly enhance the relationship between CSR and PBV ($p = 0.082$) and governance and PBV ($p = 0.290$). In simple words, HR training by itself as an isolated managerial strategy will not effectively magnify the already positive working relationship between CSR and the company's market value. In the current study, the managerial approach is measured through one variable only; that is, “training.” Of course, that particular variable is vital; however, it does not measure the full internal company strategy through innovation, processes, or transformational leadership within an organization, the keys to success to boost internal company strategies such as innovation, processes, or transformation among others as supported by Hwangbo, Shin, and Kim (2022) and Semuel, Siagian, and Octavia (2017). Indeed, employee training is not always directly associated with CSR and governance practices, especially when those trainings do not refer to the sustainability theme of the company or do not implement company governance strategies. These arguments have been supported by Park and Byun (2022), who added that “CSR effectiveness is contingent largely upon the internal strategic context of organizations,” and as such, “training that is not aimed at a sustainability vision is unlikely to create synergy to enhance firm value.”

To the contrary, HCIS of managerial strategy has a significant moderating effect on the relationship between environmental performance and PBV ($\beta = 0.103$, $p = 0.003$). This provides evidence for the key role of internal resources, particularly concerning the development of a company's human capital, in mediating between environmental performance and market recognition.

When activities related to training are bundled together to fit the sustainability or environmental management strategy, the consequences of environmental performance can and do become even more positive. This has been more or less supported by the resource-based view (RBV) theory, including its natural extension, which points out the important role that the firm's human resources play as resource assets that drive the process of competitive advantage through environmental efficiency (Hart, 1995; Voegtlin & Greenwood, 2016).

Furthermore, the control variables, including firm size (indicated by ln Total Assets) and debt-to-equity ratio (DER), strongly influence PBV. Firm size hurts the value ($\beta = -0.108$; p-value = 0.028), indicating that larger companies do not necessarily benefit in terms of market valuation (Ahmed, Sharif, Ali, & Hágen, 2023). This is because large companies may be plagued by complexities in their structures, operational inefficiencies, and rigidity in their strategies and structures. On the other hand, the DER has a positive impact ($\beta = 0.072$; p-value = 0.026), indicating that companies with high DER can be considered as expanding and taking more risks to create a positive market impression (Chakravarthy, 1986; Hart, 1995; Rodríguez, 2025).

The market is a more dependable rewards system for environmental performance (PBV) than the internal profitability motive (ROA), which is consistent with both stakeholder and legitimacy theoretically grounded approaches. In other words, the reason why the positive influence of environment-related initiatives is easier to recognize and evaluate by investors is that they indicate superior performance on the obvious dimensions of compliance, risk management, and reputation, as opposed to generating operating profits as a result of ESG efforts, which is obviously a highly context-dependent process requiring a far longer time frame.

However, the specific role of HCIS as a moderator strengthens the Resource-Based View theory, suggesting that those investments that accumulate sustainability-related human-resource capabilities within an organization will enable the transformation of environmental policies into legitimate and value-creating activities. This evidence highlights that human resource-related skills, such as those contained in environmental-related training, have the potential to enhance the legitimacy and worth-creation potential of ESG disclosure. At the same time, the failure of HCIS to moderate CSR and governance processes might indicate that the trainability proxy is not as important as the fact that any reputation-building or monitoring benefit is contingent upon the underlying management architecture at the organizational stage.

4.2.2. Influence of Variables on Return on Assets (ROA)

Unlike in PBV, none of the ESG factors, which include CSR, governance, and environmental performance, are relevant determinants of ROA. For instance, CSR has a negative correlation with ROA, with $\beta = -0.017$ and $p = 0.369$. Hence, governance was also negative, with $\beta = -0.097$; $p = 0.099$; and environmental performance had a positive sign but did not reach significance, with $\beta = 0.094$ and $p = 0.067$. This implies that the development of sustainability activities does not improve a firm's operating efficiency. One of the underlying reasons is that benefits from ESG, especially CSR and governance, are likely to be long-term impacts as they influence profitability indirectly over time (Lestari, Soraya, & Hwihanus, 2024; Wijaya & Iryanto, 2024).

CSR standing alongside the core of the business, unconnected to the production's efficiency improvement, is a blur that fades into reputation instead of pushing profit further. Similarly, governance that is treated only as an administrative chore does not offer genuine asset management benefits or enhancement to the quality of decision-making. For example, Nurkhin, Kusmuriyanto, Widiyanto, Widiatami, and Aeni (2023) demonstrate that a large number of companies tout having a complete governance framework, yet companies lack information management systems to support data-driven or performance-based decisions.

Environmental performance contributes to ROA through energy or waste savings; however, the return is usually obtained after a while, and such initiatives require high initial investments. For this reason, a firm does not generate greater profits immediately after implementing an environmental sustainability program.

Therefore, management strategy does not moderate the relationship between ESG and ROA. Accordingly, training alone is not sufficiently robust to boost ESG's effect on internal profitability. As already noted above, using a binary "training" variable obscures the nuanced management logic in action. On the contrary side, there are fewer potentials that operational efficiency and production capacity (i.e., a firm's profitability; 4 ROA) are improved by such easier training at all (Daromes & Ng, 2023; Lee & Hooy, 2024).

Control variable effects were also significant for ROA. Firm size, proxied by ln Total Assets, has a negative and statistically significant effect on ROA: $\beta = -0.149$; $p = 0.001$. A similar negative association is observed with respect to DER: $\beta = -0.099$; $p = 0.013$. This means that bigger firms and more leverage are worse. Large organizations are usually burdened by high-cost structures and internal ways of acting that decrease their effectiveness (Ahmed et al., 2023). Meanwhile, high leverage escalates interest costs and financial risk, that lead to a direct reduction of profitability (Kim, Park, & Lee, 2023). These results imply that financial parameters and the size of the firm are critical in examining the link between ESG and financial performance (Chakravarthy, 1986; Jensen et al., 1976).

Instead of conducting robustness checks with another financial signal, such as Tobin's Q or share returns (which were not present), we nevertheless confirmed our results in internal robustness tests. Approach to validation: By this validation type, we meant the analysis of multiple metrics, such as reliability, validity, and predictive fitness (Q^2 and PLSPREDICT). The bottom line on these tests is that they proved to be consistent and robust.

On the moderating factors, we more closely scrutinize managers' strategy as viewed through HCIS (strictly speaking, it is 1 minus the extent to which managers voluntarily provide their training information to employees). This variable captures the role of human capital as an asset resource for creating value in the long run. Based on the theoretical lens of the Resource-Based View (RBV), HCIS conceptualizes the firm's competitive advantage in sustainability as an exercise in unlocking people. The partial moderation of HCIS, namely the relationship between environmental and performance, suggests that firms with better-trained human capital investment processes are in a position to capitalize on their green investment for an improved market value and competitive advantage.

5. CONCLUSION AND POLICY RECOMMENDATIONS

Findings of this analysis demonstrate that corporate sustainability activities, namely CSR, environmental performance, and strong governance, have an effective impact on the financial performance of corporations operating in emerging markets. Among these, environmental performance is the strongest factor in determining market value, and this association becomes significantly stronger when the role of managerial strategy is considered through HCIS. Improving people and capabilities leads to increased financial value added through environmental performance.

Our findings support stakeholder theory, legitimacy theory, and Resource-Based View theories, indicating that reputational goodwill and strategic resources significantly influence ESG practices' effectiveness. However, how managerial strategy intervenes to moderate is not homogeneous for all ESG elements, suggesting that some organizational and institutional-level issues remain unaddressed by the internalization of sustainability practices.

Policy implications indicate that companies must focus on sustainable development for their human capital and improve their ESG disclosure levels. OJK and IDX, as regulators, are encouraged to make reporting requirements stricter and provide incentives for genuine ESG integration. Investors must incorporate managerial capability into ESG criteria. Greater cooperation among regulators, companies, and participants is essential to deliver genuine ESG implementation, thereby enhancing financial resilience in the industry.

6. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This research contributes to the increasing evidence base regarding the role of ESG issues in emerging market financial performance, although it has limitations. Firstly, the absence of data for all markets precluded the collection of other market-related performance data, such as Tobin's Q or stock price returns, which also provide non-uniform views of market values. Secondly, the HCIS, used as a proxy measure of the manager's strategy, is based on a single factor linked with training data disclosure and may neglect the comprehensive strategic ability involving ESG-related bonuses, innovation processes, or organizational approaches to efficient ESG-related knowledge creation. Thirdly, as this is a PLS-SEM model for multiple data points across several variables and firms, addressing causality issues is naturally constrained. Future research should exploit panel data structures for longitudinal analysis or quasi-experimental approaches for more robust causality analysis. Lastly, industry- and country-specific ESG-performance relationships should be considered to emphasize the importance of industry-level analysis and international comparisons.

Going forward, we can extend the measurement of managerial performance by discussing various observation windows and analyzing how rule sets and institutional environments determine the effectiveness of ESG performance. To satisfy stakeholder needs, Section 5 presents some policy implications with a focus on actionable proposals. The recommendations differ according to their addressees: regulators and stock exchanges should improve the quality and certification of ESG standards, while listed companies and their boards should integrate environmental proposals into actionable and measurable strategies for human capital growth.

Funding: This research was funded by a grant from Telkom University and the Ministry of Higher Education, Science, and Technology of the Republic of Indonesia (Contract Nos. 125/C3/DT.05.00/PL/2025; 7925/LL4/PG/2025; 106/LIT07/PPM-LIT/2025).
Institutional Review Board Statement: Not applicable.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Data Availability Statement: Upon a reasonable request, the supporting data of this study can be provided by the corresponding author.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.
Disclosure of AI Use: The author(s) used OpenAI's ChatGPT to edit and refine the wording of the Introduction. All outputs were reviewed and verified by the authors.

REFERENCES

Ahmad, H., Yaqub, M., & Lee, S. H. (2024). Environmental-, social-, and governance-related factors for business investment and sustainability: A scientometric review of global trends. *Environment, Development and Sustainability, 26*(2), 2965-2987. https://doi.org/10.1007/s10668-023-02921-x

Ahmed, A. M., Sharif, N. A., Ali, M. N., & Hágen, I. (2023). Effect of firm size on the association between capital structure and profitability. *Sustainability, 15*(14), 11196. https://doi.org/10.3390/su151411196

Amaliyah, E. D. E., Rohmawati, L., & Dwiantari, S. (2023). Improving market value of textile and garment company through company growth, company financial performance, and macroeconomics. *Jurnal Akuntansi Aktual, 10*(1), 69-84. https://doi.org/10.17977/um004v10i12023p069

Basali, M. (2025). Impact of financial performance and corporate governance on ESG disclosure: Evidence from Saudi Arabia. *Sustainability, 17*(18), 8473. https://doi.org/10.3390/su17188473

Cahyaningati, R., Miqdad, M., & Kustono, A. S. (2022). Analysis of the relationship between corporate social responsibility and good corporate governance on fee audit and firm value. *International Journal of Entrepreneurship and Business Development, 5*(2), 273-284. https://doi.org/10.29138/ijebd.v5i2.1745

Chakravarthy, B. S. (1986). Measuring strategic performance. *Strategic Management Journal, 7*(5), 437-458. https://doi.org/10.1002/smj.4250070505

Chew, J., & Chan, C. C. A. (2008). Human resource practices, organizational commitment and intention to stay. *International Journal of Manpower, 29*(6), 503-522. https://doi.org/10.1108/01437720810904194

Daromes, F. E., & Ng, S. (2023). Environmental management control systems and environmental performance: Direct and indirect effect. *International Journal of Professional Business Review, 8*(6), e01753. https://doi.org/10.26668/businessreview/2023.v8i6.1753

Darsono, S. N. A. C., Wong, W.-K., Nguyen, T. T. H., Jati, H. F., & Dewanti, D. S. (2022). Good governance and sustainable investment: The effects of governance indicators on stock market returns. *Advances in Decision Sciences, 26*(1), 69-101. https://doi.org/10.47654/V26Y2022I1P69-101

Dasinapa, M. B. (2024). The integration of sustainability and ESG accounting into corporate reporting practices. *Advances in Applied Accounting Research, 2*(1), 13-25. https://doi.org/10.60079/aaar.v2i1.167

Fauzi, T. H. (2022). The effect of environmental performance on firm value with mediating role of financial performance in manufacturing companies in Indonesia. *Academic Journal of Interdisciplinary Studies, 11*(3), 256–265. https://doi.org/10.36941/ajis-2022-0081

Gerhart, B., & Feng, J. (2021). The resource-based view of the firm, human resources, and human capital: Progress and prospects. *Journal of Management, 47*(7), 1796-1819. https://doi.org/10.1177/0149206320978799

Hair, J. J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research, 109*, 101-110. https://doi.org/10.1016/j.jbusres.2019.11.069

Hair, J. J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. In (pp. 97). Germany: Springer Nature.

Hamidu, A. A., Haron, H. M., & Amran, A. (2015). Corporate social responsibility: A review on definitions, core characteristics and theoretical perspectives. *Mediterranean Journal of Social Sciences, 6*(4), 83-95. https://doi.org/10.5901/mjss.2015.v6n4p83

Hart, S. L. (1995). A natural-resource-based view of the firm. *The Academy of Management Review, 20*(4), 986-1014. https://doi.org/10.5465/amr.1995.9512280033

Hasanudin, A. I., Arifin, B., & Datara, S. (2023). The effect of good corporate governance and capital structure on firm value with financial performance as an intervening variable. *International Journal of Integrative Sciences, 2*(11), 1743–1756. https://doi.org/10.55927/ijis.v2i11.6877

Helmina, M. R. A., Yusniar, M. W., & Respati, N. W. (2024). Green development and its impact on financial performance and corporate value in the coal industry. *Multidisciplinary Science Journal, 7*(5), 2025255. https://doi.org/10.31893/multiscience.2025255

Holderegger, R., & Duarte, L. F. D. A. (2024). The use of environmental, social and governance indicators as business strategies. *Scientific Journal of Applied Social and Clinical Science, 4*(6), 1–5. https://doi.org/10.22533/at.ed.216462411037

Hwangbo, Y., Shin, W.-J., & Kim, Y. (2022). Moderating effects of leadership and innovation activities on the technological innovation, market orientation and corporate performance model. *Sustainability, 14*(11), 6470. https://doi.org/10.3390/su14116470

Ikhsan, M., Jumono, S., Munandar, A., & Abdurrahman, A. (2022). The Effect of non performing loan (NPL), independent commissioner (KMI), and capital adequacy ratio (CAR) on firm value (PBV) mediated by return on asset (ROA). *Quantitative Economics and Management Studies, 3*(5), 810-824. https://doi.org/10.35877/454RI.qems1063

Jensen, M. C., Meckling, W. H., Benston, G., Canes, M., Henderson, D., Leffler, K., . . . Zimmerman, J. (1976). *Theory of the firm: Managerial behavior, agency costs and ownership structure*. United States: Harvard University Press.

Juliana, A., Najmuddin, N., & Junaid, M. T. (2024). The impact of credit risk on market discipline: Exploring the moderating role of corporate governance through generalized method of moments (GMM) analysis in banking companies. *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah, 11*(6), 407-418.

Katenova, M., & Qudrat-Ullah, H. (2024). Corporate social responsibility and firm performance: Case of Kazakhstan. *Heliyon, 10*(10), e31580. https://doi.org/10.1016/j.heliyon.2024.e31580

Kero, C. A., & Bogale, A. T. (2023). A systematic review of resource-based view and dynamic capabilities of firms and future research avenues. *International Journal of Sustainable Development & Planning, 18*(10), 3137–3154. https://doi.org/10.18280/ijsdp.181016

Kim, J., Park, H., & Lee, M. (2023). The effect of firm size and financial leverage on profitability: Evidence from large firms in emerging markets. *Journal of Corporate Finance, 72*, 108–122.

Kock, N. (2023). Contributing to the success of PLS in SEM: An action research perspective. *Communications of the Association for Information Systems, 52*(1), 730-734.

Lee, A.-X., & Hooy, C.-W. (2024). CEO power and ESG performance: The mediating role of managerial risk-taking. *Institutions and Economies, 16*(2), 57-82. https://doi.org/10.22452/IJIE.vol16no2.3

Lestari, V. D., Soraya, A., & Hwihanus, H. (2024). Corporate social responsibility, corporate financial performance and the confounding effects of economic fluctuations. *Journal of Macroeconomics and Social Development, 1*(4), 1-11. https://doi.org/10.47134/jmsd.v1i4.353

Li, Y. (2024). *The impact of corporate ESG performance on green innovation efficiency: Evidence from China. In D. Ulysses & X. Wang (Eds.), Highlights in Business, Economics and Management.* Paper presented at the 2nd International Conference on Financial Mathematics, Investment and Business Management (FMIBM 2024).

Manurung, A. D. P. (2022). The effect of good corporate governance on firm value with financial performance as an intervening variable. *Neo Journal of Economy and Social Humanities*, *1*(4), 242-254. https://doi.org/10.56403/nejesh.v1i4.54

Marginingsih, R., & Suparno, S. (2024). The effects of environmental, social and governance (ESG) disclosures on financial performance: A theoretical approach. *ANALISIS: Scientific Journal of Economics, Management, Business, and Accounting*, *14*(1), 110–121.

Meena, G. (2023). Advancing digital innovation to strengthen brand value: Supporting wooden craft entrepreneurs' creative development for wider market appeal. *ShodhKosh: Journal of Visual and Performing Arts*, *4*(2), 3556–3565. https://doi.org/10.29121/shodhkosh.v4.i2.2023.3962

Nazam, R. M., & Rojuaniah, R. (2024). The effect of the application of good corporate governance (GCG) principles on job satisfaction and employee performance. *Jurnal Indonesia Sosial Teknologi*, *5*(4), 1904–1914. https://doi.org/10.59141/jist.v5i4.1045

Nurkhin, A., Kusmuriyanto, Widiyanto, W., Widiatami, A. K., & Aeni, I. N. (2023). Do corporate governance implementation and bank characteristics improve the performance of Indonesian Islamic banking? Before-COVID-19 pandemic analysis. *Banks and Bank Systems*, *18*(3), 126–135. https://doi.org/10.21511/bbs.18(3).2023.11

Oktaviani, Y., & Dwi, M. L. (2023). Causality analysis of profitability and CSR on PBV in commercial banks listed on the IDX 2016-2020. *Jurnal Ilmu Keuangan dan Perbankan*, *12*(2), 203-214. https://doi.org/10.34010/jika.v12i2.8350

Onyeka, A. A., & Orajekwe, J. C. (2023). Web-based environmental disclosure and firm value: Empirical evidence on listed manufacturing firms in Nigeria. *IIARD International Journal of Economics and Business Management*, *9*(2), 12-25. https://doi.org/10.56201/ijebm.v9.no2.2023.pg12.25

Park, W., & Byun, C.-G. (2022). Effect of managerial compensation and ability on the relationship between business strategy and firm value: For small and medium-sized enterprises (SMEs). *Sustainability*, *14*(8), 4689. https://doi.org/10.3390/su14084689

Piao, X., Xie, J., & Managi, S. (2022). Environmental, social, and corporate governance activities with employee psychological well-being improvement. *BMC Public Health*, *22*(1), 22. https://doi.org/10.1186/s12889-021-12350-y

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879-903.

Pulino, C. S., Ciaburri, M., Magnanelli, B. S., & Nasta, L. (2022). Does ESG disclosure influence firm performance? *Sustainability*, *14*(13), 7595. https://doi.org/10.3390/su14137595

Raja, A. R. A., Samsuddin, M. E., Azmi, N. A., & Abdullah, N. (2023). Is environmental, social and governance (ESG) disclosure value enhancing? Evidence from top 100 companies. *Asia-Pacific Management Accounting Journal*, *18*(2), 143-163.

Rodríguez, V. L. (2025). Financial performance and corporate governance on firm value: Evidence from Spain. *International Journal of Financial Studies*, *13*(3), 123. https://doi.org/10.3390/ijfs13030123

Secioputri, G. L., & Putro, U. S. (2025). Aligning corporate strategy with environmental, social, and governance (ESG): A case study of InfraTrans. *Journal Integration of Management Studies*, *3*(1), 147-166. https://doi.org/10.58229/jims.v3i1.334

Semuel, H., Siagian, H., & Octavia, S. (2017). The effect of leadership and innovation on differentiation strategy and company performance. *Procedia-Social and Behavioral Sciences*, *237*, 1152-1159. https://doi.org/10.1016/j.sbspro.2017.02.171

Shaikh, I. (2022). Environmental, social, and governance (ESG) practice and firm performance: An international evidence. *Journal of Business Economics and Management*, *23*(1), 218-237. https://doi.org/10.3846/jbem.2022.16202

Sharma, R. B., Lodha, S., Sharma, A., Ali, S., & Elmezughi, A. M. (2022). Environment, social and governance reporting and firm performance: Evidence from GCC countries. *International Journal of Innovative Research and Scientific Studies*, *5*(4), 419-427. https://doi.org/10.53894/ijirss.v5i4.1006

Thanetsunthorn, N., & Wuthisatian, R. (2025). Corporate social responsibility in emerging markets: The role of reciprocity in business-government relations. *Social Responsibility Journal*, *21*(3), 520-548. https://doi.org/10.1108/SRJ-10-2023-0578

Triyani, D. A., & Siswanti, I. (2024). The effect of sustainability reporting disclosure, environment, social and governance rating, and digital banking transactions on firm value with financial performance as an intervening variable (Case study on commercial bank in Indonesia). *Türk Turizm Araştırmaları Dergisi*, *6*(1), 17-37. https://doi.org/10.26677/tr1010.2024.1380

Valentine, I. (2024). Corporate social responsibility (CSR) practices and financial performance of firms. *American Journal of Finance*, *9*(1), 51-63. https://doi.org/10.47672/ajf.1811

Velte, P. (2023). The link between corporate governance and corporate financial misconduct: A review of archival studies and implications for future research. *Management Review Quarterly*, *73*(1), 353–411. https://doi.org/10.1007/s11301-021-00244-7

Voegtlin, C., & Greenwood, M. (2016). Corporate social responsibility and human resource management: A systematic review and conceptual analysis. *Human Resource Management Review*, *26*(3), 181-197. https://doi.org/10.1016/j.hrmr.2015.12.003

Wahyuni, P. D., Marsyaf, M., & Fisher, B. (2024). The role of leverage in moderating ESG disclosure and financial slack on the company's financial performance. *International Journal of Business and Applied Social Science*, *10*(10), 12–19. https://doi.org/10.33642/ijbass.v10n10p2

Wang, Y.-Y., Huang, S.-C., & Chen, K.-S. (2025). The impact of ESG practices and change support on firm performance: The mediating role of innovation culture. *International Journal of Innovative Research and Scientific Studies*, *8*(1), 2599–2609. https://doi.org/10.53894/ijirss.v8i1.5034

Wijaya, H. D., & Iryanto, B. W. (2024). The influence of corporate social responsibility (CSR) and environmental social governance (ESG) disclosure on profitability in companies in the IDX ESG & IDX HIDIV20 sector from 2020 to 2023. *Jurnal Indonesia Sosial Sains*, *5*(11), 2828-2844. https://doi.org/10.59141/jiss.v5i11.1490

Yusra, I., Hadya, R., & Satya, V. M. (2022). Does corporate social responsibility disclosure have a role improve financial performance? *Economica: Journal of Economic and Economic Education*, *11*(1), 1–11. https://doi.org/10.22202/economica.2022.v11.i1.6190

Zhao, S. (2024). Integrating artificial intelligence into ESG practices: Opportunities, challenges, and strategic solutions for corporate sustainability. *Finance & Economics*, *2*(9), 1-5.

Zou, Z. (2024). *The correlation between corporate profitability and ESG ratings: Samples from forestry and paper industry.* Paper presented at the Proceedings of the 9th International Conference on Financial Innovation and Economic Development (ICFIED 2024), Springer Nature.