



EuroEconomica

Influence of Sustainability Reporting on Financial Performance of Corporate Firms Listed on the Nairobi Securities Exchange

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Abstract: Sustainability reporting has gained global attention among firms, researchers, and academicians. However, a notable gap remains in empirical literature regarding its specific influence on corporate financial performance, particularly in Kenya. Despite advocacy from the Kenyan Government, sustainability reporting programs among listed corporate firms in Kenya have been slow, with only 46% of the 65 listed firms integrating ESG disclosure into their annual reports by December 2022. Given these gaps, this study examined the influence of sustainability reporting on financial performance among corporate firms listed on the Nairobi Securities Exchange by assessing how each sustainability reporting variable influence Corporate financial performance. Guided by the stakeholder theory, the study employed panel data methodology. A census was conducted on 57 firms, constituting target population between 2014-2023. Findings revealed that environmental reporting positively influenced ROE ($\beta = 0.2091$, $p < 0.001$). Social reporting had the strongest positive effect ($\beta = 0.5880$, $p < 0.001$). Governance reporting showed a moderate positive but statistically insignificant impact ($\beta = 0.0397$, $p = 0.162$). Stakeholder engagement reporting positively correlated with financial performance ($\beta = 0.0917$, $p < 0.001$). Based on these findings, firms should focus on improving environmental, social, and governance reporting to boost financial performance.

Keywords: Sustainability Reporting; Financial Performance; Stakeholder Engagement; Return on Equity (ROE); Corporate Firms

1. Introduction

The early 2000s financial crisis in the United States of America (USA) disrupted global markets, leading to heightened government intervention and deeper awareness of economic challenges and societal needs (Habib & Mourad, 2023). It exposed concerns about ethics, accountability, oversight, and the

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trustworthiness of corporate reporting (Alqallaf & Alareeni, 2018). In response, the United Nations (UN) and the Global Reporting Initiative (GRI) introduced sustainability reporting in 2004, enabling firms to disclose their economic, environmental, social, and governance impacts (Yuliana & Utami, 2022; Aldowaish et al., 2022). This move is supported by a Deloitte (2022) survey which indicated that 80% of institutional investors consider Environmental, Social and Governance (ESG) disclosures as key in their decision-making processes.

Accordingly, regulatory bodies have increasingly advocated for standardized reporting frameworks to enhance credibility and comparability of disclosures across firms. In Kenya, the Nairobi Securities Exchange (NSE), in collaboration with the GRI, introduced ESG disclosure guidelines in November 2021 to promote sustainability reporting among NSE-listed firms. However, the voluntary nature of implementation has limited the extent of standardization (NSE, 2021). For instance, as of 2022, only 29 out of 65 listed firms, representing 46% of them, had successfully integrated ESG disclosures into their annual financial reports, despite the ongoing advocacy by the ministry of environmental and climate change (Lawi, 2023; Kivuva, 2022). Furthermore, corporate managers cite internal challenges, such as resource constraints and expertise gaps, as significant barriers to effective implementation of sustainability reporting (PwC, 2021).

Sustainability reporting therefore involves incorporating ESG factors into a company's reporting framework, detailing actions and outcomes related to its impact on society and the environment. It describes a set of practices (policies, procedures, and metrics) that organizations implement to limit negative impacts or enhance positive impacts on the environment, society, and governance bodies (Apiday, 2023). It also gauges a company's adherence to ESG obligations, focusing on outcomes such as carbon footprint reduction and workforce diversity. Moreover, disclosing this performance serves as a tool for evaluating a company's transparency. It also communicates a company's commitment to these responsibilities to stakeholders (Dempere & Abdalla, 2023).

However, firms that violate sustainability principles often face consumer boycotts and reputational damage, which may result in significant financial losses—an outcome aligned with the principles of legitimacy theory (Le Sourd, 2021). Consequently, failure to report information pertaining to ESG and stakeholder engagement serves as a warning signal to investors and society at large, potentially undermining trust and long-term investment prospects (Habib & Mourad, 2023). This aligns with the stakeholder theory, which asserts that transparent corporate practices are crucial for maintaining trust and accountability among diverse stakeholder groups.

The practice of sustainability reporting is grounded in Stakeholder Theory, which emphasizes the accountability of firms to a broader group of stakeholders beyond shareholders. It asserts that firms must be transparent and comprehensive in their reporting to meet the needs of all stakeholders impacted by their operations (Freeman, 1984; Xu et al., 2022). The legitimacy aspect of Stakeholder Theory suggests that firms adopt sustainability practices to align with societal norms and expectations, thereby enhancing their legitimacy and potentially improving financial performance (Freeman, 1984; Opanyi & Omare, 2022). Similarly, the instrumental view of Stakeholder Theory sees stakeholders as vital to the external environment, thereby positioning sustainability reporting as a means to manage stakeholder relationships, ensure profitability, and meet shareholder interests (Xu et al., 2022).

Recognizing the increasing awareness among investors about the significance of sustainable investment decisions, businesses are proactively integrating sustainability factors into their operations, strategies,

and reports. This shift not only aligns with evolving investor preferences but also helps companies attract a broader investor base (Apiday, 2023). The growing emphasis on sustainability reporting is largely driven by investors' desire to generate positive environmental and social impacts while achieving strong financial returns (Boffo & Patalano, 2020). In this context, enhanced sustainability reporting strengthens investor confidence by improving transparency and the quality of financial information disclosed. Such reports, in turn, increase investors' trust and willingness to invest in company stocks thereby, positively influencing a firm's stock returns (Fu & Li, 2023).

However, despite this growth, significant challenges persist. There is no universal agreement on whether sustainability reporting consistently improves financial performance, as findings vary across sectors, markets, and reporting frameworks. Notably, Buallay and Hamdan (2023) observed that several empirical studies investigating the relationship between ESG disclosure and financial performance have yielded ambiguous results. They further argued that earlier studies were unable to confirm the relationship between sustainability reporting and firm financial performance. For instance, Maama and Gani (2022), examining 74 listed firms in East Africa, found mixed results on the correlation between profitability and sustainability reporting, highlighting the complexity of the issue. In Kenya, studies by Mumo (2022) and Kimilu (2021) revealed a positive link between environmental and governance reporting and financial performance, suggesting that specific ESG elements can drive financial success. Furthermore, Intellectap (2023) reported growing momentum for ESG reporting, driven by increasing investor interest in the financial returns associated with sustainability practices. Contrarily, sustainability reporting in emerging markets like Kenya, lacks the rigor and standardization seen in more developed economies (Alareeni & Hamdan, 2020; Mutero & Njoroge, 2022).

Given these mixed findings and inconsistencies, concerns have emerged about the reliability of sustainability reports as true indicators of corporate performance and long-term value for investors, particularly in firms listed on the Nairobi Securities Exchange (KPMG, 2022; PwC, 2021).

Moreover, Habib and Mourad (2023), in a US based study recommended for a study in which all dimensions of sustainability reporting would be considered. The researchers argued that focusing on ESG dimensions of sustainability reporting without considering others may not be appropriate for comprehensive evaluation of sustainability practices. They however emphasized the need for future researchers to incorporate market-based factors such as stakeholder engagement and product responsibility in their studies (Habib & Mourad, 2023). Guided by these insights, the present study investigated the influence of sustainability reporting on financial performance of corporate firms listed on the Nairobi Securities Exchange. The findings provide valuable insights for future research, aiding practitioners, regulatory bodies, policymakers, and listed corporate firms in formulating sustainable finance policies, guiding strategic decision-making, and increasing investor awareness.

1.1. Statement of the Problem

Driven by the growing demand for transparency and accountability, sustainability reporting has become increasingly vital in shaping corporate strategies, enhancing stakeholder trust, and influencing investor perceptions and decisions globally. However, significant gaps in the empirical literature remain, particularly concerning how different dimensions of sustainability reporting, such as environmental, social, and governance (ESG) reporting influence financial performance and the often-overlooked

influence of stakeholder engagement reporting. Furthermore, the effectiveness of these reports in fostering transparency and translating sustainability efforts into improved financial performance is still insufficiently explored, with conflicting findings and ambiguity across various contexts.

The inconsistency in findings is not confined to Nairobi Securities Exchange, Kenya. Evidence from East Africa presents mixed findings, with some studies failing to establish a clear link between sustainability reporting practices and firm financial performance. Similarly, research in Nigeria shows varying associations between sustainability reporting and financial performance. In the United Kingdom, empirical studies on ESG disclosure have produced ambiguous results, with no definitive conclusion on its impact on financial performance. Furthermore, existing research on sustainability reporting in the Nairobi Securities Exchange primarily focuses on ESG factors, often neglecting economic and market-based elements such as stakeholder engagement. This limited scope creates a gap in understanding how different dimensions of sustainability reporting influence financial performance, particularly in markets like the NSE, where stakeholder dynamics are crucial.

By focusing on 57 corporate firms listed on the Nairobi Securities Exchange, this study seeks to provide empirical evidence on how various dimensions of sustainability reporting, specifically environmental, social, governance, and stakeholder engagement reporting influence corporate financial performance.

1.2. Conceptual Framework

In this study, the conceptual framework comprises both independent and dependent variables. It illustrates the relationship between corporate sustainability reporting variables (independent variables) and financial performance (dependent variable), as depicted in Figure 1. The visual representation of the framework is adapted from Lu et al. (2021) and has been modified to suit the context of this study.

Independent Variable

Dependent Variable

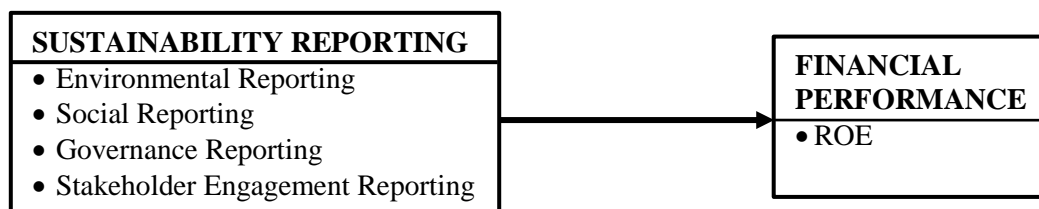


Figure 1. Conceptual Framework

Source: Researcher, 2024

2. Literature Review

This study is grounded in Stakeholder Theory, initially proposed by Freeman (1984), which argues that firms must address the interests of all stakeholders—not only shareholders—to achieve long-term success. This involves managing relationships with investors, employees, customers, regulators, and communities, fostering legitimacy, resource access, and sustained financial performance (Xu et al., 2020; Freeman, 1984). Sustainability reporting serves as a strategic communication tool to reduce information asymmetry, build stakeholder trust, and enhance transparency (Fu & Li, 2023; Ellili & Nobanee, 2022; Yuliana & Utami, 2022). Effective stakeholder engagement strengthens this link by



integrating stakeholder expectations into corporate decision-making, improving social license to operate and enhancing financial outcomes (Bosi et al., 2022; Ojera & Odoyo, 2020).

Stakeholder Theory further conceptualizes firms as relationship nodes where managers balance competing stakeholder needs and mitigate conflicts (Opanyi & Omare, 2022). From an instrumental perspective, stakeholders are strategic assets whose tight relationships provide access to critical resources such as human capital, enhancing competitiveness and reducing agency costs (Rajakulanajagam & Nimalathan, 2020; Xu et al., 2020). Transparency across sustainability reporting dimensions fosters organizational legitimacy, reduces information asymmetry, and builds investor confidence (Alsayegh et al., 2020; Xu et al., 2022). Additionally, social identity considerations influence stakeholder perceptions of firm legitimacy, further affecting engagement and financial performance (Mumo, 2022; Freeman, 1984).

Empirical evidence on the relationship between sustainability reporting and financial performance remains mixed and context-dependent. Studies in China and the U.S. have shown that both mandatory and voluntary environmental disclosures improve firm valuation and profitability (Wu & Li, 2023; John, 2024). Conversely, research from India and Turkey suggested that the costs of implementing environmental reporting may outweigh short-term benefits (Pawar & Munuswamy, 2023; Saygili et al., 2021). In Kenya and Nigeria, environmental disclosures generally correlate positively with financial outcomes, supporting stakeholder theory's emphasis on environmental transparency appealing to conscious investors (Ikapel et al., 2023; Mbuthia & Gatauwa, 2022; Akwuobi, 2022).

Social sustainability reporting demonstrates variable effects. Firms engaging stakeholders through social initiatives such as community development and ethical labor practices often enhance legitimacy and financial performance (Alsayegh et al., 2020). Positive relationships have been documented in Kenya and Indonesia, particularly during social disruptions like the COVID-19 pandemic (Agutu & Githira, 2023; Prayanthi & Budiarto, 2022). However, findings from India and other contexts remain inconsistent, underscoring the importance of cultural and regulatory environments in shaping social reporting outcomes (Kesari & Rawat, 2023; Masud et al., 2018; Ahmad et al., 2021).

Governance reporting shows more consistent positive associations with financial performance globally. Effective governance mechanisms—including independent boards, audit committees, and shareholder rights disclosures—align with Stakeholder Theory's focus on ethical oversight and accountability, enhancing transparency and reducing risks (Lo & Shekhar, 2018; Alareeni & Hamdan, 2020; Zelalem et al., 2022; Eton et al., 2021). While methodology variations limit full comparability, the overall trend supports governance as a key driver of firm value.

Despite this growing body of research, empirical and methodological gaps remain. Most studies rely on secondary data and regression analyses, offering limited qualitative insights into managerial intent. The stakeholder engagement dimension of sustainability reporting remains underexplored, particularly in emerging markets like Kenya. Few studies adopt holistic framework that integrates all sustainability reporting dimensions. Contextual factors such as regulatory frameworks, cultural norms, and market maturity are also often overlooked. Future research should employ mixed methods, standardized sustainability metrics, and incorporate institutional and cultural moderators to better understand the mechanisms through which sustainability reporting influences financial performance.

Guided by these insights, this study investigates the influence of comprehensive sustainability reporting—including environmental, social, governance, and stakeholder engagement dimensions—on the financial performance of firms listed on the Nairobi Securities Exchange. The findings aim to inform practitioners, policymakers, and investors navigating sustainability challenges and opportunities in emerging markets.

3. Methodology

This study adopted a panel data research design to examine the influence of sustainability reporting on the financial performance of firms listed on the NSE from 2014 to 2023. The design combines cross-sectional and time-series data, enabling the analysis of changes over time and supporting causal inferences (Kothari & Garg, 2019; Yuliana & Utami, 2022; Oso & Onen, 2013). The target population comprised 65 corporate firms listed on the Nairobi Securities Exchange (NSE, 2023), with a census sampling technique used to include all qualifying firms. However, based on the inclusion criteria, only 57 firms that were continuously listed on the NSE from 2014 to 2023 and had published complete annual reports for the ten-year period were selected for the study. Excluded were delisted, merged, or acquired firms. NSE-listed firms were preferred due to their adherence to ethical standards and their vital role in economic development. The use of census sampling aligns with the notion of a sample as a representative subset of the population (Oso & Onen, 2013), with selection guided by the type of analysis, required accuracy, and representativeness (Ouma & Oluoch, 2019). This technique is appropriate when the target population is small and well-defined, as it promotes accuracy and reduces sampling bias (Kothari & Garg, 2019; Oso & Onen, 2013).

In this study, data primarily consisted of historical financial information obtained from corporate firms listed on the NSE between 2014 to 2023 which included audited financial reports such as income statements and statements of financial position. Qualitative sustainability reporting data were also retrieved from corporate sustainability reports available on company websites and other relevant publications.

Data collection was conducted through document analysis of audited financial reports and sustainability reports. A checklist was also used to keep the study focused on its objectives and to ensure that all the required data was correctly captured in a document analysis sheet. In the preliminary phase, a pilot test was conducted involving five corporate firms listed on the NSE, representing 1-10% of the target population, in line with Kimilu (2021). Diagnostic tests, including the Hausman and Wooldridge tests, were applied during analysis to validate model assumptions, address unobserved heterogeneity and serial correlation, and strengthen the credibility of the regression results.

Data were classified and transformed using Microsoft Excel, then analyzed using STATA version 16.0. Descriptive statistics (means and standard deviations) were used to summarize the data, while Pearson correlation analysis assessed the strength and direction of relationships between variables. Inferential statistics, specifically multiple regression analysis, were employed to determine the influence of sustainability reporting variables (Environmental Reporting, Social Reporting, Governance Reporting and Stakeholder Engagement Reporting) on financial performance as measured by ROE. The regression model also incorporated time and firm-specific controls to account for heterogeneity across firms and time periods. The model is thus specified as follows:

$$ROE_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 S_{it} + \beta_3 G_{it} + \beta_4 SE_{it} + \alpha_i + \lambda_t + \varepsilon_{it}$$

Where:

ROE_{it} = Return on Equity for firm *i* at time *t* (dependent variable representing Financial Performance);

β₀ = The regression constant (intercept);

β₁, β₂, β₃, and β₄ = Coefficients for the independent variables (E, S, G, SE)_{it} respectively;

E_{it} = Environmental Reporting for firm *i* and time *t*;

S_{it} = Social Reporting for firm *i* and time *t*;

G_{it} = Governance Reporting for firm *i* and time *t*;

SE_{it} = Stakeholder Engagement Reporting for firm *i* and time *t*;

α_i = Firm-specific effects;

λ_t = Time-specific effects;

ε_{it} = Error Term.

3.1. Measurement of Variables

Financial performance, the dependent variable, was measured using Return on Equity (ROE), calculated as net income divided by average shareholders' equity. ROE is represented by the following model:

$$ROE = \frac{\text{Net Income}}{\text{Average Equity}}$$

ROE was selected for this study because of its broad applicability across sectors and its effectiveness in reflecting shareholder value, making it suitable for longitudinal financial performance analysis (Pandey, 2006; Pike & Neale, 2009).

Sustainability reporting variables (independent) was assessed using a document analysis sheet aligned with the NSE's ESG Disclosure Guidance Manual and GRI standards. As noted by Bowmans (2021), the NSE's guidelines reflect these international benchmarks.

The sheet was used to evaluate disclosures across Environmental, Social, Governance, and Stakeholder Engagement categories. Each item was scored on a scale of 0–5 based on compliance and depth of disclosure, with average scores computed annually for each firm. The scores were then aggregated, and mean scores were calculated for each variable using the formula described by Munjal and Sharma (2019):

$$\text{Mean Score}_{jt} = \frac{1}{N_j} \sum_{i=1}^{N_j} X_{ijt}$$

Where:

Mean Score_{jt} = The average sustainability score for firm *j* in year *t* for each variable (Environmental, Social, Governance and Stakeholder Engagement);

X_{ijt} = Scores for item i disclosed in the annual reports of firm j , based on the level and quality of disclosure;

N_j = Total number of disclosure items assessed for firm j .

The study employed time series analysis, covering 57 firms over a ten-year period. Overall sustainability means scores for each variable (Environmental, Social, Governance and Stakeholder Engagement) were computed for each firm across this period and used as inputs for the multiple regression model, enabling evaluation of the longitudinal impact of sustainability reporting on financial performance. The formula for calculating overall sustainability mean score is as follows:

$$\text{Overall Mean Score}_{jt} = \frac{1}{T} \sum_{t=1}^T \left(\sum_{j=1}^N \frac{X_{ijt}}{N_j} \right)$$

Where:

Overall Mean Score_{jt} = The average sustainability score for firm j at time t ;

T= Total number of years (T=10);

t= A specific year within the study period (from 2014 to 2023);

N= Total number of firms in the study (N=57);

j= Index representing each firm (1 to 57);

X_{ijt} = The score (out of 5) for item i disclosed by firm j at time t , based on the level and quality of disclosure;

N_j = Total number of disclosure items assessed for firm j .

4. Results and Discussions

4.1. Descriptive Analysis

Table 1 presents descriptive statistics for the key variables used in this study, based on 570 firm-year observations (57 firms over a 10-year period). The findings indicate that, on average, firms exhibited moderate levels of sustainability reporting across the assessed dimensions. Environmental reporting had a mean score of 2.36 with a standard deviation of 0.40, suggesting a moderate level of environmental disclosure with relatively low variability across firms. Social reporting recorded a slightly higher mean of 2.48 (SD = 0.54), indicating a somewhat stronger emphasis on social aspects. Governance reporting had the lowest average score of 2.28 (SD = 0.50), reflecting comparatively weaker disclosures in governance-related areas. Among the variables, stakeholder engagement exhibited the highest mean score of 2.58 but also showed a relatively high standard deviation of 0.92, pointing to greater variability in the extent of stakeholder engagement practices across firms.

The dependent variable (ROE) had a mean of 2.46 and a standard deviation of 0.50, suggesting moderate financial performance among the sampled firms, with some variation across the ten-year period. Overall, these descriptive results show a general trend of moderate adoption of sustainability reporting practices among listed firms, with notable differences especially in the area of stakeholder engagement.

Table 2. Descriptive Statistics

Variable	Observations (n)	Mean	Standard Deviation	Minimum	Maximum
Environmental Reporting	570	2.36	0.40	1.36	3.44
Social Reporting	570	2.48	0.54	1.43	3.89
Governance Reporting	570	2.28	0.50	1.24	3.67
Stakeholder Engagement	570	2.58	0.92	1.11	4.67
Return on Equity (ROE)	570	2.46	0.50	1.42	4.00

Note: This table provides a summary of descriptive statistics essential for understanding the characteristics of the data, thereby setting a foundation for examining the impact of each sustainability reporting dimension on financial performance of corporate firms listed on the NSE.

4.2. Diagnostic and Preliminary Tests

Given the large sample size and the adoption of Feasible Generalized Least Squares (FGLS) estimation, the assumption of normality is not a strict requirement for valid inference, as the Central Limit Theorem ensures that estimators tend toward normality with sufficiently large samples (Wooldridge, 2010). To ensure the validity of panel data regression analysis, several diagnostic tests were conducted. The Levin-Lin-Chu unit root test confirmed stationarity of all key study variables (ER, SR, GR, SER, and ROE), with p-values less than 0.001. This satisfied the assumption necessary to avoid spurious regression results and affirmed the data's suitability for panel analysis (Stock & Watson, 2018).

The Modified Wald test indicated significant heteroskedasticity across panels ($\chi^2 = 21,000,000$; $p < 0.001$), while the Wooldridge test confirmed first-order autocorrelation ($F = 41.785$; $p = 0.0001$). These violations of classical regression assumptions were addressed using FGLS, which corrects for both heteroskedasticity and serial correlation, producing robust standard errors (Baltagi, 2021; Torres-Reyna, 2007). Multicollinearity was assessed using pairwise correlation coefficients, all of which were below 0.9, indicating no serious multicollinearity concerns.

Finally, the Hausman test yielded a significant result ($\chi^2(5) = 34.93$, $p < 0.001$), favoring the fixed effects model over the random effects model, suggesting that fixed effects estimation was more appropriate for the study as it controls for unobserved firm-specific characteristics.

4.3. Correlation Analysis

Table 3. Correlation between Sustainability Reporting Variables and Financial Performance (ROE)

No	Sustainability Reporting Variables	ROE	ER	SR	GR	SER
1	Return on Equity (ROE)	1				
2	Environmental Reporting (ER)	0.6411	1			
3	Social Reporting (SR)	0.8750	0.5279	1		
4	Governance Reporting (GR)	0.7727	0.6336	0.7715	1	
5	Stakeholder Engagement Reporting (SER)	0.7563	0.3950	0.7895	0.5830	1

Note: This table presents the correlation matrix showing the relationships between Return on Equity (ROE) and various sustainability reporting dimensions, highlighting the strength and direction of these associations.

Table 2 above presents Pearson correlation coefficients examining the relationship between sustainability reporting variables (ER, SR, GR, SER) and financial performance as measured by Return on Equity (ROE), among firms listed on the NSE. The results for the four sustainability reporting variables demonstrate positive correlations with ROE, signalling the financial relevance of sustainability disclosures. Social Reporting exhibited the strongest association ($r = 0.8750$), suggesting that firms with robust social responsibility practices—such as community engagement, employee welfare, and diversity—tend to perform better financially. These findings validate the role of social responsibility in building brand reputation, stakeholder trust, and internal productivity, aligning with prior evidence from Wu and Li (2023), and Agutu and Githira (2023).

Governance Reporting and Stakeholder Engagement Reporting also revealed strong positive correlations with ROE, with coefficients of $r = 0.7727$ and $r = 0.7563$, respectively. These results suggest that firms embracing transparency, accountability, and ethical leadership—alongside meaningful stakeholder involvement—are better positioned for financial success. Effective governance structures and inclusive engagement not only enhance decision-making and risk management but also foster investor confidence, as supported by Alareeni and Hamdan (2020), and Suaidah et al. (2023). Environmental Reporting showed a moderate positive correlation with ROE ($r = 0.6411$), indicating that environmentally conscious firms benefit from operational efficiencies and reputational gains that translate into improved financial outcomes (Ikapel et al., 2023).

Moreover, the interrelationships among the sustainability variables revealed that firms committed to social responsibility also tend to exhibit strong governance ($r = 0.7715$) and stakeholder engagement practices ($r = 0.7895$). In contrast, Environmental Reporting had weaker correlations with the other sustainability dimensions—SR ($r = 0.5279$), GR ($r = 0.6336$), and SER ($r = 0.3950$)—suggesting that environmental initiatives may be pursued more independently. Overall, the correlation results affirm that sustainability reporting is not merely a compliance tool but a strategic avenue for enhancing profitability and stakeholder value in the Kenyan capital market context.

4.4. Regression Analysis

Table 3 presents the results of the regression analysis from the multiple fixed-effects regression model specified below. The model incorporates both time-specific (λ_t) and firm-specific (α_i) effects, and is represented as: $ROE_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 S_{it} + \beta_3 G_{it} + \beta_4 SE_{it} + \alpha_i + \lambda_t + \varepsilon_{it}$, where ROE is Return on Equity, and E, S, G, and SE represent the respective sustainability reporting dimensions. The regression results were used to test the null hypotheses and to evaluate the relative contribution of each reporting dimension to financial performance. The table is as presented below:

Table 4. Fixed Effects (Within) Regression Analysis

Sustainability Reporting Variable	Coefficient (β)	Std. Error	t-test	p-value	[95% CI]
ER	0.2091	0.0265	7.88	0.000	[0.1570, 0.2611]
SR	0.5880	0.0335	17.57	0.000	[0.5222, 0.6537]
GR	0.0397	0.0284	1.40	0.162	[-0.016, 0.0955]
SER	0.0917	0.0189	4.86	0.000	[0.0546, 0.1287]
YEAR 2015	0.0442	0.0333	1.33	0.185	[-0.0213, 0.1096]

YEAR 2016	-0.0061	0.0332	-0.18	0.854	[-0.0715, 0.0591]
YEAR 2017	0.0382	0.0334	1.14	0.253	[-0.0273, 0.1037]
YEAR 2018	0.0092	0.0332	0.28	0.783	[-0.0561, 0.0745]
YEAR 2019	0.0532	0.0333	1.60	0.110	[-0.0122, 0.1186]
YEAR 2020	-0.0089	0.0332	-0.27	0.788	[-0.0742, 0.0564]
YEAR 2021	0.0581	0.0333	1.75	0.081	[-0.0073, 0.1235]
YEAR 2022	0.0011	0.0332	0.03	0.973	[-0.0642, 0.0665]
YEAR 2023	0.0336	0.0333	1.01	0.314	[-0.0319, 0.0991]
Constant/Intercept	0.1613	0.0619	2.60	0.009	[0.0396, 0.2830]
sigma_u	0.1260				
sigma_e	0.1774				
rho	0.3353				(fraction of variance due to u_i)
F-test	F(56, 500)	4.47		0.000	

Note: Number of observations = 570; Number of groups = 57; R-squared (within) = 0.773; R-squared (between) = 0.876; R-squared (overall) = 0.825; $F(13, 500) = 130.94$, $p < 0.001$; F test for all $u_i = 0$: $F(56, 500) = 4.47$, $p < 0.001$; $\sigma_u = 0.126$; $\sigma_e = 0.177$; $\rho = 0.335$ (fraction of variance due to u_i). Mean of the dependent variable = 2.461, $SD = 0.497$. $AIC = -400.747$, $BIC = -339.908$. *** $p < .01$, ** $p < .05$, * $p < .1$.

The regression model presented in Table 3 above demonstrate a high explanatory power, with an overall R-squared of 0.825, indicating that 82.5% of the variability in ROE was accounted for by sustainability reporting variables. The within-group R-squared of 0.773 highlighted the model's ability to explain 77.3% of the changes in financial performance within firms over time, while the between-group R-squared of 0.876 indicated strong explanatory power across firms. These results emphasized the critical role of each component of sustainability reporting variable in influencing financial performance. The model's statistical significance was confirmed by the F-statistic, $F(13, 500) = 130.94$ ($p < 0.001$), indicating that the independent variables collectively contributed significantly to variations in ROE.

The variance components ($\sigma_u = 0.126$, $\sigma_e = 0.177$) and a ρ value of 0.335 suggested that 33.5% of the variance in ROE was due to firm-specific unobserved effects, justifying the use of a fixed-effects model. The F-test for individual effects, $F(56, 500) = 4.47$ ($p < 0.001$), further supported the inclusion of firm-specific factors. Year-specific effects were incorporated to control for macroeconomic, regulatory, and industry-wide changes. While slight variations across years were observed, they were not statistically significant at the 5% level. These findings underscore the importance of considering both firm-level and temporal factors in analyzing how sustainability practices such as environmental, social, governance and stakeholder engagement reporting influence financial performance.

5. Sustainability Reporting and Financial Performance

Based on the regression results presented in Table 3, the null hypothesis (H_0), that there is no significant influence of sustainability reporting on the financial performance of corporate firms listed on the NSE, is assessed as follows:

5.1. Environmental Reporting and Financial Performance

H0₁: There is no significant influence of environmental reporting on the financial performance of corporate firms listed on the NSE.

The regression results in Table 3 show that environmental reporting (ER) has a moderate and statistically significant positive relationship with financial performance, as reflected by a coefficient of 0.2091, a t-value of 7.88, and a p-value of 0.000, indicating a robust effect. Given that the p-value is below the 0.05 threshold, the null hypothesis (H₀₁) is rejected. These results provide sufficient evidence to conclude that environmental reporting significantly influences the financial performance of corporate firms listed on the NSE. Specifically, the result implies that firms prioritizing environmental reporting can build stakeholder trust, thereby attracting investor confidence, which in turn leads to increased financial performance. Moreover, the result aligns with those of Agutu and Githira (2023), Wu and Li (2023), Akwuobi (2022), and Ikapel et al. (2023), who found that environmental reporting disclosures positively impact financial outcomes, suggesting that firms prioritizing environmental sustainability practices tend to experience improved financial performance.

In addition, the findings support the arguments of Le Sourd (2021), that firms adhering to environmental standards are less likely to face reputational damage or consumer boycotts, which can lead to significant financial losses. Furthermore, firms with strong environmental practices and high ESG ratings tend to experience lower total risk and volatility, reinforcing the positive impact of environmental reporting on long-term financial outcomes and aligning with the legitimacy theory by fulfilling societal expectations (Le Sourd, 2021).

However, despite the positive results, the findings of this study contradict those of Pawar and Munuswamy (2023), who argued that the initial costs of environmental initiatives may outweigh their financial benefits, particularly in sectors where environmental regulations impose significant financial strain. Similarly, Saygili et al. (2021) view environmental reporting as a costly endeavour with uncertain returns, suggesting that higher environmental disclosure scores could be linked to lower market valuations. These contrasting perspectives highlight the complexity of the relationship between environmental reporting and financial performance, where the short-term costs of sustainability initiatives might overshadow their long-term benefits, especially in industries facing immediate financial pressures.

5.2. Social Reporting and Financial Performance

H0₂: There is no significant influence of social reporting on the financial performance of corporate firms listed on the NSE.

The results shown in Table 3 indicate that social reporting exhibits a strong positive relationship with financial performance, with a coefficient of $\beta = 0.5880$, a t-value of 17.57, and a p-value of 0.000, all suggesting statistical significance. Given that the p-value is below the 0.05 significance level, we reject the null hypothesis (H₀₂), confirming that social reporting significantly influences financial performance of firms listed on the Nairobi Securities Exchange. These findings imply that firms with higher levels of social responsibility and reporting tend to achieve better financial outcomes. This view is supported by Rossi et al. (2021), who found that firms with robust social performance metrics consistently outperform those with lower scores, emphasizing the value of social responsibility as part of a

comprehensive corporate strategy. Furthermore, the results align with the conclusions of Kesari and Rawat (2023), and Masud et al. (2018), who argued that social disclosures positively impact firm profitability by fostering stronger relationships with stakeholders.

Agutu and Githira (2023) also had a similar view by reporting a significant positive relationship between social sustainability reporting and financial performance in their study on listed financial firms in Kenya. Similarly, Ahmad et al. (2021) demonstrated that social performance significantly influences market value and earnings per share (EPS), particularly when social initiatives are closely aligned with a firm's core business strategies and stakeholder expectations. Collectively, these findings emphasize the importance of social sustainability reporting as a critical component of a company's overall performance strategy, as it enhances stakeholder trust and positions the firm as a socially responsible entity in competitive markets.

While the majority of evidence supports the positive effects of social reporting, contrasting findings highlight the complexity of its impact. For instance, Mardini (2022) examined the influence of ESG factors on financial performance and reported conflicting results. Specifically, the social factor showed a significant negative effect on market indicators, with a regression coefficient for Tobin's Q indicating a strong negative relationship ($p < 0.05$). This stands in contrast to the positive relationship found in this study, suggesting that higher social investments might reduce market valuations under certain conditions, thereby underscoring the context-dependent nature of social reporting's influence on financial performance.

5.3. Governance Reporting and Financial Performance

H0₃: There is no significant influence of governance reporting on the financial performance of corporate firms listed on the NSE.

The results in Table 3 show that governance reporting has a coefficient of 0.0397, with a t-value of 1.40 and a p-value of 0.162. Since the p-value is above the 0.05 significance threshold, we conclude that governance reporting does not have a statistically significant influence on ROE, leading us to fail to reject the null hypothesis. This suggests that governance reporting, as a broad category, does not significantly affect the financial performance of corporate firms listed on the NSE.

While this finding contrasts with prior research, such as Temba et al. (2023), which concluded that governance disclosures positively influence financial performance, Ahmad et al. (2021), who found that strong governance structures enhance financial performance by attracting more investors and improving market outcomes, and Lo and Shekhar (2018), who reported a positive association between governance and financial performance in Germany, it is possible that the effect of governance practices varies depending on industry-specific factors or the unique governance practices each firm employs.

Moreover, the findings of Alareeni and Hamdan (2020) provide further insight into the complexity of governance reporting's influence on financial performance. While they found positive impacts of governance on Return on Assets and Tobin's Q, they observed a negative relationship with ROE, likely due to the costs associated with strengthening governance practices. This aligns with the findings in this study, where the lack of a significant relationship between governance reporting and ROE may reflect similar costs or inefficiencies associated with governance efforts that are not immediately visible in

short-term financial performance metrics. These mixed results across different studies suggest that the effect of governance on financial performance is not only context-dependent but also influenced by specific market conditions, governance structures, and the time frame over which the impact is measured.

5.4. Stakeholder Engagement Reporting and Financial Performance

H04: There is no significant influence of stakeholder engagement reporting on financial performance of corporate firms listed on the NSE.

The regression results displayed in Table 3 reveal that SER has a statistically significant positive impact on ROE, with a coefficient (β) of 0.0917 ($t = 4.86$, $p < 0.001$), indicating that higher SER scores are associated with improved financial performance. Given that the p-value is less than the conventional threshold of 0.05 ($p < 0.001$), the null hypothesis is rejected. This statistically significant result confirms that SER positively impacts ROE, supporting the conclusions by Suaidah et al. (2023), and Alareeni and Hamdan (2018) that firms with higher stakeholder engagement tend to exhibit better financial performance.

However, while the findings in this study suggest a positive relationship, they contrast with the views of Jones et al. (2018), who argue that the costs associated with transparent stakeholder engagement could strain profitability, particularly in competitive markets with weak environmental policies. Despite these differing perspectives, the findings from Wang et al. (2021) and Boakye (2018) support the positive relationship between SER and financial performance, aligning with the results of this study.

Overall, these findings indicate that stakeholder engagement reporting significantly enhances the financial performance of firms listed on the Nairobi Securities Exchange. The positive and significant relationship between SER and ROE aligns with existing literature, suggesting that firms that actively engage with their stakeholders tend to experience better financial outcomes (Haninun et al., 2018). Future research could expand on these insights by exploring specific dimensions of stakeholder engagement and their distinct impacts on financial metrics, thereby contributing to a more nuanced understanding of stakeholder theory in emerging markets.

6. Conclusions and Recommendations

The study examined the influence of sustainability reporting—comprising environmental, social, governance, and stakeholder engagement dimensions—on the financial performance of firms listed on the NSE. The fixed-effects regression model revealed that environmental, social, and stakeholder engagement reporting had statistically significant positive effects on ROE, while governance reporting showed no significant influence. These findings highlight the critical role of robust sustainability reporting, particularly in the environmental and social domains, in enhancing firm performance. The model demonstrated strong explanatory power, with an R-squared of 0.825, underscoring the importance of integrating sustainability into corporate strategy.

Based on the findings, corporate firms should enhance their sustainability reporting practices, especially in social ($\beta = 0.5880$, $p < 0.001$), environmental ($\beta = 0.2091$, $p < 0.001$), and stakeholder engagement ($\beta = 0.0917$, $p < 0.001$) dimensions, all of which had significant positive effects on financial



performance. Social reporting had the strongest influence, emphasizing the importance of workplace diversity, employee welfare, and community engagement. Environmental initiatives such as waste reduction, biodiversity conservation, and energy efficiency should be embedded in corporate strategies to drive both ecological and financial outcomes. Stakeholder engagement through inclusive communication and collaboration further enhances firm value. Although governance reporting ($\beta = 0.0397$, $p = 0.162$) was not statistically significant, firms should continue to strengthen governance to ensure accountability and ethical conduct. The study calls for data-driven, transparent, and stakeholder-oriented sustainability practices, and recommends that regulatory bodies enforce standardized ESG disclosure guidelines to improve reporting consistency and comparability across firms.

Acknowledgement

I express my deepest gratitude to my supervisors, Dr. Midida P. Keta, PhD, and Dr. Micah Nyamita, PhD, whose wisdom, guidance, and encouragement have been invaluable throughout this research. Their expertise and patience have helped shape this work into its final form, and I am profoundly grateful for their mentorship. I also extend my sincere appreciation to the School of Business and Economics at Tom Mboya University for providing a supportive academic environment. Special thanks go to my colleagues in the Department of Business Administration and Economics for their collaboration and motivation throughout this academic journey.

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