

Social Disclosure Index and Firm Performance of Listed Non-Financial Firms in Selected African Countries

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Abstract: Sustainability reporting has emerged as a critical instrument for enhancing transparency, accountability, and stakeholder confidence in corporate reporting, yet its performance implications remain inconsistent among African non-financial firms. This study examined the effect of social sustainability disclosure on the performance of listed non-financial firms in Nigeria, Kenya, and South Africa. Using a sample of 1,541 firm-year observations from 128 firms, social disclosure is measured through employee disclosure (EMP), corporate social responsibility disclosure (CSR), female employee disclosure (FEMP), female management disclosure (FMAN), and training disclosure (TRAIN). Firm performance is proxied by Return on Assets (ROA), Return on Capital Employed (ROCE), Earnings per Share (EPS), and Tobin's Q. Panel regression techniques guided by the Hausman specification test were employed. The empirical results showed that social disclosure variables are jointly significant in explaining firm performance ($\chi^2 = 32.64$, $p = 0.0000$). The model results further indicated that social disclosure significantly influences ROA (Wald $\chi^2(7) = 38.90$, $p = 0.0000$), ROCE ($F = 2.51$, $p = 0.0190$), EPS (Wald $\chi^2(7) = 85.27$, $p = 0.0000$), and Tobin's Q ($F = 2.25$, $p = 0.0344$). The findings suggest that social disclosure enhances operational efficiency and profitability, while its effect on capital efficiency is mixed and its influence on market valuation is relatively weak. The study concluded that social sustainability disclosure is performance relevant in emerging African markets. This study recommends that firms should strengthen social disclosure practices, particularly in areas such as employee welfare, diversity, and training, as these contribute to improved operational efficiency and profitability.

Keywords: Social disclosure, Sustainability reporting, Firm performance, Return on Assets, Return on Capital Employed, Earnings per Share, Tobin's Q

JEL Classification Codes: M14, G32, Q56, C23

1. Introduction

The growing prominence of sustainability reporting in global corporate practice has fundamentally reshaped the relationship between firms and their stakeholders, prompting increasing scholarly and regulatory attention to how non-financial disclosures influence firm performance (Ali et al., 2024; Tsang et al., 2024). Within this broader discourse, social sustainability disclosure encompassing workforce practices, gender inclusion, employee development, and community engagement has emerged as a particularly consequential dimension of corporate transparency, given its direct implications for human capital management, reputational capital, and long-term value creation (Escamilla-Solano et al., 2024; Zhang & Li, 2021). Despite this recognition, the financial performance implications of social sustainability disclosure remain insufficiently understood, particularly in the context of Sub-Saharan African emerging markets, where institutional frameworks, regulatory environments, and stakeholder expectations differ markedly from those of developed economies (Tamasiga et al., 2024; Narula et al., 2024). The relevance of this inquiry is underscored by a growing body of empirical evidence suggesting that firms which transparently disclose their social sustainability activities tend to enjoy superior financial outcomes relative to their less transparent counterparts (Alodat et al., 2024; Lawal et al., 2024). Stakeholder theory posits that firms engaging meaningfully with a broad range of stakeholders, including employees, communities, and regulators, through credible disclosure practices are better positioned to secure the social licence necessary for sustained financial performance (Ali et al., 2024; Nwankwo & Adeoye, 2023). Signalling theory further suggests that voluntary social disclosures serve as credible signals of managerial quality and organisational integrity, thereby reducing information asymmetry between firms and investors and potentially lowering the cost of capital (Ftiti et al., 2024; Tsang et al., 2024). These theoretical expectations, however, have not been uniformly confirmed in empirical studies, especially in developing economic contexts (Tamasiga et al., 2024; Narula et al., 2024), necessitating further investigation. In Nigeria, Kenya, and South Africa, Africa's three largest economies by gross domestic product, the sustainability disclosure landscape is evolving rapidly, albeit at different regulatory and institutional paces. South Africa has been at the forefront of integrated reporting on the African continent, driven by the King IV Corporate Governance Code and the Johannesburg Stock Exchange's sustainability disclosure requirements (Alodat et al., 2024; Chung et al., 2024). Kenya has progressively aligned its corporate reporting framework with global standards, including the Global Reporting Initiative (GRI), particularly among listed firms (Oganda et al., 2023). Nigeria, despite hosting one of Africa's largest stock exchanges, continues to grapple with inconsistent sustainability disclosure practices, with significant variation in the quality and depth of social reporting across listed firms (Iliemena et al., 2023; Lawal et al., 2024; Dagunduro et al., 2024). Collectively, these three markets offer a uniquely diverse yet contextually coherent setting in which to examine how social sustainability disclosure affects firm performance across varying institutional environments.

Notwithstanding the growing volume of sustainability disclosure research in Africa, several important gaps persist in the literature. The majority of existing studies treat social disclosure as a composite, undifferentiated construct, thereby obscuring the distinct performance implications of its constituent sub-dimensions. For instance, Lawal et al. (2024), in their study of listed manufacturing firms in Nigeria, aggregated social sustainability into a single index without distinguishing between employee-related, gender-related, or training disclosures; similarly, Iliemena et al. (2023), in examining sustainability reporting among Nigerian firms, measured social disclosure as a broad construct without isolating its specific components; and Alodat et al. (2024), in their investigation of Jordanian listed companies, likewise employed an undifferentiated social disclosure measure, precluding any assessment of which sub-dimensions drive financial outcomes. In practice, employee disclosure, CSR disclosure, gender-related disclosure, and training disclosure may each carry different signalling values and generate different stakeholder responses, yet these distinctions are rarely made explicit in empirical designs. Gender-disaggregated social disclosure, including female employee representation and female management disclosure, has received remarkably little empirical attention as a predictor of firm performance, despite growing policy emphasis on gender equity in African corporate governance frameworks; this lacuna persists even in large-scale international reviews such as Ali et al. (2024), whose systematic synthesis of 135 empirical CSR studies across developed and developing economies identified no study that isolated gender-specific disclosure as an independent performance determinant, and Tsang et al. (2024), whose international sample of nearly 24,000 firm-year observations across 56 countries similarly failed to disaggregate social disclosure along gender lines.

The African sustainability disclosure literature remains largely fragmented along single-country lines, limiting the generalisability of findings and precluding the cross-country comparative insights essential for informing regional policy; Ogungbe et al. (2023) confined their analysis to Nigerian oil and gas firms, Oganda et al. (2023) focused exclusively on Kenyan manufacturing firms, and Iliemena et al. (2023) similarly restricted their sample to Nigerian firms, leaving the cross-country dynamics of social disclosure and performance across major African economies largely unexplored. Studies in this domain frequently rely on narrow financial performance proxies without accounting for the multi-dimensional nature of firm performance that encompasses both accounting-based and market-based measures; Ekwueme et al. (2022) relied solely on ROCE in their examination of Nigerian banks, Lawal et al. (2024) anchored their performance assessment exclusively on EPS, and Abdullahi et al. (2021), in their study of Middle Eastern industrial firms, similarly used ROCE as their sole performance indicator, each thereby providing an incomplete picture of how social disclosure affects firm value across its multiple dimensions. Listed non-financial firms, which constitute a substantial and economically significant segment of African capital markets, have been relatively neglected as a distinct analytical category, with existing studies disproportionately focused on manufacturing, banking, or oil and gas sectors; Dagunduro et al. (2024) limited their investigation to consumer goods manufacturing firms in Nigeria, Ogungbe et al. (2023) concentrated on the oil and gas sector, and

Ekwueme et al. (2022) focused exclusively on the Nigerian banking sector, collectively leaving the social disclosure practices and performance implications of listed non-financial firms across diverse African markets largely unexamined.

This study addresses these gaps by examining the effect of social sustainability disclosure on the performance of listed non-financial firms in Nigeria, Kenya, and South Africa. Social disclosure is operationalised through five disaggregated components: employee disclosure (EMP), corporate social responsibility disclosure (CSR), female employee disclosure (FEMP), female management disclosure (FMAN), and training disclosure (TRAIN). Firm performance is assessed using four complementary proxies which include return on assets (ROA), return on capital employed (ROCE), earnings per share (EPS), and Tobin's Q, spanning both accounting and market-based dimensions. The study draws on a panel dataset comprising 1,541 firm-year observations from 128 listed non-financial firms across the three countries, providing one of the most comprehensive multi-country examinations of social sustainability disclosure and firm performance in the African context to date.

The contributions of this study to literature are threefold. First, by disaggregating social disclosure into five distinct components, the study provides more granular evidence on which specific social disclosure dimensions drive financial performance, moving beyond the composite-index approach that has characterised much of the prior literature (Lawal et al., 2024; Alodat et al., 2024; Escamilla-Solano et al., 2024). Second, by incorporating gender-specific disclosure variables; namely FEMP and FMAN, the study responds to a critical gap in the sustainability accounting literature and contributes to emerging debates on the financial relevance of gender equity disclosures in developing markets (Ali et al., 2024; Chung et al., 2024). Third, by adopting a multi-country African comparative design with a large and diverse firm-year sample, the study generates evidence that is more generalisable and policy-relevant than single-country studies, while also contributing to the broader global literature on sustainability disclosure and firm performance in emerging market contexts (Tamasiga et al., 2024; Tsang et al., 2024; Narula et al., 2024). The remainder of this paper is organised as follows: Section 2 reviews the relevant theoretical frameworks and empirical literature; Section 3 describes the research methodology; Section 4 presents the empirical results and discussion; and Section 5 concludes with implications, limitations, and directions for future research.

2. Literature review and hypothesis development

2.1 Theoretical Framework

Stakeholder theory was propounded by Freeman (1984) in his seminal work, *Strategic Management: A Stakeholder Approach*, which fundamentally reconceptualised the purpose of the firm by arguing that organisations are not solely accountable to their shareholders but bear responsibility towards a broader network of stakeholders whose interests are affected by, or can affect, the firm's activities (Freeman, 1984). The theory rests on several foundational assumptions. First, it assumes that firms operate within a web of relationships involving multiple stakeholder groups, including employees, customers, suppliers, communities, regulators, and investors, all of

whom have legitimate claims on the firm's conduct and resources (Boluwaji et al., 2024; Chung et al., 2024). The theory assumes that the long-term survival and financial success of a firm are contingent upon its ability to identify, manage, and satisfy the competing demands of these stakeholder groups, rather than maximising shareholder wealth alone (Dagunduro et al., 2024; Kolawole et al., 2023). The theory assumes that information disclosure serves as a principal mechanism through which firms demonstrate accountability to stakeholders, manage expectations, and build the trust necessary for sustained organisational legitimacy and performance (Olakojo et al., 2025). The theory assumes that firms which proactively engage with stakeholder concerns through transparent reporting are better positioned to secure the social licence to operate, reduce reputational risks, and ultimately achieve superior financial outcomes relative to firms that prioritise shareholder interests exclusively (Babatunde et al., 2025; Dada et al., 2023).

These theoretical assumptions have informed a substantial body of empirical research on sustainability and CSR disclosure. Tsang et al. (2024), in their large-scale international study of voluntary CSR reporting across 56 countries, explicitly grounded their investigation in stakeholder theory, arguing that firms disclose social and environmental information to manage relationships with diverse stakeholder groups and that financial analysts serve as intermediaries who amplify the value implications of such disclosures to investors. Their findings, confirming that voluntary CSR reporting increased firm value globally, lend strong empirical support to the stakeholder theory prediction that responsive disclosure enhances the firm's standing with capital market participants. Similarly, Alodat et al. (2024), in their study of Jordanian listed companies, drew on stakeholder theory to explain why firms with comprehensive sustainability disclosures, encompassing environmental, social, and governance dimensions, achieved superior operational, financial, and market performance relative to less transparent counterparts, with the theory providing the conceptual basis for expecting that disclosure-driven stakeholder satisfaction translates into measurable financial gains. Lawal et al. (2024), in examining sustainability reporting and value creation among Nigerian manufacturing firms, invoked stakeholder theory to argue that social sustainability disclosures signal a firm's commitment to employee welfare and community development, thereby strengthening stakeholder relationships and contributing positively to earnings per share. Escamilla-Solano et al. (2024), in their structural equation modelling study of Spanish listed companies, similarly anchored their analysis in stakeholder theory, demonstrating that firms whose social and environmental disclosures aligned with economic standards succeeded in satisfying multiple stakeholder constituencies simultaneously, with the economic dimension mediating the path from disclosure to enhanced financial performance.

The relevance of stakeholder theory to the present study is both direct and compelling. This study examines the effect of social sustainability disclosure, operationalised through employee disclosure, CSR disclosure, female employee disclosure, female management disclosure, and training disclosure, on the performance of listed non-financial firms in Nigeria, Kenya, and South Africa. Each of these disclosure dimensions corresponds directly to a distinct stakeholder

constituency: employee disclosure addresses the expectations of the workforce and labour regulators; CSR disclosure responds to the demands of communities and civil society; female employee and female management disclosures speak to the concerns of gender equity advocates, institutional investors, and governance-conscious stakeholders; and training disclosure signals commitment to human capital development, a concern shared by employees, investors, and development-oriented regulators (Olakojo et al., 2025). From a stakeholder theory perspective, firms that credibly disclose their social sustainability activities across these dimensions are expected to cultivate stronger stakeholder relationships, reduce information asymmetry, and thereby enhance financial performance as measured by ROA, ROCE, EPS, and Tobin's Q (Taiwo et al., 2025). The multi-country African context of this study adds further relevance, as stakeholder dynamics in Nigeria, Kenya, and South Africa are shaped by distinct institutional, cultural, and regulatory environments that influence both the nature of stakeholder demands and the credibility of firm responses to those demands (Nwankwo & Adeoye, 2023; Oganda et al., 2023).

Notwithstanding its theoretical utility, stakeholder theory has attracted several significant criticisms that merit acknowledgement. First, critics argue that the theory suffers from definitional ambiguity in its delineation of who constitutes a legitimate stakeholder, with Freeman's (1984) broad definition potentially encompassing an unwieldy range of claimants whose competing interests cannot all be satisfied simultaneously, thereby rendering the theory impractical as a guide for managerial decision-making (Ali et al., 2024). In the African context specifically, the absence of well-developed stakeholder advocacy mechanisms in many markets may mean that firms selectively disclose to appease powerful stakeholders, such as regulators and large investors, while neglecting the interests of employees and communities, undermining the universalist premises of the theory (Tamasiga et al., 2024; Iliemena et al., 2023). Second, stakeholder theory has been criticised for its inability to provide a clear hierarchy or prioritisation framework when stakeholder demands conflict, leaving managers with insufficient guidance on how to allocate resources across competing social disclosure obligations (Ftiti et al., 2024; Liang & Chen, 2024). This limitation is particularly salient in resource-constrained African firms, where comprehensive social disclosure across all stakeholder dimensions may impose costs that temporarily depress financial performance before any reputational or relational benefits materialise (Narula et al., 2024; Hoang, 2024). Third, the theory has been challenged on the grounds that its predictions regarding the disclosure-performance relationship are contingent on the quality and credibility of stakeholder institutions, including investor protection frameworks, regulatory enforcement, and capital market development, conditions that are unevenly developed across Nigeria, Kenya, and South Africa (Raji & Dagunduro, 2024; Tsang et al., 2024). Where stakeholder institutions are weak or captured by narrow interests, the anticipated positive relationship between social disclosure and firm performance may not materialise, as disclosures lack the institutional scaffolding necessary to translate stakeholder satisfaction into tangible financial returns (Ogungbe et al., 2023; Ekwueme et al., 2022).

Despite these criticisms, stakeholder theory remains the most appropriate and widely applied theoretical lens for examining social sustainability disclosure and firm performance in the

present study's context. Its core premise, that firms which manage stakeholder relationships through credible disclosure achieve superior financial outcomes, directly motivates the study's hypotheses and aligns with empirical evidence from both developed and developing economic settings (Ali et al., 2024; Tsang et al., 2024; Alodat et al., 2024). Moreover, the criticisms identified above, rather than undermining the theory's relevance, reinforce the importance of the present study's multi-country design and disaggregated disclosure approach, as examining social disclosure across Nigeria, Kenya, and South Africa allows for an assessment of how varying institutional environments moderate the stakeholder theory prediction, whilst disaggregating disclosure into distinct components enables a more nuanced evaluation of which stakeholder-oriented disclosures carry the greatest financial performance implications (Lawal et al., 2024; Escamilla-Solano et al., 2024; Nwankwo & Adeoye, 2023).

2.2 Social Disclosure Index and Firm Performance

A broad reading of the studies reveals that sustainability and CSR disclosure generally associate positively with financial performance, though the strength and significance of this relationship vary widely by geography, industry, measurement approach, and type disclosure. Ali et al. (2024), in their systematic review of 135 empirical studies, confirmed that companies derive multiple benefits from CSR disclosure, including improved financial performance, enhanced reputation, and better stakeholder management. Similarly, Tsang et al. (2024), drawing on a large international sample of nearly 24,000 observations across 56 countries, found that voluntary CSR reporting increased firm value globally, with financial analysts amplifying this positive relationship. Alodat et al. (2024), studying Jordanian firms, found significant positive relationships between environmental, social, and governance disclosures and all three performance indicators Tobin's Q, return on equity (ROE), and return on assets (ROA). A recurring methodological challenge in literature is the heterogeneity of both financial performance measures and disclosure dimensions employed across studies. On the performance side, researchers variously used return on capital employed (ROCE), earnings per share (EPS), return on equity (ROE), gross profit margin (GPM), Tobin's Q, and return on assets (ROA), making direct comparisons difficult. On the disclosure side, environmental, social, governance, and economic dimensions frequently produce divergent results even within the same study. For instance, Lawal et al. (2024), examining Nigerian manufacturing firms, found that social sustainability disclosure positively and significantly affected EPS, while environmental sustainability disclosure had a negative and significant effect on the firm performance suggesting that not all disclosure dimensions are equally rewarding to investors. This pattern is echoed by Iliemena et al. (2023), who found a significant positive effect of social disclosure on GPM but no significant effect of environmental disclosure on ROCE among Nigerian manufacturers. Escamilla-Solano et al. (2024), studying Spanish-listed companies, introduced a mediating dynamic, showing that the economic dimension of disclosure mediated the relationship between social and environmental disclosures and financial performance, implying that sustainability disclosures must align with recognized economic standards to generate financial gains. Tamasiga et al. (2024), in their multi-industry meta-analysis,

found that the relationship between ESG disclosures and financial performance was either negative or insignificant in developing economies, contrasting sharply with positive findings in developed market contexts. This aligns with the Nigerian-focused studies (Iliemena et al., 2023; Lawal et al., 2024; Ogungbe et al., 2023), where results were mixed and often tied to specific disclosure types rather than disclosure in general. In contrast, studies from Jordan (Alodat et al., 2024), Kenya (Oganda et al., 2023), and China (Ali et al., 2024; Liang et al., 2024) generally reported more consistent positive associations, though with important caveats regarding firm characteristics and institutional environments.

At the sectoral level, Tamasiga et al. (2024) highlighted meaningful variation: food and retail firms showed positive ESG-performance correlations; utility firms benefited more from social metrics; and agricultural firms saw governance disclosures specifically enhancing market performance. In the Nigerian context, Ogungbe et al. (2023) found that governance and social indices positively influenced ROCE in oil and gas firms, while environmental indices had mixed effects depending on the regulatory landscape. The distinction between mandatory and voluntary disclosure adds to another layer of complexity. Chung et al. (2024), studying Hong Kong firms, found that concentrated ownership negatively impacted ESG disclosure during voluntary periods, with agency problems diminishing once reporting became mandatory. Liang et al. (2024), using a difference-in-differences approach in China, made the counterintuitive finding that mandatory CSR disclosure increased firms' financial constraints, with controlling shareholder expropriation identified as a potential mechanism a result that tempers the prevailing optimism about disclosure mandates. Hoang (2024) found that US firms increased ESG disclosures in response to climate policy uncertainty, treating disclosure strategically as a risk management tool rather than an inherent value-creation mechanism.

Several studies concentrated specifically on ROCE as an indicator of capital efficiency. Across African and Asian contexts, transparency in sustainability practices consistently appeared to improve capital utilization. Oganda et al. (2023) found that Kenyan manufacturing firms with higher environmental and social disclosures achieved significant improvements in ROCE. Abdullahi et al. (2021) reported steady ROCE improvements among Middle Eastern industrial firms with comprehensive sustainability disclosures, attributing gains to enhanced investor confidence. Ekwueme et al. (2022) observed that Nigerian banks with detailed sustainability disclosures outperformed peers in ROCE through improved risk management. Tariq and Ghani (2023) noted that renewable energy companies in South Asia with strong governance disclosures exhibited significantly higher ROCE, while Zhang and Li (2021) linked social sustainability investment in Chinese manufacturing to ROCE gains via employee productivity and brand loyalty. Nwankwo and Adeoye (2023) further demonstrated that corporate governance mechanisms aligned with sustainability goals improved ROCE through better strategic decision-making. The literature identifies several factors that moderate the disclosure-performance relationship. Ownership structure is highlighted by Ali et al. (2024), who found that the positive CSR-financial performance relationship strengthened under certain ownership configurations. Ftiti et al. (2024), studying the UK bond market, found that bondholders valued CSR reporting particularly for firms

with poor CSR performance, with diminishing returns as CSR performance improved suggesting a ceiling effect. Tsang et al. (2024) demonstrated that the role of financial analysts in amplifying CSR reporting's value implications varied with country-level institutional characteristics, including investor protection frameworks and capital market development. Ali et al. (2024) noted a high degree of heterogeneity in the theoretical frameworks applied across studies, reflecting the absence of a unified theoretical foundation for CSR-financial performance research. Studies are variously drawn on stakeholder theory, agency theory, signaling theory, and legitimacy theory, among others, producing frameworks that are not easily reconciled. Methodologically, the field demonstrates breadth from panel regression and difference-in-differences to structural equation modeling and systematic review though this diversity also complicates cross-study comparisons. Narula et al. (2024), notably, found no significant relationship between any ESG component and firm performance among Indian firms during the COVID period, a reminder that contextual shocks and time-period selection can substantially influence findings.

The reviewed literature, while broadly affirming a positive relationship between sustainability/CSR disclosure and financial performance, reveals several critical gaps that this study seeks to address. Specifically, existing studies such as Lawal et al. (2024), Iliemena et al. (2023), and Alodat et al. (2024) predominantly treat social disclosure as a composite, undifferentiated construct, thereby obscuring the distinct financial effects of its sub-components such as employee practices, gender inclusion, and training disclosure; gender-disaggregated disclosure variables like female employee and female management disclosure remain largely absent from empirical investigation despite their growing policy relevance in African markets, a lacuna unaddressed even in large-scale reviews such as Ali et al. (2024) and Tsang et al. (2024). Furthermore, African sustainability research remains largely fragmented along single-country lines (Iliemena et al., 2023; Lawal et al., 2024; Oganda et al., 2023; Ogungbe et al., 2023), relies on narrow performance proxies such as ROCE or EPS alone (Abdullahi et al., 2021; Ekwueme et al., 2022; Lawal et al., 2024), and tends to neglect listed non-financial firms as a distinct analytical category, while Tamasiga et al. (2024) further note that ESG-financial performance relationships in developing economies remain weak or inconsistent without adequate cross-country disaggregation. To bridge these gaps, this study disaggregates social disclosure into five specific components employee disclosure (EMP), CSR disclosure (CSR), female employee disclosure (FEMP), female management disclosure (FMAN), and training disclosure (TRAIN), drawing on the precedent of Zhang and Li (2021) linking workforce-related social investment to improved capital efficiency and examines their effects on four complementary performance measures (ROA, ROCE, EPS, and Tobin's Q) across a multi-country sample of 128 listed non-financial firms in Nigeria, Kenya, and South Africa, hypothesizing that each social disclosure dimension has a significant positive effect on firm performance.

Drawing from the identified gaps and the reviewed literature, the following null hypotheses were formulated to guide the empirical investigation:

H₀₁: Social disclosure index has a significant positive effect on the return on assets of listed non-financial firms in selected African countries.

H₀₂: Social disclosure index has a significant positive effect on the return on capital employed of listed non-financial firms in selected African countries.

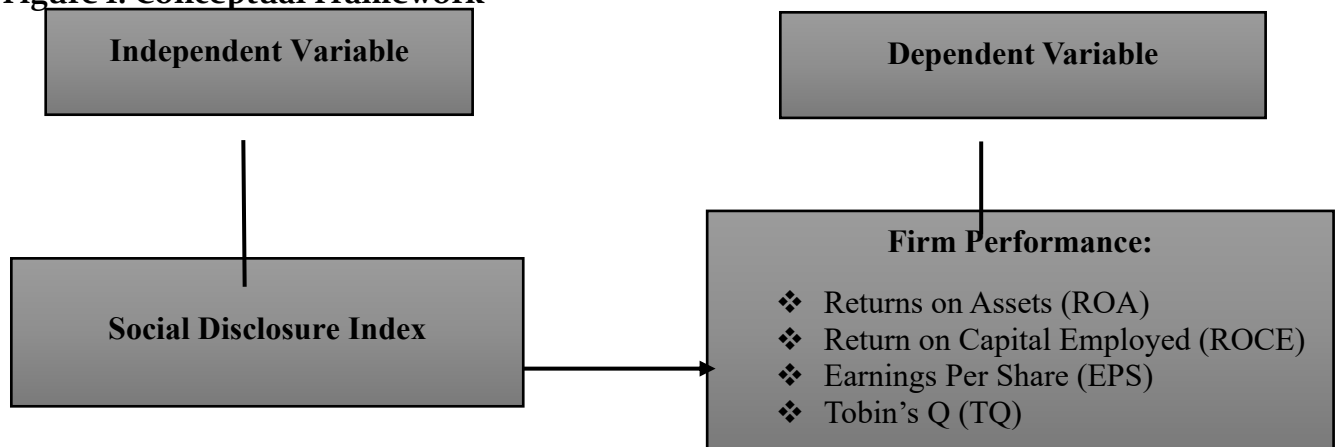
H₀₃: Social disclosure index has a significant positive effect on Tobin's Q of listed non-financial firms in selected African countries.

H₀₄: Social disclosure index has a significant positive effect on the earnings per share of listed non-financial firms in selected African countries.

2.3 Conceptual Framework

Figure 1 presents a conceptual framework illustrating the interplay between Social Disclosure Index and the Firm Performance of listed non-financial firms in selected African countries.

Figure 1: Conceptual Framework



Source: Authors' Design (2026)

3. Methodology

In this study, *ex-post facto* design was employed, which included an analytical and explanatory approach using secondary data from 128 firms over 13 years. The purpose involved gathering and examining data that were retrospectively recorded over a specific time and were available in the financial data and sustainability reports of listed non-financial firms (industrial goods, consumer goods, and oil and gas firms). The population of this study comprised 128 listed non-financial firms (industrial goods, consumer goods, and oil and gas firms) in selected African countries (Nigeria, Kenya, and South Africa) as of 31st December 2024. The choice of these sectors was based on different region West, East and South were also influenced by similar reporting environments and leading markets criteria.

Table 1: Population of the Study

S/N	Country	Industrial goods	Consumer goods	Oil and gas	Total
1.	Nigeria	12	18	10	40
2.	Kenya	7	9	1	17
3.	South Africa	37	17	17	71
		56	44	28	128

Source: Authors' Computation (2026)

This study adopted a census sampling technique to include all the 128 listed non-financial firms (industrial goods, consumer goods, and oil and gas firms) as the research sample. This approach is justified by the relevancy of these sectors, making it practical and suitable to encompass the entire population. By employing a census method, the research ensured a thorough analysis, enhancing the reliability and applicability of the findings. Moreover, this comprehensive approach allowed for a deeper understanding of the sectors' dynamics by ensuring no firm is excluded from the analysis. The data for this study were collected from secondary sources. These sources included annual financial reports and sustainability reports of the 128 listed non-financial firms (industrial goods, consumer goods, and oil and gas firms) in selected African countries (Nigeria, Kenya and South Africa) from 2012 to 2024. The collected data in this study were analyzed using a comprehensive statistical approach that incorporates both descriptive and inferential methods to ensure robust and meaningful insights. Descriptive statistics, including measures such as mean, median, mode, variance, standard deviation, skewness, and kurtosis, was used to summarize and describe the key features of the dataset. Inferential statistical methods such as correlation analysis and regression analysis were employed. Correlation analysis measured the strength and direction of relationships between key variables. The study utilized panel regression analysis, which is particularly suited for datasets with both cross-sectional and time-series dimensions. To ensure the robustness and reliability of the analysis, several significant tests were conducted on both individual variables and the overall model. These tests include t-tests for Individual Coefficients: Assess whether the independent variables significantly influence the dependent variable-tests for Overall Model Fit: Evaluate whether the regression model provides a good fit for the data. Goodness-of-Fit Metrics: Metrics like R-squared and adjusted R-squared will be used to determine how well the model explains the variability in the dependent variable.

3.2 Model Specifications

The econometric model for this study will be adapted from the study conducted by Dagunduro et al. (2024) encompassed various indicators, namely firm performance (FP), non-financial disclosure (NFD): environmental disclosure index (EDI) social disclosure index (SDI), and governance disclosure index (GDI) and stated as follows:

$$FP = f(NFD) \quad [1]$$

$$FP = \beta_0 + \beta_1 EDI_{it} + \beta_2 SDI_{it} + \beta_3 BGDI_{it} + e_{it} \quad [2]$$

However, the operationalisation of the model is formulated thus:

$$Y = f(x) \quad [3]$$

Y = Dependent Variable

X = Independent Variable

Z = Moderating Variable

Y = Corporate Performance (CP)

X = Sustainability Reporting (SR)

Z = Asset Tangibility (ATG)

$$CP = f(SR) \quad [4]$$

$$Y = CP \quad [5]$$

y_2 = Return on Capital Employed (ROCE)

y_2 = Return on Assets (ROA)

y_3 = Earnings per Share (EPS)

y_4 = Tobin's Q (TQ)

$$X = SR \quad [6]$$

x_1 = Environmental Disclosure Index (EDI)

x_2 = Social Disclosure Index (SDI)

x_3 = Governance Disclosure Index (GDI)

This model is further divided and analyzed based on the objective of this study. To examine the effects of social disclosure index affect corporate performance of listed non-financial firms in Nigeria, Kenya and South Africa;

General Form of the Model:

$$CP_{it} = \beta_0 + \beta_1 SDI_{it} + \beta_2 FS_{it} + \beta_3 LEV_{it} + e_{it} \quad [7]$$

Expanded model:

For clarity, the independent variable can be decomposed as follows:

$$ROA_{it} = \beta_0 + \beta_1 EMP_{it} + \beta_2 CSR_{it} + \beta_3 FEMP_{it} + \beta_4 FMAN_{it} + \beta_5 TRAIN_{it} + \beta_6 FS_{it} + \beta_7 LEV_{it} + e_{it} \quad [8]$$

$$ROCE_{it} = \beta_0 + \beta_1 EMP_{it} + \beta_2 CSR_{it} + \beta_3 FEMP_{it} + \beta_4 FMAN_{it} + \beta_5 TRAIN_{it} + \beta_6 FS_{it} + \beta_7 LEV_{it} + e_{it} \quad [9]$$

$$EPS_{it} = \beta_0 + \beta_1 EMP_{it} + \beta_2 CSR_{it} + \beta_3 FEMP_{it} + \beta_4 FMAN_{it} + \beta_5 TRAIN_{it} + \beta_6 FS_{it} + \beta_7 LEV_{it} + e_{it} \quad [10]$$

$$TQ_{it} = \beta_0 + \beta_1 EMP_{it} + \beta_2 CSR_{it} + \beta_3 FEMP_{it} + \beta_4 FMAN_{it} + \beta_5 TRAIN_{it} + \beta_6 FS_{it} + \beta_7 LEV_{it} + e_{it} \quad [11]$$

Where:

CP_{it} : Corporate Performance for firm ii at time tt , measured by: return on assets (ROA), return on capital employed (ROCE), earnings per share (EPS), and Tobin's Q (TQ).

SDI_{it}: Social Disclosure Index, proxied by components such as:

EMP_{it}: Number of Employees.

CSR_{it}: CSR Expenses.

FEMP_{it}: Number of Female Employees.

FMAN_{it}: Number of Female Management.

TRAIN_{it}: Employee Training Expenses.

FS_{it}: Firm Size, typically measured by the natural logarithm of total assets or revenue.

LEV_{it}: Leverage, typically measured as the ratio of total debt to total assets or equity.

β_0 : Constant term.

$\beta_1 - \beta_5$: Coefficients of the independent variables.

$\beta_6 - \beta_7$: Coefficients of the control variables.

ϵ_{it} : Error term capturing unobserved factors.

3.7 Description and Measurement of Variables

Table 2 provided a detailed overview of the study's variables, including their descriptions, the methods or metrics used for measurement, and the sources from which the data were obtained. This table served as a reference to ensure clarity and consistency in understanding how each variable is defined and operationalized in the research.

Table 2:

Operationalization and Measurement of Variables

Variables	Description	Measurement	Source
Return on Capital Employed (ROCE)	Return on Capital Employed (ROCE) is a financial ratio that measures a company's profitability and the efficiency with which its capital is employed. ROCE indicates how well a company generates profits from its capital investments.	Measured as Earnings before Interest and Tax all over capital Employed	Kolawole et al. (2023)
Return on Assets (ROA)	Return on Assets (ROA) is a financial performance metric that measures how efficiently a company uses its assets to generate profit. ROA provides insight into a firm's operational efficiency and profitability, showing how well management utilizes the company's asset base to create earnings. A higher ROA indicates more effective asset use, while a lower ROA may suggest inefficiencies or suboptimal resource allocation.	It is calculated as the ratio of net income to total assets and is expressed as a percentage.	Awotomilusi et al. (2023); Oluwagbade et al. (2023)
Tobin's Q (TQ)	Tobin's Q is a ratio used to assess the value of a company relative to its assets' replacement cost. It compares the market value of a	It is calculated as Market value of equity plus Book	Dada et al. (2023); Raji and

	company (its market capitalization) to the replacement cost of its assets.	value of debt all over Book value of total assets	Dagunduro (2024)
Earnings Per Share (EPS)	Earnings per Share (EPS) is a widely used financial metric that represents the portion of a company's profit allocated to each outstanding share of common stock. It's a measure of a company's profitability on a per-share basis.	Measured by dividing net income by total number of ordinary shares.	Igbekoyi et al. (2021)
Social Disclosure Index (SDI)	It consists of information that relates to the social activities in the disclosure index	The aggregate of these disclosures as stated in the index: Labour practices; Human rights; Diversity inclusion; Employees well-being and development; Community engagement; Employees health and safety; and Philanthropic activities.	Awotomilusi et al. (2025); Dagunduro et al. (2024)
Firm Size (FS)	Firm size refers to the scale or magnitude of a company, typically measured using metrics such as total assets, revenue, market capitalization, number of employees, or total sales. It is an important factor in business analysis and research, as it influences a firm's operational capacity, market power, and access to resources.	Firm size, typically measured as the natural logarithm of total assets for firm.	Alodat et al. (2024)
Leverage (LEV)	Leverage refers to the use of borrowed funds or debt to finance the acquisition of assets, investments, or business operations. It allows individuals or companies to amplify potential returns on investment; however, it also increases the associated financial risk.	It is calculated as the ratio of total debt to total assets expressed in percentage.	Alsayegh et al. (2020)

Source: Authors' Compilation (2026)

4. Results and discussion

This section reports the results of the empirical analyses conducted to examine the effects of sustainability reporting and asset tangibility on the performance of listed non-financial firms in Nigeria, Kenya, and South Africa. The presentation of results was organised in a clear and objective-driven manner, with each analytical stage aligned with the study's stated objectives and research questions.

4.1 Descriptive Statistics

Table 3 presents the descriptive statistics for the variables employed in examining the effect of social sustainability disclosure on the performance of listed non-financial firms in Nigeria, Kenya, and South Africa. The statistics summarise the central tendency, dispersion, and range of the data, thereby providing preliminary insights into the distributional characteristics of both the performance measures and the social sustainability disclosure indicators prior to econometric estimation. The mean value of return on assets (ROA) is 1.2566, indicating that, on average, listed non-financial firms generate positive returns from their asset base. The relatively large standard deviation of 2.4735 reflects substantial variability in asset-based profitability across firms and time periods, as evidenced by the wide range between the minimum and maximum values. Return on capital employed (ROCE) records a mean of 3.1363, suggesting moderate efficiency in the utilisation of long-term capital. The associated standard deviation of 2.5828 indicates notable dispersion, implying heterogeneity in capital efficiency across firms within the sample. Earnings per share (EPS) have a mean value of 0.8687, reflecting generally positive earnings outcomes for shareholders. However, the standard deviation of 1.6962 and the negative minimum value indicate that a number of firms experienced earnings volatility and occasional losses during the period under review. Tobin's Q exhibits a mean of 1.0529, suggesting that the market valuation of the sampled firms slightly exceeds the replacement cost of their assets on average. The standard deviation of 1.2262 highlights differences in market perceptions and valuation across firms. With respect to the social sustainability variables, employee disclosure (EMP), which captures disclosure relating to workforce size, records a mean of 0.9744. This indicates that a very high proportion of firms disclose employee related information, suggesting that workforce transparency is widely practiced among the sampled firms. Corporate social responsibility disclosure (CSR) has a mean value of 0.9020, indicating that the majority of firms provide disclosure on corporate social responsibility activities. The relatively moderate standard deviation of 0.2974 reflects some variation in CSR disclosure practices across firms. Female employee disclosure (FEMP), which reflects disclosure of female workforce participation, records a mean of 0.3146. This indicates that approximately 31 percent of firms disclose information relating to female employee representation, while the relatively high standard deviation suggests substantial variation in gender related employment disclosure. Female management disclosure (FMAN), which captures disclosure relating to female participation in managerial positions, records a mean value of 0.4288. This suggests that about 43 percent of firms disclose information on female representation in management, indicating moderate transparency in gender diversity reporting. Training disclosure (TRAIN), reflecting disclosure relating to employee training and development activities, records a mean of 0.4644, suggesting that fewer than half of the firms disclose investments in employee training. The relatively high standard deviation indicates considerable variation in human capital development disclosure practices. Among the control variables, firm size (FSIZ), measured as the natural logarithm of total assets, has a mean value of 11.8262, indicating that the sample largely consists of medium to large sized firms. Leverage (LEV) shows a mean value of 4.7108, suggesting moderate reliance on debt financing among the firms. The

descriptive statistics reveal considerable variation across firm performance indicators and social sustainability disclosure variables, thereby providing a suitable foundation for the econometric analysis of the relationship between social sustainability disclosure and firm performance in the subsequent sections.

Table 3

Descriptive Statistics of Study Variables (N = 1,602)

Variable	Obs	Mean	Std. Deviation	Minimum	Maximum
ROA	1,602	1.2566	2.4735	-6.9977	9.3080
ROCE	1,602	3.1363	2.5828	-8.2153	11.8294
EPS	1,602	0.8687	1.6962	-5.4589	8.6939
Tobin's Q	1,602	1.0529	1.2262	0.0000	12.2018
EMP	1,602	0.9744	0.1580	0	1
CSR	1,602	0.9020	0.2974	0	1
FEMP	1,602	0.3146	0.4645	0	1
FMAN	1,602	0.4288	0.4951	0	1
TRAIN	1,602	0.4644	0.4989	0	1
FSIZ	1,602	11.8262	2.2579	5.1123	18.1734
LEV	1,602	4.7108	0.6475	0.3058	8.6270

Source: Authors' Computation (2026)

4.2 Correlation Analysis

Table 4 presents the correlation matrix of the variables employed in examining the relationship between social sustainability disclosure and firm performance. The correlation analysis provides preliminary evidence on the direction and strength of linear associations among the variables and serves as a diagnostic check for potential multicollinearity prior to regression estimation. The correlation coefficients among the performance measures indicate positive associations, particularly between return on assets and return on capital employed ($r = 0.7132$) and between return on assets and earnings per share ($r = 0.6862$). These relationships suggest that firms with stronger asset-based profitability also tend to exhibit higher capital efficiency and shareholder earnings. Tobin's Q, however, shows relatively weak correlations with the accounting-based performance measures, indicating that market valuation captures dimensions of firm performance that differ from internal profitability indicators. With respect to the social sustainability disclosure variables, employee disclosure (EMP) exhibits near-zero correlations with all performance measures, suggesting a weak linear association between workforce size disclosure and firm performance. Corporate social responsibility expenditure disclosure (CSR) shows small positive correlations with ROA ($r = 0.0157$) and ROCE ($r = 0.0838$), but the

relationships are weak in magnitude, indicating limited direct association at the bivariate level. Female employee disclosure (FEMP) and female management disclosure (FMAN) display modest positive correlations with the accounting-based performance measures, particularly EPS ($r = 0.1103$ for FEMP) and ROA ($r = 0.0844$ for FMAN). These correlations suggest that gender-related disclosure may be associated with improved firm performance, although the strength of the relationships is relatively weak. Training expenditure disclosure (TRAIN) also exhibits small positive correlations with EPS ($r = 0.0418$) and Tobin's Q ($r = 0.0088$), indicating limited bivariate association. Among the social sustainability variables themselves, moderate positive correlations are observed between CSR and training disclosure ($r = 0.3166$), CSR and female management disclosure ($r = 0.2545$), and female employee and female management disclosure ($r = 0.4041$). These relationships suggest that firms engaging in one form of social sustainability disclosure are likely to engage in others, reflecting a complementary disclosure strategy.

Regarding the control variables, firm size (FSIZ) is positively correlated with ROA ($r = 0.2218$) and EPS ($r = 0.3820$), indicating that larger firms tend to exhibit stronger accounting-based performance. Leverage (LEV) shows weak negative correlations with ROA ($r = -0.1636$) and ROCE ($r = -0.0901$), suggesting that higher debt levels may be associated with lower profitability. Importantly, none of the correlation coefficients among the explanatory variables exceed conventional multicollinearity thresholds. This indicates that multicollinearity is unlikely to pose a serious concern in the regression analysis, thereby supporting the inclusion of the variables in the panel regression models. The correlation analysis provides preliminary evidence of weak to moderate associations among the variables and confirms the suitability of proceeding with multivariate panel regression techniques to examine the effect of social sustainability disclosure on firm performance.

Table 4
Correlation Matrix

Variable	ROA	ROCE	EPS	TOBIN Q	EMP	CSR	FEMP	FMAN	TRAIN	FSIZ	LEV
ROA	1.0000										
ROCE	0.7132	1.0000									
EPS	0.6862	0.4625	1.0000								
Tobin's Q	0.1315	0.1803	0.0481	1.0000							
EMP	-0.0011	-0.0125	0.0062	-0.0597	1.0000						
CSR	0.0157	0.0838	-0.0145	-0.0090	-0.0151	1.0000					
FEMP	0.0936	0.0356	0.1103	0.0669	-0.0213	0.2016	1.0000				
FMAN	0.0844	0.0345	0.0608	0.0282	0.0107	0.2545	0.4041	1.0000			

Variable	ROA	ROCE	EPS	TOBIN Q	EMP	CSR	FEMP	FMAN	TRAIN	FSIZ	LEV
TRAIN	0.0053	-0.0280	0.0418	0.0088	-0.0038	0.3166	0.1525	0.1564	1.0000		
FSIZ	0.2218	0.0209	0.3820	-0.1772	-0.0027	0.0025	0.3460	0.2721	0.0840	1.0000	
LEV	-0.1636	-0.0901	-0.0482	0.0926	-0.0276	0.0273	0.0252	0.0205	0.0845	0.1243	1.0000

Source: Authors' Computation (2026)

4.3 Diagnostic Tests

4.3.1 Test for Multicollinearity

Table 5 presents the results of the multicollinearity diagnostic conducted for the social sustainability regression models. The variance inflation factor (VIF) was employed to assess the degree of linear association among the explanatory variables. High multicollinearity inflates standard errors and may weaken the reliability of coefficient estimates; therefore, this test is essential in confirming the suitability of the variables for multivariate panel regression analysis. The multicollinearity test results presented in Table 5 indicate that multicollinearity is not a concern in the social sustainability models. The variance inflation factor values for all explanatory variables are well below the conventional threshold of 10, and even below the more conservative cutoff of 5 often recommended in empirical accounting and finance research. The highest VIF value is observed for female employee disclosure (FEMP), with a VIF of 1.32, followed by female management disclosure (FMAN) with a VIF of 1.28. These values indicate only weak linear association among the explanatory variables. Corporate social responsibility expenditure disclosure (CSR), employee training disclosure (TRAIN), firm size (FSIZ), leverage (LEV), and employee disclosure (EMP) all exhibit VIF values close to unity, further confirming the absence of multicollinearity. The mean VIF value of 1.16 reinforces this conclusion and suggests that the explanatory variables provide distinct information within the regression models. Consequently, the estimated coefficients are unlikely to be distorted by linear dependence among regressors, and the social sustainability regression models can be estimated without the need for variable exclusion or transformation on multicollinearity grounds. The multicollinearity diagnostics support the joint inclusion of the social sustainability disclosure variables and control variables in the subsequent panel regression analysis.

Table 5*Variance Inflation Factor Results*

Variable	VIF	1/VIF
FEMP	1.32	0.7590
FMAN	1.28	0.7796
FSIZ	1.20	0.8348
CSR	1.19	0.8384
TRAIN	1.13	0.8823
LEV	1.02	0.9771
EMP	1.00	0.9981
Mean VIF	1.16	

Source: Authors' Computation (2026)

4.3.2 Test for Heteroskedasticity

Table 6 presents the results of the test for heteroskedasticity conducted for the social sustainability regression models. The Modified Wald test for groupwise heteroskedasticity in panel data was employed to examine whether the variance of the error term is constant across cross-sectional units. The null hypothesis of the test assumes homoskedasticity, such that the variance of the disturbance term is equal across firms. The results of the Modified Wald test reported in Table 6 indicate strong evidence of heteroskedasticity across all model specifications. For the return on assets model, the chi-square statistic of 927,547.14 with a probability value of 0.0000 leads to the rejection of the null hypothesis of homoskedasticity. This suggests that the variance of the error term differs significantly across firms. A similar pattern is observed for the return on capital employed model, where the chi-square statistic of 375,213.74 is statistically significant at the 1 percent level. This confirms the presence of groupwise heteroskedasticity in the ROCE specification. The earnings per share model also exhibits heteroskedasticity, as evidenced by a statistically significant chi-square statistic of 601,122.02.

For the Tobin's Q model, the test statistics are exceptionally large and highly significant, further indicating pronounced heteroskedasticity in the market-based performance model. These results collectively demonstrate that the assumption of constant variance of the disturbance term is violated across all social sustainability performance models. The presence of heteroskedasticity implies that conventional standard errors would be biased and inefficient, potentially leading to invalid statistical inference. Consequently, to ensure the reliability of coefficient estimates and hypothesis testing, all subsequent panel regression models are estimated using robust standard errors. This corrective approach ensures that the reported test statistics remain valid despite the heteroskedastic nature of the data.

Table 6*Modified Wald Test for Groupwise Heteroskedasticity*

Model	χ^2 Statistic	Degrees of Freedom	Prob > χ^2	Decision
ROA Model	927,547.14	128	0.0000	Reject H_0
ROCE Model	375,213.74	128	0.0000	Reject H_0
EPS Model	601,122.02	128	0.0000	Reject H_0
Tobin's Q Model	11,788,272.23	128	0.0000	Reject H_0

Source: Authors' Computation (2026)

Note. The null hypothesis (H_0) states that error variances are homoskedastic across cross-sectional units.

4.3.3 Breusch and Pagan Lagrangian Multiplier Test for Random Effects

Table 7 presents the results of the Breusch and Pagan Lagrangian Multiplier (LM) test for random effects. The LM test examines whether panel-level effects are present by testing the null hypothesis that the variance of the unobserved individual-specific effect is zero. Failure to reject the null hypothesis implies that pooled ordinary least squares is appropriate, while rejection indicates that a panel estimator is required. The Breusch and Pagan Lagrangian Multiplier test results reported in Table 7 provide strong evidence in favour of panel-level effects across all model specifications. For the return on assets model, the χ^2 statistic of 1,024.69 is statistically significant at the 1 percent level, leading to the rejection of the null hypothesis that the variance of the unobserved firm-specific effect is zero. This indicates the presence of significant firm-level heterogeneity. A similar outcome is observed for the return on capital employed model, where the null hypothesis is rejected based on a statistically significant χ^2 statistic of 1,035.53. This confirms that firm-specific effects are relevant in explaining variations in ROCE. For the earnings per share model, the LM test statistic of 1,506.19 is likewise highly significant, indicating that unobserved firm-level effects play an important role in determining EPS. The Tobin's Q model also exhibits strong evidence of panel effects, with a χ^2 statistic of 2,030.76 and a corresponding probability value of 0.0000. This result suggests that market valuation differences across firms cannot be adequately captured by a pooled estimation approach. The consistent rejection of the null hypothesis across all models confirms that pooled ordinary least squares is inappropriate for the social sustainability analysis. The presence of significant panel-level effects justifies the use of panel estimators, specifically fixed-effects or random-effects models, depending on the outcomes of the subsequent Hausman specification test. These findings provide a clear methodological basis for adopting panel regression techniques in the estimation of the social sustainability models.

Table 7*Breusch and Pagan Lagrangian Multiplier Test for Random Effects*

Model	Variance of u	Variance of e	chibar ² (01)	Prob > chibar ²	Decision
ROA Model	2.0845	3.6895	1,024.69	0.0000	Reject H ₀
ROCE Model	2.5950	4.1606	1,035.53	0.0000	Reject H ₀
EPS Model	1.0204	1.4235	1,506.19	0.0000	Reject H ₀
Tobin's Q Model	0.9007	0.6426	2,030.76	0.0000	Reject H ₀

Source: Authors' Computation (2026)

4.3.4 Test for Autocorrelation

Table 8 presents the results of the Wooldridge test for first-order autocorrelation in panel data. The test examines whether the error terms are serially correlated over time within cross-sectional units. The null hypothesis of the test states that there is no first-order autocorrelation. Violation of this assumption may bias standard errors and invalidate statistical inference if not properly addressed. The Wooldridge test results reported in Table 8 indicate the presence of first-order autocorrelation in most of the social sustainability performance models. For the return on assets model, the F-statistic of 26.019 with a probability value of 0.0000 leads to the rejection of the null hypothesis, indicating significant serial correlation in the error terms. This suggests that current shocks to asset-based performance are correlated with past shocks over time. Similarly, the return on capital employed model exhibits evidence of first-order autocorrelation, as indicated by an F-statistic of 7.380 and a probability value of 0.0075. This confirms that serial dependence is present in the ROCE specification. The Tobin's Q model also shows strong evidence of autocorrelation, with a highly significant F-statistic of 86.126, suggesting persistent dynamics in firm market valuation over time. In contrast, the earnings per share model does not exhibit first-order autocorrelation. The null hypothesis of no serial correlation cannot be rejected, as indicated by a probability value of 0.2836. This suggests that the EPS residuals are not serially correlated and that time-dependent error dynamics are less pronounced for this performance measure. The presence of autocorrelation in three of the four models implies that standard errors derived under the assumption of independent disturbances would be unreliable. Consequently, all panel regression models are estimated using robust standard errors that account for serial correlation and heteroskedasticity. This corrective approach ensures valid statistical inference and strengthens the reliability of the regression results reported in the subsequent analysis.

Table 8*Wooldridge Test for Autocorrelation in Panel Data*

Model	F-Statistic	Degrees of Freedom	Prob > F	Decision
ROA Model	26.019	(1, 127)	0.0000	Reject H_0
ROCE Model	7.380	(1, 127)	0.0075	Reject H_0
EPS Model	1.159	(1, 127)	0.2836	Fail to Reject H_0
Tobin's Q Model	86.126	(1, 127)	0.0000	Reject H_0

Source: Authors' Computation (2026)

Note. The null hypothesis (H_0) states that there is no first-order autocorrelation in the panel residuals.

4.3.5 Test for Endogeneity

Table 9 presents the results of the Durbin (score) test and the Wu–Hausman test for endogeneity conducted for the social sustainability regression models. The tests examine whether the explanatory variables are correlated with the error term. The null hypothesis in both tests states that the regressors are exogenous. Rejection of the null hypothesis indicates the presence of endogeneity, which would render conventional panel estimators inconsistent if not addressed. The endogeneity test results reported in Table 9 indicate that the presence of endogeneity varies across the performance models. For the return on assets model, both the Durbin score test and the Wu–Hausman test produce probability values well above the conventional 5 percent significance level. Accordingly, the null hypothesis of exogeneity cannot be rejected, suggesting that the social sustainability disclosure variables may be treated as exogenous in the ROA specification. A similar conclusion is reached for the return of capital employed model. The probability values associated with both endogeneity tests exceed the 5 percent threshold, indicating no statistically significant evidence of correlation between the explanatory variables and the error term. This implies that the ROCE model is not affected by endogeneity concerns. For the earnings per share model, the Durbin and Wu–Hausman test results likewise fail to reject the null hypothesis. The absence of statistically significant endogeneity suggests that the estimated coefficients in the EPS model are not biased by reverse causality or omitted-variable effects within the specified framework. In contrast, the Tobin's Q model exhibits strong evidence of endogeneity. Both the Durbin score test and the Wu–Hausman test are statistically significant at the 1 percent level, leading to the rejection of the null hypothesis of exogeneity. This indicates that one or more explanatory variables in Tobin's Q specification are correlated with the error term, potentially due to reverse causality or unobserved market-related factors influencing disclosure and firm valuation simultaneously. The presence of endogeneity in the Tobin's Q model implies that conventional panel estimators may yield biased and inconsistent coefficient estimates. Consequently, robust checks and estimation techniques that account for endogeneity are required for the market-based performance model. For the remaining models, where

endogeneity is not detected, the use of panel regression estimators with robust standard errors remains appropriate.

Table 9

Durbin and Wu–Hausman Tests for Endogeneity

Model	Durbin χ^2 Statistic	Prob > χ^2	Wu–Hausman F Statistic	Prob > F	Decision
ROA Model	3.24893	0.6617	0.64529	0.6652	Fail to Reject H_0
ROCE Model	6.82476	0.2340	1.35895	0.2371	Fail to Reject H_0
EPS Model	6.13442	0.2934	1.22089	0.2968	Fail to Reject H_0
Tobin's Q Model	28.3001	0.0000	5.72265	0.0000	Reject H_0

Source: Authors' Computation (2026)

Note. The null hypothesis (H_0) states that the explanatory variables are exogenous.

4.3.6 Hausman Specification Test

Table 10 presents the results of the Hausman specification test conducted to determine the appropriate panel estimation technique for the social sustainability models. The Hausman test evaluates the null hypothesis that the random-effects estimator is consistent and efficient, implying that the unobserved firm-specific effects are uncorrelated with the explanatory variables. Rejection of the null hypothesis indicates that the fixed-effects estimator is preferable. The Hausman test results reported in Table 10 indicate that the appropriate panel estimation technique varies across the social sustainability performance models. For the return on assets model, the chi-square statistic of 1.90 with a probability value of 0.9651 indicates that the null hypothesis cannot be rejected. This suggests that the random-effects estimator is consistent and appropriate for analysing the relationship between social sustainability disclosure and ROA. In contrast, the return on capital employed model yields a chi-square statistic of 15.12 with a probability value of 0.0345, leading to the rejection of the null hypothesis at the 5 percent significance level. This result indicates that the random-effects estimator is inconsistent for the ROCE specification and that the fixed-effects estimator is more suitable, as unobserved firm-specific effects are correlated with the explanatory variables. For the earnings per share model, the Hausman test produces a chi-square statistic of 6.84 with a probability value of 0.4460, indicating no systematic difference between the fixed-effects and random-effects estimates. Accordingly, the random-effects specification is considered appropriate for the EPS model. The Tobin's Q model also shows evidence against the random-effects assumption. The chi-square statistic of 14.81 with

a probability value of 0.0385 leads to the rejection of the null hypothesis, indicating that the fixed-effects estimator is preferable for analysing the relationship between social sustainability disclosure and firm market valuation. The Hausman test results imply that random-effects estimation is appropriate for the ROA and EPS models, while fixed-effects estimation is required for the ROCE and Tobin's Q models. In conjunction with earlier diagnostic evidence of heteroskedasticity and autocorrelation, all selected models are subsequently estimated using robust standard errors to ensure valid statistical inference.

Table 10

Hausman Specification Test Results

Model	χ^2 Statistic	Degrees of Freedom	Prob > χ^2	Decision
ROA Model	1.90	7	0.9651	Fail to Reject H_0
ROCE Model	15.12	7	0.0345	Reject H_0
EPS Model	6.84	7	0.4460	Fail to Reject H_0
Tobin's Q Model	14.81	7	0.0385	Reject H_0

Source: Authors' Computation (2026)

Note. The null hypothesis (H_0) states that the difference in coefficients between fixed-effects and random-effects estimators is not systematic.

4.4 The Social Disclosure Index and Firm Performance

Table 11 presents the empirical results on how social disclosure dimensions influence firm performance among listed non-financial firms in Nigeria, Kenya, and South Africa. The analysis is based on 1,541 firm year observations across 128 firms. Four performance measures, Return on Assets, Return on Capital Employed, Earnings per Share, and Tobin's Q, were estimated using panel regression techniques guided by the Hausman specification test. Return on Assets and Earnings per Share were estimated using random-effects models with robust standard errors clustered at the firm level, while Return on Capital Employed and Tobin's Q were estimated using fixed-effects models with robust standard errors clustered at the firm level. Overall, the models show that social disclosure indicators collectively provide meaningful explanatory insights, although the direction and strength of the effects vary across Return on Assets, Return on Capital Employed, Earnings per Share, and Tobin's Q.

The Return on Assets model is statistically significant, with Wald $\chi^2(7) = 38.90$ and $p = 0.0000$, indicating that the social disclosure variables jointly explain Return on Assets. The overall R^2 of 0.0849 shows that about 8.5 percent of the total variation in Return on Assets is explained by the model, while $p = 0.3610$ indicates that firm-specific effects account for about 36 percent of the variance. Employee disclosure is positive and statistically significant ($\beta = 2.0717$, $p = 0.006$), indicating that firms that disclose employee-related information tend to record higher Return on Assets. Corporate social responsibility disclosure is also positive and significant ($\beta = 1.0127$, $p =$

0.049), suggesting that transparency on CSR spending aligns with improved Return on Assets. Female employee disclosure is positive but not statistically significant ($\beta = 1.0068$, $p = 0.974$), indicating no measurable Return on Assets effect. Female management disclosure is positive and significant ($\beta = 1.0553$, $p = 0.030$), implying that disclosure of female participation in management is associated with higher Return on Assets. Training disclosure is negative and statistically insignificant ($\beta = -0.1291$, $p = 0.450$), suggesting no immediate Return on Assets effect. Firm size is positive and highly significant ($\beta = 0.2800$, $p = 0.000$), while leverage is negative and highly significant ($\beta = -0.7629$, $p = 0.000$), indicating that larger firms achieve higher Return on Assets, whereas higher debt reduces Return on Assets.

The Return on Capital Employed model is statistically significant, with $F = 2.51$ and $p = 0.0190$, indicating that the social disclosure indicators jointly influence Return on Capital Employed after controlling for time-invariant firm effects. The within R^2 of 0.0218 suggests modest explanatory power, while $\rho = 0.4430$ indicates substantial firm-level heterogeneity. Employee disclosure is negative and marginally significant ($\beta = -0.0228$, $p = 0.060$), suggesting that workforce disclosure may be associated with labour-related cost pressure that weakly reduces Return on Capital Employed. Corporate social responsibility disclosure is negative and statistically significant ($\beta = -0.0106$, $p = 0.004$), indicating that CSR spending disclosure is associated with lower Return on Capital Employed. Female employee disclosure is positive and highly significant ($\beta = 0.1557$, $p = 0.002$), indicating that transparency about female workforce participation is associated with improved Return on Capital Employed. Female management disclosure is negative and insignificant ($\beta = -0.0243$, $p = 0.902$). Training disclosure is negative and insignificant ($\beta = -0.3939$, $p = 0.128$). Firm size is negative and marginally significant ($\beta = -0.1974$, $p = 0.067$), while leverage is negative and insignificant ($\beta = -0.1803$, $p = 0.548$), indicating that larger firms may experience weaker capital efficiency, while debt does not show a stable Return on Capital Employed effect.

The Earnings per Share model is statistically significant, with Wald $\chi^2(7) = 85.27$ and $p = 0.0000$. The overall R^2 of 0.1506 indicates that about 15.1 percent of Earnings per Share variation is explained by the model, while $\rho = 0.4175$ indicates notable firm-level effects. Employee disclosure is positive and significant ($\beta = 3.1898$, $p = 0.007$), indicating improved Earnings per Share with greater employee transparency. Corporate social responsibility disclosure is negative and insignificant ($\beta = -0.2318$, $p = 0.244$). Female employee disclosure is positive and highly significant ($\beta = 1.0563$, $p = 0.002$), indicating that disclosure of female employment relates to higher Earnings per Share. Female management disclosure is positive and significant ($\beta = 0.0225$, $p = 0.018$), suggesting improved Earnings per Share where managerial gender disclosure is stronger. Training disclosure is negative and insignificant ($\beta = -0.1262$, $p = 0.320$). Firm size is positive and highly significant ($\beta = 0.3089$, $p = 0.000$), while leverage is negative and significant ($\beta = -0.3080$, $p = 0.001$), indicating stronger Earnings per Share for larger firms and lower Earnings per Share for more leveraged firms.

The Tobin's Q model is statistically significant, with $F = 2.25$ and $p = 0.0344$. The within R^2 of 0.0715 indicates that social disclosure explains meaningful within-firm variation in Tobin's Q over time, while $\rho = 0.6124$ underscores the dominance of firm-specific effects in market valuation.

Employee disclosure is negative but statistically insignificant ($\beta = -0.3990$, $p = 0.118$). Corporate social responsibility disclosure is positive but insignificant ($\beta = 0.0905$, $p = 0.742$). Female employee disclosure is positive and highly significant ($\beta = 0.1910$, $p = 0.001$), indicating that investors reward transparency in female workforce participation. Female management disclosure is positive but insignificant ($\beta = 0.0336$, $p = 0.762$). Training disclosure is positive and statistically significant ($\beta = 0.2882$, $p = 0.008$), suggesting that disclosure of employee development investments is valued by the market. Firm size is negative and marginally significant ($\beta = -0.1599$, $p = 0.056$), while leverage is positive but insignificant ($\beta = 0.0978$, $p = 0.618$), indicating weaker valuation multiples for larger firms and no stable valuation effect from leverage.

Overall, the pooled results indicate that social sustainability disclosure affects Return on Assets, Return on Capital Employed, Earnings per Share, and Tobin's Q in different ways. Employee disclosure, corporate social responsibility disclosure, and female management disclosure are more strongly linked to Return on Assets, while female employee disclosure is consistently positive for Return on Capital Employed, Earnings per Share, and Tobin's Q. Training disclosure does not explain Return on Assets, Return on Capital Employed, or Earnings per Share, but it improves Tobin's Q, suggesting that the market places value on human capital investment signals even where short-term profitability effects are not evident.

Table 11

The Social Disclosure Index and Firm Performance of Listed Non-Financial Firms

Variables	ROA β (p value)	ROCE β (p value)	EPS β (p value)	Tobin's Q β (p value)
EMP	2.0717 (0.006)	-0.0228 (0.060)	3.1898 (0.007)	-0.3990 (0.118)
CSR	1.0127 (0.049)	-0.0106 (0.004)	-0.2318 (0.244)	0.0905 (0.742)
FEMP	1.0068 (0.974)	0.1557 (0.002)	1.0563 (0.002)	0.1910 (0.001)
FMAN	1.0553 (0.030)	-0.0243 (0.902)	0.0225 (0.018)	0.0336 (0.762)
TRAIN	-0.1291 (0.450)	-0.3939 (0.128)	-0.1262 (0.320)	0.2882 (0.008)
FSIZ	0.2800 (0.000)	-0.1974 (0.067)	0.3089 (0.000)	-0.1599 (0.056)
LEV	-0.7629 (0.000)	-0.1803 (0.548)	-0.3080 (0.001)	0.0978 (0.618)
Constant	1.6873 (0.095)	6.4989 (0.000)	1.2509 (0.051)	2.5854 (0.002)

Model Summary

Return on Assets: Random effects with robust clustered errors; N = 1,541; Groups = 128; Wald $\chi^2(7) = 38.90$; Prob = 0.0000; Within $R^2 = 0.0396$; Between $R^2 = 0.1479$; Overall $R^2 = 0.0849$; $\rho = 0.3610$
 Return on Capital Employed: Fixed effects with robust clustered errors; N = 1,541; Groups = 128; F = 2.51; Prob = 0.0190; Within $R^2 = 0.0218$; Between $R^2 = 0.0097$; Overall $R^2 = 0.0003$; $\rho = 0.4430$
 Earnings per Share: Random effects with robust clustered errors; N = 1,541; Groups = 128; Wald $\chi^2(7) = 85.27$; Prob = 0.0000; Within $R^2 = 0.0792$; Between $R^2 = 0.2193$; Overall $R^2 = 0.1506$; $\rho = 0.4175$

Variables	ROA β (p value)	ROCE β (p value)	EPS β (p value)	Tobin's Q β (p value)
Tobin's Q: Fixed effects with robust clustered errors; N = 1,541; Groups = 128; F = 2.25; Prob = 0.0344; Within R ² = 0.0715; Between R ² = 0.0353; Overall R ² = 0.0467; ρ = 0.6124				

Source: Authors' Computation (2026)

4.5 Discussion

The empirical evidence from this study indicates that social sustainability reporting is performance relevant among listed non-financial firms in Nigeria, Kenya, and South Africa. The formal hypothesis test confirms that the social disclosure variables are jointly significant in explaining firm performance. Specifically, the joint significance test of the social disclosure dimensions, namely employee disclosure (EMP), corporate social responsibility disclosure (CSR), female employee disclosure (FEMP), female management disclosure (FMAN), and training disclosure (TRAIN), produces a chi square statistic of 32.64 with a probability value of 0.0000. Since the probability value is less than the conventional significance level of 0.05, the null hypothesis that social sustainability disclosure does not affect firm performance is rejected. This result indicates that social sustainability disclosure practices collectively exert a statistically significant influence on the composite performance of listed non-financial firms in Nigeria, Kenya, and South Africa. The findings of this study, which confirm that social sustainability disclosure collectively and significantly influences firm performance across ROA, ROCE, EPS, and Tobin's Q among listed non-financial firms in Nigeria, Kenya, and South Africa, are broadly consistent with the prevailing direction of evidence in the empirical literature, though notable points of divergence also exist. The overall finding that social disclosure is jointly significant in explaining firm performance aligns with the conclusions of Ali et al. (2024), whose systematic review of 135 empirical studies confirmed that CSR disclosure yields multiple financial benefits, including improved financial performance and enhanced stakeholder management, and with Tsang et al. (2024), whose large international sample of nearly 24,000 observations across 56 countries demonstrated that voluntary CSR reporting increased firm value globally. Similarly, Alodat et al. (2024), in their study of Jordanian listed firms, reported significant positive relationships between social and governance disclosures and all three performance indicators they examined, namely Tobin's Q, ROE, and ROA, a finding that closely mirrors the present study's confirmation of social disclosure significance across both accounting-based and market-based performance measures. The positive and significant ROA model in the present study is further corroborated by Lawal et al. (2024), who found that social sustainability disclosure positively and significantly affected EPS among Nigerian manufacturing firms, and by Iliemena et al. (2023), who documented a significant positive effect of social disclosure on gross profit margin among Nigerian manufacturers, both of which suggest that social reporting enhances operational and profitability outcomes in a manner consistent with the present study's ROA findings.

The findings of this study reveal that social disclosure exerts a statistically significant influence on firm performance among listed non-financial firms in Nigeria, Kenya, and South

Africa, although the magnitude and direction of this influence vary across different performance indicators. The overall significance of all four models; Return on Assets (ROA), Return on Capital Employed (ROCE), Earnings per Share (EPS), and Tobin's Q indicates that social disclosure dimensions collectively provide meaningful explanatory power in understanding firm performance within the sampled African markets. Specifically, the ROA model is statistically significant (Wald $\chi^2(7) = 38.90$, $p = 0.0000$), the ROCE model is significant ($F = 2.51$, $p = 0.0190$), the EPS model shows strong significance (Wald $\chi^2(7) = 85.27$, $p = 0.0000$), and the Tobin's Q model is also significant ($F = 2.25$, $p = 0.0344$). The positive and significant outcome of the ROA model (Wald $\chi^2(7) = 38.90$, $p = 0.0000$) suggests that social disclosure contributes to improved operational efficiency. This implies that firms that actively engage in social reporting such as employee welfare, community development, and stakeholder engagement are better positioned to utilise their assets efficiently. This finding supports the stakeholder theory perspective, which posits that firms that address stakeholder interests tend to achieve superior operational outcomes. It also suggests that social disclosure enhances internal processes, employee productivity, and corporate reputation, all of which translate into improved asset utilisation. Similarly, the statistically significant ROCE model ($F = 2.51$, $p = 0.0190$) indicates that social disclosure influences capital efficiency. However, given the nature of capital employed and the potential costs associated with social initiatives, the direction of this relationship may reflect both efficiency gains and cost pressures. On one hand, investments in social responsibility can improve long-term capital productivity through better stakeholder relations and reduced operational risks. On the other hand, such investments may impose short-term financial burdens, thereby moderating their immediate impact on capital returns. This duality highlights the complex trade-offs associated with social disclosure in emerging markets.

The results for EPS show strong statistical significance (Wald $\chi^2(7) = 85.27$, $p = 0.0000$), suggesting that social disclosure is an important determinant of shareholder-related performance. This indicates that social reporting may influence profitability from the perspective of equity holders, either through enhanced revenue generation, improved brand loyalty, or better access to financing. However, as EPS captures net earnings after accounting for costs, the effect of social disclosure may reflect a balance between the benefits of enhanced reputation and the costs of implementing social initiatives, reinforcing the notion that the financial implications of social disclosure are not always unidirectional. In the case of Tobin's Q, the statistically significant model ($F = 2.25$, $p = 0.0344$) indicates that social disclosure also affects market-based performance, although the relatively lower explanatory power compared to accounting-based measures suggests that market responses may be more subdued. This implies that while investors in these African markets consider social disclosure in their valuation decisions, such information may not yet be fully integrated into market pricing. This could be due to lower levels of ESG awareness, information asymmetry, or the dominance of short-term investment horizons in these markets.

The significant ROCE model in the present study is supported by a considerable body of African and emerging market evidence. Oganda et al. (2023) found that Kenyan manufacturing firms with higher social disclosures achieved significant improvements in ROCE, directly

paralleling the present study's finding within a shared geographic context. Ekwueme et al. (2022) similarly observed that Nigerian banks with detailed sustainability disclosures outperformed peers in ROCE through improved risk management, while Abdullahi et al. (2021) reported steady ROCE improvements among Middle Eastern industrial firms with comprehensive sustainability disclosures, attributing gains to enhanced investor confidence. Zhang and Li (2021) further linked social sustainability investment in Chinese manufacturing to ROCE gains through employee productivity and brand loyalty, and Nwankwo and Adeoye (2023) demonstrated that governance mechanisms aligned with sustainability goals improved ROCE through better strategic decision-making, all of which collectively reinforce the present study's finding that social disclosure influences capital efficiency in emerging market contexts.

The strong significance of the EPS model in the present study is directly supported by Lawal et al. (2024), who specifically found that social sustainability disclosure had a positive and significant effect on EPS among Nigerian listed manufacturing firms, suggesting that the earnings implications of social reporting extend beyond the manufacturing sector to encompass non-financial firms as examined in the present study. Ali et al. (2024), in their China-based panel study, also reported a significant positive association between CSR disclosure and EPS, further corroborating the shareholder-performance relevance of social disclosure documented in the present study. The finding that the EPS effect may reflect a balance between reputational benefits and implementation costs is consistent with the observations of Escamilla-Solano et al. (2024), who demonstrated that the financial benefits of social disclosure are mediated by economic alignment, implying that the net earnings effect of social reporting is not always unidirectional and depends on how disclosure translates into operational and reputational value.

The significant but relatively lower explanatory power of the Tobin's Q model in the present study resonates with the broader literature's finding that market-based performance responses to social disclosure tend to be more subdued than accounting-based responses, particularly in developing economic contexts. Tamasiga et al. (2024), in their multi-industry meta-analysis, found that the relationship between ESG disclosures and financial performance was either negative or insignificant in developing economies, contrasting with more robust findings in developed markets, a pattern that helps explain the comparatively modest market response documented in the present study's Tobin's Q model. Tsang et al. (2024) similarly demonstrated that the valuation implications of CSR reporting were amplified by financial analysts and institutional infrastructure, conditions that remain unevenly developed across Nigeria, Kenya, and South Africa, thereby tempering the market-based performance response to social disclosure in these contexts.

However, the present study's findings are not without points of contradiction in literature. Narula et al. (2024), in their examination of Indian firms during the COVID period, found no significant relationship between any ESG component and firm performance across operational, financial, and market measures, a result that stands in direct contrast to the present study's confirmation of joint significance across all four performance models. This divergence may be attributable to differences in time period, as the COVID shock introduced extraordinary financial

disruptions that obscured the normal disclosure-performance relationship, as well as to differences in the institutional environment between India and the African markets examined in the present study. Furthermore, Tamasiga et al. (2024) noted that ESG and financial performance relationships in developing economies tended to be weak or insignificant, a finding that partially contradicts the present study's robust significance results, though this tension may be resolved by recognising that the present study's disaggregated approach to social disclosure measurement captures performance-relevant variation that composite ESG indices, as used in many of the studies reviewed by Tamasiga et al. (2024), may mask. Liang and Chen (2024), using a difference-in-differences approach in China, found that mandatory CSR disclosure actually increased firms' financial constraints, a counterintuitive result that challenges the broadly positive disclosure-performance narrative supported by the present study, and suggests that the institutional context of disclosure mandates, particularly the risk of controlling shareholder expropriation, can produce outcomes that diverge sharply from voluntary disclosure settings. Additionally, whilst the present study finds that social disclosure influences market-based performance as reflected in Tobin's Q, Chung et al. (2024), in their Hong Kong study, found that concentrated ownership negatively affected ESG disclosure quality during voluntary periods, raising the possibility that the market valuation benefits of social disclosure in the present study's African context may be constrained by ownership concentration dynamics that were not explicitly modelled, and that future research should examine as potential moderators of the social disclosure and Tobin's Q relationship.

5. Conclusion and recommendations

This study examined the effect of social sustainability disclosure on the performance of listed non-financial firms in Nigeria, Kenya, and South Africa using 1,541 firm-year observations across 128 firms. Social disclosure was measured through key dimensions such as employee disclosure (EMP), corporate social responsibility disclosure (CSR), female employee disclosure (FEMP), female management disclosure (FMAN), and training disclosure (TRAIN), while firm performance was proxied by Return on Assets (ROA), Return on Capital Employed (ROCE), Earnings per Share (EPS), and Tobin's Q. The empirical results show that social disclosure variables are jointly significant ($\chi^2 = 32.64$, $p = 0.0000$), indicating that social sustainability reporting is performance relevant. All performance models were statistically significant: ROA (Wald $\chi^2(7) = 38.90$, $p = 0.0000$), ROCE ($F = 2.51$, $p = 0.0190$), EPS (Wald $\chi^2(7) = 85.27$, $p = 0.0000$), and Tobin's Q ($F = 2.25$, $p = 0.0344$). The findings reveal that social disclosure improves operational efficiency and has meaningful implications for profitability and capital utilisation, although its influence on market valuation is relatively weak. The study concludes that social sustainability disclosure significantly influences firm performance among listed non-financial firms in the selected African countries. The results support the stakeholder theory by demonstrating that firms engaging in social disclosure benefit from improved operational efficiency and enhanced stakeholder relationships. However, the impact of social disclosure is not uniform across performance measures. While strong positive effects are observed for asset utilisation and shareholder earnings, the effects on capital efficiency are mixed, and the influence on market-

based performance remains modest. This suggests that although social disclosure creates value, its benefits may be more pronounced in internal performance metrics than in external market valuation, particularly in emerging markets where ESG integration is still evolving.

In line with the findings of this study, the following recommendations were suggested:

- i. Firms should strengthen social disclosure practices, particularly in areas such as employee welfare, diversity, and training, as these contribute to improved operational efficiency and profitability.
- ii. Management should adopt a long-term perspective when investing in social sustainability initiatives, recognising that short-term costs may translate into long-term gains in capital efficiency and firm value.
- iii. Regulators and policymakers should develop and enforce standardized social disclosure frameworks to enhance transparency, comparability, and investor confidence in sustainability reporting.
- iv. Investors and financial analysts should incorporate social disclosure information into valuation models to better capture the long-term value implications of sustainability practices.

5.2 Suggestions for Future Research

Future studies should extend the analysis to other African countries and include financial firms to enhance generalisability. Researchers may also explore the interaction between social, environmental, and governance disclosures to better understand their combined effects on firm performance. Further research could incorporate primary data or qualitative approaches to gain deeper insights into managerial motivations behind social disclosure. In addition, future studies should examine the moderating roles of institutional quality, corporate governance, and investor behaviour in shaping the relationship between social disclosure and firm performance.

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