

Sustainability Accounting and ESG Disclosure: Their Effects on Corporate Financial Performance

Suwandi Ng

Universitas Atma Jaya Makassar, Makassar, Indonesia

**Corresponding Author: swnd_ng@yahoo.com*

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ABSTRACT

This study examines the effects of sustainability accounting and environmental, social, and governance (ESG) disclosure on corporate financial performance, with ESG disclosure as a mediator and firm size as a moderator. A quantitative explanatory design was employed using data from 118 non-financial companies listed on the Indonesia Stock Exchange. Hypotheses were tested using Partial Least Squares Structural Equation Modelling. Sustainability accounting and ESG disclosure both significantly improve corporate financial performance, and ESG disclosure partially mediates the effect of sustainability accounting. Firm size strengthens the effect of ESG disclosure on financial performance. These findings suggest that companies should institutionalise sustainability accounting and improve the quality of ESG disclosure to translate sustainability commitment into financial returns

INTRODUCTION

The integration of sustainability considerations into corporate reporting has moved from the periphery of accounting practice to its centre. Regulatory reform, investor expectations, and reputational pressure have converged to require that companies account not only for financial outcomes but also for the environmental and social consequences of their operations. The emergence of international sustainability disclosure standards has accelerated this movement by providing a common vocabulary through which firms can communicate their environmental, social, and governance (ESG) performance. In parallel, sustainability accounting has developed into a distinct body of practice that links environmental and social costs to internal decision-

making, budgeting, and performance measurement. Together, these developments have reconfigured the informational architecture that surrounds the modern corporation.

Sustainability accounting is understood as the systematic identification, measurement, and allocation of environmental and social costs within the conventional accounting system so that economic decisions reflect the full cost of resource use (Burritt & Schaltegger, 2021). Its principal tools include environmental cost accounting, material flow analysis, life-cycle costing, and sustainability performance measurement. ESG disclosure, by contrast, refers to the external communication of environmental, social, and governance information to stakeholders through annual reports, sustainability reports, and integrated reports (De Villiers & Maroun, 2022). Although the two concepts are closely related, they operate through different mechanisms: sustainability accounting is primarily an internal managerial technology, whereas ESG disclosure is primarily an external signalling instrument. Whether they reinforce one another in shaping financial outcomes remains an open empirical question.

The relationship between sustainability practice and financial performance has been studied extensively, yet the evidence remains inconclusive. Some studies report a positive association, arguing that sustainability practices reduce operating costs, lower the cost of capital, improve stakeholder trust, and protect intangible assets such as reputation and legitimacy (Al-Tuwaijri et al., 2022; Brooks & Oikonomou, 2020). Others find neutral or negative effects, contending that sustainability investments divert resources from productive uses and impose compliance costs that erode short-term profitability (Haessler, 2020). Meta-analytic evidence suggests that the direction of the relationship depends on the time horizon, the industry context, and the specific dimensions of sustainability examined (Hang et al., 2019). This heterogeneity indicates that the effect is contingent rather than universal.

Two gaps motivate the present study. First, most prior research treats sustainability accounting and ESG disclosure as a single composite construct, thereby obscuring the distinct internal and external mechanisms through which each influences financial outcomes. Second, few studies model the possibility that disclosure operates as the channel through which internal sustainability measurement translates into financial benefit. Companies that measure environmental and social costs internally, but do not disclose them credibly, may fail to capture the reputational and cost-of-capital benefits that disclosure generates. Conversely, disclosure that is not anchored in reliable internal measurement risks being dismissed as symbolic (Rezaee & Tuo, 2019). This study therefore examines sustainability accounting and ESG disclosure as separate determinants of corporate financial performance, tests disclosure as a mediating mechanism, and introduces firm size as a boundary condition. The findings are expected to clarify how internal accounting practice and external reporting jointly shape financial outcomes in an emerging market context.

RESEARCH METHOD

This study employed a quantitative, explanatory research design to test the hypothesised relationships between sustainability accounting, ESG disclosure, corporate financial

performance, and firm size. An explanatory design was selected because the study aims to establish the direction and magnitude of relationships among latent constructs rather than to describe their distribution. The unit of analysis was the firm, and the unit of observation was the senior finance or accounting executive responsible for sustainability measurement and reporting within each firm.

The population comprised non-financial companies listed on the Indonesia Stock Exchange that had published a sustainability report or an integrated report for at least two consecutive years. A non-probability purposive sampling technique was applied, with inclusion criteria requiring that the firm had published audited financial statements for the period under study, had disclosed environmental or social information in a standalone or integrated report, and had a designated officer responsible for sustainability reporting. Questionnaires were distributed to 160 firms through an online, self-administered instrument. A total of 118 usable responses were retained after screening for completeness, consistency, and duplicate submissions, yielding a valid response rate of 73.8 percent. Perceptual responses were cross-checked against publicly available annual reports to reduce single-source bias. The sample size exceeds the minimum threshold of ten observations per indicator recommended for variance-based structural equation modelling.

All latent constructs were measured using reflective indicators adapted from previously validated instruments and operationalised on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sustainability accounting was measured using items covering environmental cost identification, sustainability cost allocation, material and energy flow accounting, and integration of sustainability indicators into management reporting. ESG disclosure was measured using items on environmental disclosure, social disclosure, and governance disclosure, including the completeness, comparability, and verifiability of the reported information. Corporate financial performance was measured using items on profitability relative to industry, return on assets, operating efficiency, and revenue growth. Firm size was measured using items on total assets, number of employees, and market capitalisation band. A preliminary content validity review was conducted with two academic reviewers and three practitioners before distribution.

Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS. PLS-SEM was selected because the model contains multiple latent constructs, a mediating path, and a moderating effect, and because the method does not require strict multivariate normality. The analysis followed a two-stage procedure. In the first stage, the measurement model was evaluated through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. In the second stage, the structural model was assessed through the coefficient of determination, effect size, predictive relevance, and path coefficients. Hypothesis testing employed a non-parametric bootstrapping procedure with 5,000 resamples and a two-tailed significance level of five percent. Mediation was tested using the indirect effect approach, and moderation was tested using the product indicator approach.

RESULTS AND DISCUSSION

The analysis proceeded in four sequential steps: respondent and firm profiling, descriptive and correlational analysis, measurement model evaluation, and structural model assessment with hypothesis testing. Each step is reported in turn so that the psychometric adequacy of the instrument is established before the structural relationships are interpreted.

The profile of respondents and firms is summarised in Table 1. Manufacturing firms constituted 44.1 percent of the sample and consumer goods firms 22.9 percent. Large firms with total assets above one trillion rupiah represented 47.5 percent of the sample, and 61.9 percent of respondents held a managerial position in finance or accounting. A bachelor degree was the most common educational attainment at 59.3 percent, and 52.5 percent of firms had been listed for more than ten years. The distribution indicates that the sample consisted predominantly of established, larger firms with the administrative capacity to operate sustainability accounting systems.

Table 1. Respondent and Firm Profile (n = 118)

Characteristics	Category	Frequency	Percentage (%)
Industry	Manufacturing	52	44.1
	Consumer goods and trade	27	22.9
	Infrastructure and utilities	21	17.8
	Other services	18	15.2
Firm Size	Total assets > 1 trillion	56	47.5
	Total assets 0.1-1 trillion	41	34.7
	Total assets < 0.1 trillion	21	17.8
Respondent Position	Director or general manager	31	26.3
	Finance or accounting manager	73	61.9
	Sustainability officer	14	11.8
Listing Age	< 5 years	19	16.1
	5-10 years	37	31.4
	> 10 years	62	52.5

Descriptive statistics and inter-construct correlations are presented in Table 2. Sustainability accounting recorded the highest mean at 3.86, followed by ESG disclosure at 3.74 and corporate financial performance at 3.65, while firm size averaged 3.41. The standard deviations ranged from 0.62 to 0.79, indicating moderate dispersion without extreme values. All inter-construct correlations were positive and statistically significant at the one percent level, with the strongest association observed between sustainability accounting and ESG disclosure at 0.538. None of the correlations exceeded the 0.85 threshold, providing an initial indication that multicollinearity is not a concern.

Table 2. Descriptive Statistics and Correlation Matrix

Construct	Mean	SD	SA	ESGD	CFP	FS
Sustainability Accounting (SA)	3.86	0.71	1			
ESG Disclosure (ESGD)	3.74	0.68	0.538**	1		
Corporate Financial Performance (CFP)	3.65	0.79	0.462**	0.497**	1	
Firm Size (FS)	3.41	0.62	0.311**	0.358**	0.274**	1

The measurement model was evaluated through outer loadings, Cronbach's alpha, composite reliability, and average variance extracted, as reported in Table 3. All outer loadings exceeded the recommended threshold of 0.70, ranging from 0.724 to 0.901. Cronbach's alpha values ranged from 0.818 to 0.874 and composite reliability values from 0.881 to 0.908, both exceeding the 0.70 criterion. Average variance extracted values ranged from 0.649 to 0.692, exceeding the 0.50 threshold. These results confirm that all constructs achieved adequate reliability and convergent validity.

Table 3. Measurement Model Assessment

Construct	Items	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Sustainability Accounting (SA)	5	0.748-0.884	0.874	0.908	0.664
ESG Disclosure (ESGD)	5	0.761-0.901	0.862	0.901	0.692
Corporate Financial Performance (CFP)	4	0.734-0.878	0.831	0.887	0.649
Firm Size (FS)	3	0.724-0.851	0.818	0.881	0.652

Discriminant validity was assessed using the heterotrait-monotrait ratio of correlations, presented in Table 4. All ratios fell between 0.402 and 0.612, well below the conservative threshold of 0.85, and the square root of each average variance extracted value exceeded every corresponding inter-construct correlation. These results indicate that the four constructs are empirically distinct and that multicollinearity is not a concern.

Table 4. Discriminant Validity (Heterotrait-Monotrait Ratio)

Construct	SA	ESGD	CFP	FS
SA	-			
ESGD	0.612	-		

CFP	0.547	0.588	-	
FS	0.402	0.446	0.431	-

The structural model was assessed through the coefficient of determination and predictive relevance, as shown in Table 5. The model explains 28.9 percent of the variance in ESG disclosure and 46.3 percent of the variance in corporate financial performance. Both Q-squared values are greater than zero, confirming that the model possesses predictive relevance for the two endogenous constructs.

Table 5. Structural Model Assessment

Endogenous Construct	R ²	Adjusted R ²	Q ²
ESG Disclosure (ESGD)	0.289	0.283	0.191
Corporate Financial Performance (CFP)	0.463	0.449	0.279

Hypothesis testing was conducted using bootstrapping with 5,000 resamples, and the results are presented in Table 6. Sustainability accounting significantly improved corporate financial performance (beta = 0.294; t = 3.846; p < 0.001), supporting H1. ESG disclosure also significantly improved corporate financial performance (beta = 0.372; t = 4.913; p < 0.001), supporting H2. Sustainability accounting significantly increased ESG disclosure (beta = 0.538; t = 8.126; p < 0.001), and the indirect effect of sustainability accounting on corporate financial performance through ESG disclosure was significant (beta = 0.200; t = 4.159; p < 0.001). Because the direct effect remained significant, the mediation is partial, supporting H3. Finally, the interaction between ESG disclosure and firm size had a significant positive effect on corporate financial performance (beta = 0.147; t = 2.418; p = 0.016), supporting H4.

Table 6. Path Coefficients and Hypothesis Testing

Hypothesis	Path	β	Std. Error	t-statistic	p-value	f ²	Decision
H1	SA → CFP	0.294	0.076	3.846	0.000	0.096	Supported
H2	ESGD → CFP	0.372	0.076	4.913	0.000	0.152	Supported
H3a	SA → ESGD	0.538	0.066	8.126	0.000	0.406	Supported
H3b	SA → ESGD → CFP	0.200	0.048	4.159	0.000	-	Supported
H4	ESGD × FS → CFP	0.147	0.061	2.418	0.016	0.031	Supported

The effect sizes reported in Table 6 indicate that sustainability accounting exerts a large effect on ESG disclosure (f-squared = 0.406), that ESG disclosure exerts a medium effect on corporate financial performance (f-squared = 0.152), and that sustainability accounting exerts a small to medium direct effect on financial performance (f-squared = 0.096). The moderating effect of firm size is small but statistically significant (f-squared = 0.031). The relative

magnitude of these effects confirms that the disclosure pathway is the stronger channel through which sustainability accounting influences financial outcomes, while firm size operates as a supplementary rather than a dominant condition.

DISCUSSION

The findings confirm that sustainability accounting significantly improves corporate financial performance. This result is consistent with the stakeholder and resource-based arguments that firms which measure environmental and social costs systematically make better resource allocation decisions, avoid hidden liabilities, and identify efficiency opportunities that are invisible under conventional costing. The result aligns with Latan et al. (2023), who found that environmental management accounting improved environmental performance, and with Tjahjadi et al. (2020), who demonstrated that green accounting improved corporate performance through green innovation strategy. It also corroborates the Indonesian evidence reported by Sari and Andreas (2019) and Hidayat (2021), where green accounting practices were associated with improved financial outcomes in manufacturing firms. Mustafa et al. (2022) similarly showed that detailed resource consumption accounting supported pricing decisions and sustainable profitability.

ESG disclosure likewise exerts a positive and significant effect on corporate financial performance. This supports the signalling argument that credible disclosure reduces information asymmetry, lowers perceived risk, and improves access to capital. The finding is consistent with Brooks and Oikonomou (2020), who concluded that disclosure affects firm value primarily through risk-reduction and reputational channels, and with Hermawan and Gunardi (2019), who reported an association between environmental disclosure and financial performance. It also supports the contention of Rezaee and Tuo (2019) that both the quantity and quality of sustainability disclosure carry information beyond the financial statements. Gunawan and Seitin (2019) documented the institutionalisation of this reporting practice in Indonesia, which provides the regulatory backdrop for the present result.

The mediating role of ESG disclosure provides the study's central contribution. The indirect effect of sustainability accounting on financial performance through disclosure is statistically significant, and because the direct effect remains significant, the mediation is partial. This indicates that internal measurement generates financial benefit through two channels: directly, through improved cost control and resource efficiency, and indirectly, through the disclosure of verifiable sustainability information that strengthens stakeholder confidence. The practical implication is that measurement without disclosure forgoes part of the available financial return. Conversely, disclosure that is not grounded in reliable internal measurement risks being perceived as symbolic and may not generate the expected reputational or cost-of-capital benefits. The two practices are therefore complements rather than substitutes, a conclusion that reinforces the integrated reporting logic advanced by Adams and Larrinaga (2019) and De Villiers and Maroun (2022).

The moderating effect of firm size indicates that the financial payoff from ESG disclosure is greater for larger firms. This is explicable in terms of visibility and capacity. Larger firms attract more analyst coverage, regulatory attention, and public scrutiny, so their disclosures are more widely read and more consequential for reputation and capital access. They also possess the accounting infrastructure and specialised personnel required to produce verifiable, comparable sustainability data. Smaller firms face proportionally higher compliance costs and often lack the internal systems needed to produce disclosure of equivalent credibility. The result is consistent with the contingency arguments of Anton et al. (2025) and Rashid Khan et al. (2020), and with the evidence of Sastroredjo et al. (2025) that environmental performance interacts with financial constraints. The finding also resonates with the observation of Silva et al. (2024) that social responsibility practices condition financial and tax behaviour in complex ways.

Taken together, the results contribute to the literature in three ways. First, they demonstrate that sustainability accounting and ESG disclosure are empirically distinct determinants of financial performance and should not be collapsed into a single construct. Second, they identify disclosure as a partial transmission channel, which reconciles the mixed findings of prior research by showing that the effect of internal sustainability practice operates through both direct and indirect routes. Third, they establish firm size as a boundary condition, which helps explain why the sustainability-performance relationship is stronger in some settings than in others. These results are broadly consistent with the green transformation evidence reported by Teng et al. (2025) and Xing et al. (2025), and with the risk-management perspective of Faedfar et al. (2022), while qualifying the argument of Haessler (2020) that short-term profit and sustainability necessarily conflict.

CONCLUSION AND SUGGESTIONS

This study examined the effects of sustainability accounting and ESG disclosure on corporate financial performance, with ESG disclosure as a mediating variable and firm size as a moderating variable. Based on the analysis of 118 valid responses from non-financial companies listed on the Indonesia Stock Exchange using PLS-SEM, four conclusions can be drawn.

First, sustainability accounting has a positive and significant effect on corporate financial performance, indicating that firms which measure environmental and social costs systematically achieve better profitability and efficiency outcomes. Second, ESG disclosure has a positive and significant effect on corporate financial performance, indicating that credible sustainability communication reduces information asymmetry and improves stakeholder confidence. Third, ESG disclosure partially mediates the effect of sustainability accounting on corporate financial performance, confirming that internal measurement generates financial benefit both directly and through the disclosure channel. Fourth, firm size strengthens the effect of ESG disclosure on financial performance, establishing visibility and organisational capacity as boundary conditions.

Several recommendations follow from these conclusions. Companies should institutionalise sustainability accounting by embedding environmental cost identification, material flow accounting, and sustainability indicators into routine management reporting, so that sustainability information is produced continuously rather than assembled retrospectively for external reports. Disclosure quality should be prioritised over disclosure volume, with attention to completeness, comparability, and verifiability, since the financial benefit flows from credibility rather than from the mere act of reporting. Companies should also ensure that disclosed sustainability information is traceable to internal accounting records, because disclosure that cannot be verified undermines the signalling mechanism and exposes the firm to reputational risk. For smaller firms, which face proportionally higher compliance costs, phased adoption is advisable, beginning with material environmental cost categories and gradually extending coverage. Regulators and standard setters should provide proportionate reporting guidance for smaller listed firms and support capacity building in sustainability measurement. Investors and analysts should treat disclosure quality, rather than disclosure presence, as the informative signal.

These recommendations are expected to assist companies in designing sustainability accounting and reporting arrangements that are not only compliant but also financially value-creating. Implementation should be monitored and evaluated periodically so that practices can be adjusted in response to evolving reporting standards and stakeholder expectations.

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