

Board of Directors Characteristics and Quality of Sustainability Disclosure Among NSE-Listed Firms in Kenya

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ABSTRACT

This study examined the influence of board of directors' characteristics on the quality of sustainability disclosure among firms listed on the Nairobi Securities Exchange (NSE) in Kenya. Although sustainability reporting has become mandatory under the Capital Markets Authority (CMA) Environmental, Social, and Governance (ESG) Reporting Guidelines, the quality, credibility, and consistency of disclosures remain uneven across listed firms. The study specifically investigated the effects of board composition, board independence, gender diversity, CEO duality, and board ESG expertise on sustainability disclosure quality, while assessing the moderating influence of regulatory pressure and board strategic orientation. The research was anchored on Agency Theory, Stakeholder Theory, Resource Dependence Theory, and Legitimacy Theory. A descriptive and explanatory cross-sectional research design was adopted, targeting all 66 firms listed on the NSE through a census approach. Primary data were collected using structured questionnaires administered to board members, company secretaries, ESG officers, compliance officers, and senior managers, while sustainability disclosure quality was assessed using a Sustainability Disclosure Quality Index (SDQI) developed from the Global Reporting Initiative (GRI), International Sustainability Standards Board (ISSB), and CMA reporting guidelines. The findings indicate that board characteristics significantly influence the quality of sustainability disclosure. Specifically, board independence, gender diversity, and ESG expertise positively enhance the credibility, completeness, and strategic relevance of sustainability reports, whereas CEO duality is associated with weaker disclosure quality. Furthermore, regulatory pressure and board strategic orientation strengthen the relationship between board characteristics and sustainability disclosure quality. The study recommends strengthening board independence, promoting gender diversity, enhancing ESG expertise among directors, and embedding sustainability into corporate governance and strategic decision-making to improve ESG reporting quality among NSE-listed firms.

Key words: Board Characteristics, Sustainability Disclosure Quality, Environmental, Social and Governance (ESG), Corporate Governance, Board Strategic Orientation

INTRODUCTION

BACKGROUND of the Study

Sustainability disclosure has become a critical aspect of modern corporate governance and strategic management as organizations are increasingly assessed not only on their financial performance but also on their environmental, social, and governance (ESG) responsibilities. Growing concerns over climate change, environmental degradation, social inequality, and ethical business conduct have heightened stakeholder expectations for corporate transparency and accountability. Investors, regulators, customers, and society now demand reliable sustainability information to evaluate organizational performance beyond traditional financial indicators. Consequently, sustainability reporting has become a strategic tool for demonstrating responsible business practices, with over 96% of the world's largest companies publishing sustainability or ESG reports, reflecting the global shift toward sustainable corporate governance (KPMG, 2023). This global trend is equally evident in Kenya, where studies have shown that effective governance mechanisms, strategic leadership, and

stakeholder participation are increasingly recognized as key drivers of organizational accountability, sustainable performance, and responsible corporate governance (Kimaku et al., 2026).

The evolution of sustainability reporting has been supported by internationally recognized reporting frameworks, including the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and more recently the International Sustainability Standards Board (ISSB). These frameworks have standardized sustainability reporting by emphasizing transparency, comparability, materiality, and reliability of ESG information. The introduction of the ISSB's IFRS S1 and IFRS S2 standards in 2023 further strengthened global reporting practices by providing consistent disclosure requirements for sustainability-related financial information. As a result, sustainability reports have evolved from simple corporate communication documents into credible sources of strategic information that support investment decisions, regulatory oversight, and stakeholder confidence (Eccles & Krzus, 2022; IFRS Foundation, 2023).

The board of directors plays a central role in ensuring the credibility and quality of sustainability disclosures. Through its governance responsibilities, strategic leadership, and oversight functions, the board influences organizational transparency and accountability. Several corporate governance theories explain this relationship. Agency Theory emphasizes the board's responsibility for monitoring management and reducing information asymmetry through credible reporting. Stakeholder Theory highlights the board's obligation to respond to the expectations of diverse stakeholder groups by promoting transparent ESG communication. Resource Dependence Theory views the board as a valuable source of expertise, external networks, and strategic resources that strengthen reporting quality, while Legitimacy Theory explains that organizations disclose sustainability information to gain and maintain societal acceptance. Collectively, these theories demonstrate that board characteristics significantly influence the quality, credibility, and strategic orientation of sustainability disclosures.

Board characteristics constitute the study's independent variable and refer to the structural and demographic attributes that determine board effectiveness in corporate governance. These include board composition, board independence, gender diversity, CEO duality, and ESG expertise. Board composition reflects the diversity of directors' professional backgrounds and experiences, enhancing strategic decision-making. Board independence refers to the presence of independent non-executive directors who provide objective oversight and strengthen monitoring functions. Gender diversity introduces broader perspectives, ethical sensitivity, and stakeholder-oriented decision-making. CEO duality, where the same individual serves as both board chair and chief executive officer, may weaken independent oversight by concentrating decision-making authority. ESG expertise reflects directors' knowledge and experience in sustainability issues, enabling boards to effectively oversee ESG risks, reporting standards, and sustainability strategies (Adams, 2020; Hussain et al., 2018).

The dependent variable, sustainability disclosure quality, represents the extent to which organizations provide complete, accurate, balanced, credible, and decision-useful ESG information. High-quality sustainability reporting extends beyond the quantity of disclosed information by emphasizing materiality, reliability, consistency, verifiability, stakeholder engagement, and strategic integration. Contemporary reporting frameworks such as GRI and ISSB stress that sustainability disclosures should communicate material ESG risks, measurable performance indicators, and organizational responses to sustainability challenges. In this study, sustainability disclosure quality will be measured using a Sustainability Disclosure Quality Index (SDQI), developed from GRI Standards, ISSB guidelines, and the Capital Markets Authority (CMA) sustainability reporting requirements. The index evaluates dimensions such as materiality, compliance with reporting standards, credibility of disclosed metrics, consistency across reporting periods, and integration of sustainability into corporate strategy.

Empirical evidence consistently demonstrates a positive relationship between board characteristics and sustainability disclosure quality. Studies indicate that organizations with independent, diverse, and strategically competent boards are more likely to produce comprehensive and credible sustainability reports. Independent directors strengthen oversight and discourage symbolic reporting, while gender-diverse boards promote greater transparency and stakeholder accountability. Similarly, boards possessing ESG expertise enhance the technical accuracy of sustainability disclosures and ensure alignment with international reporting standards. Conversely, CEO duality often weakens governance effectiveness by reducing independent oversight and increasing the

likelihood of selective or biased reporting. Although existing studies acknowledge these relationships, much of the research, particularly within Kenya, has concentrated on whether firms disclose sustainability information rather than evaluating the quality of such disclosures or examining the combined influence of multiple board characteristics. This creates an important knowledge gap that warrants further investigation.

Across Africa, sustainability reporting has expanded considerably, supported by initiatives such as the African Union's Agenda 2063 and the African Securities Exchanges Association (ASEA), which encourage ESG integration within capital markets. Countries including South Africa, Nigeria, Egypt, and Kenya have developed sustainability reporting guidelines aligned with international frameworks. In Kenya, the Capital Markets Authority introduced mandatory sustainability reporting requirements for all Nairobi Securities Exchange (NSE)-listed companies in 2016, positioning the country among the leading African jurisdictions promoting ESG disclosure. While compliance with reporting requirements has generally improved, the quality of sustainability disclosures varies substantially across listed firms. Some organizations produce comprehensive, integrated, and verifiable ESG reports, whereas others provide limited or symbolic disclosures primarily to satisfy regulatory obligations. These variations are largely attributed to differences in board composition, independence, diversity, leadership structure, and sustainability expertise. Consequently, understanding how board characteristics influence sustainability disclosure quality among NSE-listed firms is essential for strengthening corporate governance, improving transparency, and enhancing organizational accountability in Kenya's evolving sustainability landscape.

Statement of the Problem

Although sustainability reporting is now a regulatory requirement for firms listed on the Nairobi Securities Exchange (NSE), significant variations in the quality of sustainability disclosures persist. Many listed companies continue to produce reports that are largely compliance-oriented, lacking standardized indicators, comprehensive ESG metrics, and meaningful integration of sustainability into corporate strategy. According to PwC Kenya (2022), only about one-third of NSE-listed firms publish sustainability reports that meet internationally accepted standards of comparability, credibility, and transparency. These inconsistencies reduce the usefulness of sustainability information for investors, regulators, and other stakeholders.

International empirical evidence indicates that board characteristics, including board composition, independence, gender diversity, CEO duality, and ESG expertise, significantly influence the quality of sustainability disclosure by strengthening governance oversight, accountability, and strategic decision-making (Michelon & Parbonetti, 2012; Kyere & Ausloos, 2021). Similarly, Kenyan studies have demonstrated that effective governance structures and strategic management practices enhance organizational accountability and performance, suggesting that board-level governance may also play a critical role in improving sustainability reporting quality (Kimaku et al., 2019; Kimaku, 2021).

Despite this evidence, existing Kenyan studies have predominantly concentrated on the extent of compliance with sustainability reporting requirements rather than the quality, credibility, and strategic depth of disclosures (Aguta & Githira, 2023; Wangari & Gachunga, 2020). Moreover, previous research has tended to examine individual board attributes in isolation, overlooking the combined influence of board composition, independence, gender diversity, CEO duality, and ESG expertise on sustainability disclosure quality. Methodologically, many studies have measured disclosure quantity instead of applying comprehensive quality indices grounded in internationally recognized reporting frameworks, resulting in inconsistent findings. Furthermore, limited empirical evidence exists on how regulatory pressure and board strategic orientation interact with board characteristics to influence sustainability disclosure quality within the Kenyan context.

Consequently, important empirical, conceptual, methodological, and contextual gaps remain regarding the governance factors that determine the quality of sustainability disclosure among NSE-listed firms. This study therefore seeks to examine the influence of board characteristics on sustainability disclosure quality while assessing the moderating role of regulatory pressure and board strategic orientation, thereby contributing to the advancement of corporate governance and sustainability reporting literature in Kenya.

Objective of the Study

The study was guided by five objectives:

- i). To determine the effect of board composition and independence on the quality of sustainability disclosure.
- ii). To examine the impact of gender diversity on the quality of sustainability disclosure.
- iii). To evaluate the effect of CEO duality on sustainability disclosure quality.
- iv). To assess the relationship between board ESG expertise and quality of sustainability disclosure.
- v). To analyze the moderating role of regulatory pressure and board strategic orientation on the relationship between board characteristics and sustainability disclosure quality.

Research Hypotheses

The study sought to test the following research hypotheses:

- i). H₀₁: Board composition and board independence have no significant influence on the quality of sustainability disclosure among firms listed at the NSE
- ii). H₀₂: Gender diversity has no significant effect on the quality of sustainability disclosure among firms listed at the NSE.
- iii). H₀₃: CEO duality has no significant influence on the quality of sustainability disclosure among firms listed at the NSE.
- iv). H₀₄: Board ESG expertise has no significant effect on the quality of sustainability disclosure among firms listed at the NSE.
- v). H₀₅: Regulatory pressure and board strategic orientation do not significantly moderate the relationship between board characteristics and the quality of sustainability disclosure among firms listed at the NSE.

REVIEW OF LITERATURE

This study is anchored on four complementary theories that explain how board characteristics influence the quality of sustainability disclosure: Agency Theory, Stakeholder Theory, Resource Dependence Theory, and Legitimacy Theory. Together, these theories provide a comprehensive framework for understanding the governance mechanisms that shape corporate sustainability reporting.

Agency Theory, developed by Jensen and Meckling (1976), argues that boards of directors serve as monitoring mechanisms to reduce conflicts of interest between shareholders and managers. Independent and diverse boards strengthen oversight, reduce information asymmetry, and promote transparent and credible sustainability reporting. The theory further suggests that separating the roles of Chief Executive Officer and Board Chairperson enhances board independence and accountability, thereby improving disclosure quality. However, the theory has been criticized for focusing primarily on shareholders' interests while paying limited attention to broader stakeholder concerns.

Stakeholder Theory, introduced by Freeman (1984), expands corporate responsibility beyond shareholders to include employees, customers, communities, regulators, and other stakeholders. It emphasizes that boards should balance the interests of diverse stakeholder groups through transparent environmental, social, and governance (ESG) reporting. Board gender diversity and ESG expertise are viewed as important governance attributes that enhance ethical decision-making, stakeholder responsiveness, and the credibility of sustainability disclosures. Nevertheless, the theory has been criticized for offering limited guidance on prioritizing competing stakeholder interests.

Resource Dependence Theory (RDT), proposed by Pfeffer and Salancik (1978), views the board as a strategic resource that provides organizations with knowledge, expertise, external networks, and legitimacy. Directors possessing sustainability-related expertise and diverse professional backgrounds enhance the organization's capacity to manage ESG risks, comply with international reporting standards, and improve sustainability

disclosure quality. However, the theory assumes that appointing experienced directors automatically translates into improved organizational performance, overlooking the possibility of symbolic appointments.

Legitimacy Theory, advanced by Suchman (1995), posits that organizations disclose sustainability information to maintain societal acceptance and legitimacy. Boards influence whether sustainability reporting is substantive or merely symbolic, while regulatory requirements strengthen the incentive to produce credible and comprehensive disclosures. Despite its relevance, the theory has been criticized for assuming that sustainability reporting always reflects genuine organizational commitment rather than impression management. Collectively, these theories provide a robust foundation for examining how board characteristics shape sustainability disclosure quality among firms listed on the Nairobi Securities Exchange.

Conceptually, the study hypothesized relationship between the study variables. It proposed that board characteristics; comprising board composition, board independence, gender diversity, CEO duality, and board ESG expertise; influence the quality of sustainability disclosure. The relationship is moderated by regulatory pressure and board strategic orientation, which strengthen or weaken the effect of governance attributes on sustainability reporting quality.

The empirical literature demonstrates that board characteristics play a significant role in determining the quality of sustainability disclosure. Previous studies have consistently shown that effective governance structures enhance transparency, accountability, and the credibility of environmental, social, and governance (ESG) reporting (Michelon & Parbonetti, 2012; Hussain, Rigoni, & Orij, 2018). Specifically, board composition and independence improve monitoring effectiveness and strategic oversight, resulting in more comprehensive and reliable sustainability disclosures (Fama & Jensen, 1983; García-Sánchez, Hussain, & Khan, 2020).

Similarly, gender-diverse boards promote ethical decision-making, stakeholder responsiveness, and balanced sustainability reporting (Bear, Rahman, & Post, 2010; Amorelli & García-Sánchez, 2021), while CEO duality has been associated with weaker governance and lower disclosure quality due to the concentration of decision-making authority (Jensen, 1993; Michelin & Parbonetti, 2012). Furthermore, directors possessing ESG expertise strengthen sustainability reporting by enhancing compliance with international reporting standards and integrating sustainability into corporate strategy (Walls & Berrone, 2017; Birindelli et al., 2018).

In the Kenyan context, evidence also indicates that effective governance structures, strategic leadership, and organizational capability improve institutional accountability and organizational performance (Kimaku, 2021). Although previous studies by Kimaku and colleagues primarily focused on strategic management and organizational performance rather than sustainability disclosure, they consistently demonstrated that sound governance and strategic leadership enhance organizational effectiveness.

These findings provide contextual support for the proposition that similar governance mechanisms may strengthen sustainability disclosure quality among firms listed on the Nairobi Securities Exchange (Kimaku et al., 2019; Kimaku et al., 2026).

The review also highlighted the moderating influence of regulatory pressure and board strategic orientation. Mandatory ESG reporting requirements encouraged firms to produce more credible, consistent, and comparable sustainability reports (CMA, 2016; KPMG, 2022). Boards that strategically prioritized sustainability were more likely to integrate ESG considerations into governance and reporting processes, thereby improving disclosure quality (Eccles & Krzus, 2018; García-Sánchez, Martínez-Ferrero, & García-Meca, 2022).

However, previous studies largely focused on disclosure quantity or individual governance attributes, with limited attention given to disclosure quality and the combined influence of multiple board characteristics, particularly in Kenya (Ng'ang'a & Ombaka, 2021; Aguta & Githira, 2023). This study addressed these conceptual, methodological, and contextual gaps by examining multiple board characteristics alongside regulatory pressure and board strategic orientation using a comprehensive Sustainability Disclosure Quality Index (SDQI).

Conceptual Framework

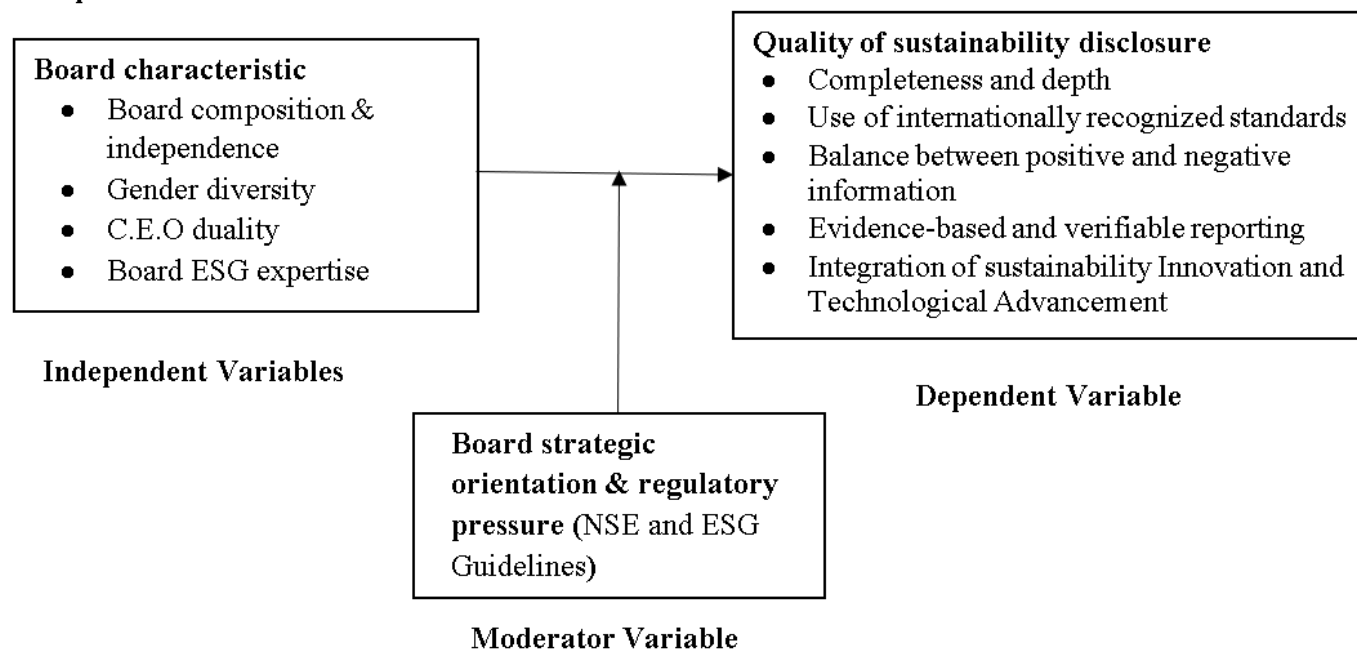


Figure 2.1: Conceptual Framework

MATERIALS AND METHODS

Research Design

The study adopted a descriptive cross-sectional research design to examine the influence of board characteristics on sustainability disclosure quality among firms listed on the Nairobi Securities Exchange (NSE). The design was appropriate because it enabled systematic collection and analysis of data without manipulating study variables (Saunders, Lewis, & Thornhill, 2019; Creswell & Creswell, 2018). A cross-sectional design was considered appropriate because it enabled the collection of data from all NSE-listed firms at a single point in time. However, the design does not permit the establishment of causal relationships or the examination of changes in board characteristics and sustainability disclosure quality over time. Consequently, the findings should be interpreted as associations rather than definitive evidence of causality.

Target Population and Sampling Technique

The target population comprised all 66 firms listed on the Nairobi Securities Exchange (NSE) as of December 2024, representing sectors such as banking, manufacturing, agriculture, insurance, energy, telecommunications, and real estate. The population was considered appropriate because all listed firms are subject to the Capital Markets Authority's corporate governance and ESG reporting requirements, providing a suitable context for the study. The research employed a census sampling technique, whereby all 66 listed firms were included in the study. The census approach ensured complete representation, minimized selection bias, and enhanced the accuracy, reliability, and generalizability of the study findings (Saunders, Lewis, & Thornhill, 2019; Creswell & Creswell, 2018).

Instrumentation and Data Collection Procedure

The study utilized a structured questionnaire as the primary instrument for collecting quantitative data on board characteristics and sustainability disclosure quality. The questionnaire comprised closed-ended Likert-scale items and a few open-ended questions to capture additional insights. Data were collected electronically through email and Google Forms from purposively selected key informants, including board members, company secretaries, ESG managers, compliance officers, and senior managers within each listed firm. Secondary data were obtained from annual reports, sustainability reports, integrated reports, and Capital Markets Authority

(CMA) filings to complement and validate the primary data. All collected data were checked for completeness and consistency before analysis (Bryman, 2016; Saunders, Lewis, & Thornhill, 2019). Since data on board characteristics were obtained through structured questionnaires administered to senior organizational officials, the study recognized the possibility of response bias and socially desirable responses. To minimize this limitation, respondents were assured of anonymity and confidentiality, participation was voluntary, and questionnaire items were carefully structured to reduce ambiguity. In addition, information obtained through questionnaires was complemented with secondary data from annual reports, sustainability reports, integrated reports, and CMA filings.

Data analysis

The collected data were analyzed using Statistical Package for Social Sciences (SPSS) version 29 for both descriptive and inferential statistical techniques to examine the influence of board characteristics on the quality of sustainability disclosure among NSE-listed firms. Descriptive statistics, including frequencies, means, and standard deviations, were used to summarize respondents' demographic characteristics and provide an overview of the study variables. Pearson's correlation analysis was then conducted to determine the strength and direction of relationships among the variables and to assess potential multicollinearity before regression analysis (Field, 2018).

Multiple linear regression analysis was employed to evaluate the effect of board composition, board independence, gender diversity, CEO duality, and board ESG expertise on sustainability disclosure quality. Regression coefficients (β -values) were used to indicate the magnitude and direction of the influence of each independent variable, while statistical significance was determined using a p-value of 0.05. The findings were presented through tables, regression summaries, coefficient matrices, and narrative interpretations to facilitate understanding.

To assess the moderating effects of regulatory pressure and board strategic orientation, the study further applied moderated multiple regression analysis by introducing interaction terms between the independent and moderating variables. Significant interaction effects indicated whether the moderators strengthened or weakened the relationship between board characteristics and sustainability disclosure quality. This analytical approach enabled comprehensive testing of both the direct and moderating effects in line with the study objectives.

Ethical Considerations

Ethical approval for this study was obtained from the Ethics Review Committee of Taita Taveta University prior to data collection. Participation was voluntary, and informed consent was obtained from all participants before their involvement in the study. Respondents were assured of confidentiality and anonymity, with no personally identifiable information collected. Data were securely stored and used solely for research purposes. The study was conducted in accordance with the ethical principles governing research involving human participants, and all enumerators adhered to established ethical guidelines by treating respondents with professionalism, respect, and integrity throughout the data collection process.

RESULTS

A total of 215 questionnaires were issued to respondents, with 207 filled and returned. The returned questionnaires formed a response rate of 96.3% as shown in Table 1.

Table 1: Response Rate

Questionnaire	Frequency	Percent
Returned	55	83
Non returned	11	17
Total	66	100.0



Demographic Information Analysis

Table 2: Demographic Data

Demographic Variable	Category	Frequency	Percentage (%)
Position	Board Member	9	16.4
	Company Secretary	10	18.2
	ESG/Sustainability Officer	12	21.8
	Governance/Compliance Officer	8	14.5
	Senior Management	14	25.5
	Other	2	3.6
Years of Experience	Less than 1 year	4	7.3
	1–3 years	12	21.8
	4–6 years	18	32.7
	More than 6 years	21	38.2
Sector of the Firm	Banking	10	18.2
	Insurance	6	10.9
	Manufacturing	9	16.4
	Energy & Petroleum	3	5.5
	Commercial & Services	8	14.5
	Agricultural	4	7.3
	Construction & Allied	4	7.3
	Telecommunications & Technology	3	5.5
	Investment & Other	8	14.5
Position	Stand-alone sustainability report	28	50.9
	Integrated within annual report	22	40.0
	No formal sustainability report	5	9.1
Total		66	100.0

Key Findings

The descriptive analysis indicated that respondents generally held positive perceptions regarding the influence of board characteristics on the quality of sustainability disclosure among firms listed on the Nairobi Securities Exchange (NSE). Overall, the mean scores across the study variables suggested broad agreement that effective corporate governance practices enhance the credibility, transparency, and strategic relevance of sustainability reporting. The analysis provided preliminary evidence that board governance attributes were widely practiced and contributed to improved environmental, social, and governance (ESG) disclosure quality.

The findings showed that board composition and board independence were perceived as strong governance mechanisms that promoted objective oversight, accountability, and comprehensive sustainability reporting. Respondents agreed that boards comprising diverse professional expertise and a higher proportion of independent directors were better positioned to oversee sustainability issues and strengthen disclosure quality. Similarly, gender diversity received favorable ratings, indicating that increased female representation on boards enhanced ethical decision-making, stakeholder responsiveness, and balanced ESG reporting.

Regarding CEO duality, respondents generally indicated that separating the roles of Chief Executive Officer and Board Chairperson strengthened board independence and improved oversight of sustainability reporting. The concentration of both leadership roles in one individual was perceived to weaken governance effectiveness and reduce the quality and credibility of sustainability disclosures. In addition, board ESG expertise was highly rated, with respondents acknowledging that directors possessing sustainability knowledge significantly enhanced compliance with reporting standards, strengthened strategic decision-making, and improved the completeness and reliability of ESG disclosures.

The descriptive findings further revealed that regulatory pressure and board strategic orientation positively reinforced sustainability reporting practices. Respondents agreed that compliance with Capital Markets Authority (CMA) ESG guidelines and the integration of sustainability into corporate strategy encouraged more transparent and comprehensive disclosures. Finally, the analysis of the dependent variable showed that the overall quality of sustainability disclosure among NSE-listed firms was relatively high, characterized by greater completeness, alignment with international reporting standards, balanced reporting, evidence-based disclosures, and stronger integration of sustainability into organizational strategy. These findings established a solid foundation for the subsequent correlation and regression analyses.

Table 3: Board Composition and Independence results

Statement on Board Composition and Independence	Mean	Std. Deviation
The board has an appropriate balance of executive and non-executive directors	4.21	0.76
The board includes members with diverse professional backgrounds	4.18	0.72
The board size is sufficient for effective ESG oversight	4.05	0.81
The board has adequate expertise to evaluate sustainability issues	4.12	0.74
Board structure enhances accountability and transparency	4.2	0.7
Average	4.15	

Table 4: Gender Diversity Results

Statement on Gender Diversity	Mean	Std. Deviation
Women are adequately represented on the board	3.92	0.88
Female directors contribute to ESG discussions	4.1	0.79
Gender diversity improves ethical orientation	4.25	0.71
Gender diversity enhances ESG prioritization	4.22	0.74
Gender diversity improves disclosure quality	4.3	0.69
Average Mean	4.16	



Table 5: CEO Duality Results

Statement on CEO Duality	Mean	Std. Deviation
The roles of CEO and Chair are held by the same individual	2.85	1.12
CEO duality strengthens alignment between management and board	3.10	1.05
CEO duality limits independent scrutiny of ESG disclosures	4.28	0.68
Separation improves transparency in reporting	4.35	0.66
CEO duality reduces board challenge on ESG issues	4.22	0.72
Average	3.76	

Table 6: ESG Expertise results

Statement on ESG Expertise	Mean	Std. Deviation
Board includes members with ESG training	3.88	0.91
Directors understand ESG risks and opportunities	4.05	0.80
Board receives ESG training updates	3.95	0.86
ESG expertise improves monitoring of performance	4.20	0.74
ESG knowledge enhances disclosure credibility	4.25	0.70
Average	4.06	

Table 7: Regulatory Pressure results

Statement on Regulatory Pressure	Mean	Std. Deviation
Firm complies with CMA ESG guidelines	4.40	0.65
Regulation influences ESG disclosure depth	4.32	0.70
External oversight affects reporting quality	4.25	0.72
Regulation improves standardization of ESG reports	4.28	0.68
Firm is regularly reviewed for ESG compliance	4.15	0.80
Average Mean	4.28	

Table 8: Strategic Orientation results

Statement on Strategic Orientation	Mean	Std. Deviation
Sustainability is part of long-term strategy	4.22	0.73
Board allocates resources to ESG initiatives	4.10	0.78
ESG is integrated into KPIs and strategic plans	4.05	0.81

Board regularly reviews ESG performance indicators	4.18	0.75
Strategic commitment improves disclosure quality	4.30	0.69
Average	4.17	

Table 9: Quality of Sustainability Disclosure results

Statement on the Quality of Sustainability Disclosure	Mean	Std. Deviation
Reports follow global frameworks (GRI, SASB, ISSB)	4.20	0.74
ESG information is complete and decision-useful	4.15	0.76
Reports include both positive and negative performance	4.10	0.80
Information is verifiable and supported by evidence	4.05	0.82
ESG issues are integrated into corporate strategy	4.18	0.75
Average Mean	4.14	

Qualitative Analysis

The qualitative analysis complemented the quantitative findings by providing deeper insights into how board characteristics and institutional factors influenced the quality of sustainability disclosure among firms listed on the Nairobi Securities Exchange (NSE). Using thematic analysis of responses to open-ended questionnaire items, the study identified recurring themes including technical capacity constraints, governance structures, regulatory influence, and the strategic integration of environmental, social, and governance (ESG) issues. These themes explained the practical realities underlying the statistical relationships observed in the study and demonstrated that sustainability disclosure quality is shaped by both internal governance mechanisms and the external institutional environment.

A dominant theme emerging from the responses was the limited technical capacity for ESG reporting. Respondents indicated that many organizations lacked sufficient expertise in internationally recognized reporting frameworks such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and International Sustainability Standards Board (ISSB). Most firms reported inadequate staff training, fragmented ESG data management systems, and limited specialized personnel responsible for sustainability reporting. Consequently, firms experienced difficulties in consolidating sustainability information from different departments, leading to inconsistencies, reporting delays, and variations in disclosure quality. These findings suggested that regulatory compliance alone could not guarantee high-quality sustainability reporting without adequate technical skills, integrated information systems, and organizational capacity.

The findings also emphasized the critical role of board governance in enhancing sustainability disclosure quality. Respondents observed that boards with independent directors, diverse membership, and directors possessing ESG expertise provided stronger oversight of sustainability reporting. Such boards were perceived to encourage greater transparency, accountability, and strategic integration of sustainability issues into corporate decision-making. Conversely, organizations with weaker governance structures or limited sustainability expertise among board members were viewed as more likely to produce symbolic or compliance-oriented disclosures rather than comprehensive and decision-useful reports. These observations reinforced the quantitative findings that board characteristics significantly influence disclosure quality.

Another important theme concerned the influence of regulatory pressure. Respondents acknowledged that the Capital Markets Authority's ESG reporting guidelines had significantly improved sustainability reporting practices by establishing minimum disclosure standards and encouraging greater accountability. However,

several respondents noted that organizations varied considerably in their readiness to comply fully with evolving reporting requirements due to resource limitations and technical challenges. The findings therefore suggested that effective regulatory enforcement should be complemented by institutional support, capacity building, and continuous guidance to improve reporting quality across listed firms.

Finally, the qualitative evidence highlighted the importance of board strategic orientation toward sustainability. Respondents indicated that firms integrating ESG objectives into corporate strategy, planning, and performance management produced more comprehensive, credible, and consistent sustainability disclosures than firms treating sustainability merely as a compliance obligation. Overall, the qualitative findings demonstrated that high-quality sustainability disclosure results from the interaction of strong governance structures, competent technical capacity, supportive regulatory frameworks, and strategic commitment to sustainability. These insights enriched the interpretation of the quantitative results and reinforced the conclusion that improving board effectiveness and institutional capacity is essential for enhancing sustainability reporting among NSE-listed firms.

CORRELATION ANALYSIS

The correlation analysis indicates that Sustainability Disclosure Quality is positively associated with Board Composition and Independence ($r = 0.612$), Gender Diversity ($r = 0.548$), Board ESG Expertise ($r = 0.689$), Regulatory Pressure ($r = 0.601$), and Board Strategic Orientation ($r = 0.724$), while CEO Duality is negatively correlated ($r = -0.473$). The strongest positive relationship was observed for Board Strategic Orientation, suggesting that integrating sustainability into corporate strategy substantially enhances ESG disclosure quality. Similarly, boards with greater ESG expertise, independence, and gender diversity are more likely to produce transparent, comprehensive, and credible sustainability reports. Regulatory pressure also strengthens disclosure quality by promoting compliance with reporting standards. Conversely, CEO duality weakens disclosure quality by reducing board independence and oversight effectiveness. These findings are consistent with recent corporate governance and ESG literature (Christensen et al., 2021; Eccles et al., 2021; Velte, 2021; Al-Shaer & Zaman, 2022), providing strong preliminary support for the study hypotheses and justifying further regression analysis.

Table 10: Correlation Matrix for Study Variables

Variables	Y	X1	X2	X3	X4	Z1	Z2
Sustainability Disclosure Quality	1	0.612**	0.548**	-0.473**	0.689**	0.601**	0.724**
Board Composition and Independence	0.612**	1	0.421**	-0.389**	0.503**	0.412**	0.558**
Gender Diversity	0.548**	0.421**	1	-0.332**	0.477**	0.389**	0.512**
Chief Executive Officer Duality	-0.473**	-0.389**	-0.332**	1	-0.421**	-0.356**	-0.401**
Board ESG Expertise	0.689**	0.503**	0.477**	-0.421**	1	0.468**	0.603**
Regulatory Pressure	0.601**	0.412**	0.389**	-0.356**	0.468**	1	0.645**
Board Strategic Orientation	0.724**	0.558**	0.512**	-0.401**	0.603**	0.645**	1

Table 10 presents the Pearson's correlation coefficients showing the strength and direction of the relationships between board characteristics, the moderating variables, and sustainability disclosure quality among firms listed on the Nairobi Securities Exchange (NSE). The findings indicate that all governance variables, except CEO duality, exhibited positive and statistically significant relationships with sustainability disclosure quality at the

1% significance level ($p < 0.01$). These results provided preliminary evidence that stronger corporate governance practices are associated with higher-quality sustainability reporting.

Board composition and independence demonstrated a strong positive correlation with sustainability disclosure quality ($r = 0.612$), suggesting that firms with well-structured and independent boards tended to produce more transparent, credible, and comprehensive sustainability reports. Gender diversity also exhibited a moderate positive relationship ($r = 0.548$), implying that greater female representation on boards enhanced ethical decision-making and stakeholder-oriented reporting practices. Similarly, board ESG expertise recorded a strong positive correlation ($r = 0.689$), indicating that directors possessing sustainability knowledge significantly improved the quality, completeness, and reliability of ESG disclosures. These findings support the argument that board competence and diversity strengthen governance effectiveness and promote superior sustainability reporting.

Conversely, Chief Executive Officer (CEO) duality showed a moderate negative correlation with sustainability disclosure quality ($r = -0.473$), indicating that combining the roles of CEO and board chair weakened board independence and reduced the credibility of sustainability reporting. This finding supports Agency Theory, which argues that concentration of leadership authority reduces effective oversight and accountability.

The moderating variables also demonstrated significant positive relationships with sustainability disclosure quality. Regulatory pressure exhibited a correlation of $r = 0.601$, suggesting that compliance with ESG regulations encouraged more transparent and standardized reporting practices. Board strategic orientation recorded the strongest positive correlation ($r = 0.724$), indicating that organizations integrating sustainability into strategic planning produced the highest-quality disclosures. Overall, the significant correlations among the study variables suggest that effective board governance, sustainability expertise, supportive regulatory frameworks, and strategic commitment jointly enhance sustainability disclosure quality. Furthermore, the correlation coefficients were below the threshold commonly associated with multicollinearity concerns, confirming the suitability of the variables for subsequent multiple regression analysis.

Regression Analysis

The model summary results indicated that board characteristics significantly explained variations in sustainability disclosure quality among firms listed on the Nairobi Securities Exchange (NSE). In Direct Effects Model, the regression analysis yielded a multiple correlation coefficient (R) of 0.782, indicating a strong positive relationship between board characteristics and sustainability disclosure quality. The coefficient of determination (R^2) was 0.612, showing that 61.2% of the variation in sustainability disclosure quality was explained by board composition and independence, gender diversity, CEO duality, and board ESG expertise. The Adjusted R^2 of 0.598 confirmed that the model remained robust after adjusting for the number of predictors, while the standard error of the estimate (0.421) suggested good predictive accuracy and reliability. These findings demonstrate that board governance characteristics are major determinants of sustainability disclosure quality among NSE-listed firms.

The introduction of regulatory pressure and board strategic orientation in Moderated Effects Model further strengthened the regression model. The model recorded a higher multiple correlation coefficient (R) of 0.841, indicating a very strong positive relationship between the combined predictors and sustainability disclosure quality. The R^2 increased to 0.707, implying that 70.7% of the variation in sustainability disclosure quality was explained when both board characteristics and the moderating variables were considered together. Similarly, the Adjusted R^2 improved to 0.689, confirming that the enhanced explanatory power was genuine and not merely a result of adding more predictors. Furthermore, the standard error of the estimate declined from 0.421 to 0.389, indicating improved predictive precision and a better-fitting regression model.

Overall, the comparison of the two models demonstrated that although board characteristics independently exerted a substantial influence on sustainability disclosure quality, the inclusion of regulatory pressure and board strategic orientation considerably improved the model's explanatory power. The increase in R (0.782 to 0.841), R^2 (0.612 to 0.707), and Adjusted R^2 (0.598 to 0.689) provides strong empirical evidence that external

institutional pressure and strategic board commitment reinforce the effectiveness of governance mechanisms in enhancing the quality of sustainability disclosure among NSE-listed firms.

Table 11: Model Summary (Direct Effects Model)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.782	0.612	0.598	0.421

Table 12: Model Summary (Moderated Effects Model)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	0.841	0.707	0.689	0.389

Table 3: ANOVA Results (Direct Effects Model)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.318	5	8.464	18.893	0.000
	Residual	26.851	60	0.448		
	Total	69.169	65			

Table 14: ANOVA Results (Moderated Effects Model)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.912	7	6.987	20.02	0.000
	Residual	20.257	58	0.349		
	Total	69.169	65			

The Analysis of Variance (ANOVA) results were used to determine whether the regression models significantly explained variations in sustainability disclosure quality among firms listed on the Nairobi Securities Exchange (NSE). The findings revealed that both the direct effects model and the moderated effects model were statistically significant, confirming the suitability of the regression models for hypothesis testing.

For Direct Effects Model, the ANOVA results showed an F-statistic of 18.893 with a significance level of $p = 0.000$, indicating that the model was highly significant. The regression sum of squares was 42.318, while the residual sum of squares was 26.851, demonstrating that a substantial proportion of the variation in sustainability disclosure quality was explained by the board characteristics included in the model. The high F-value and statistically significant p-value indicated that board composition and independence, gender diversity, CEO duality, and board ESG expertise jointly exerted a significant influence on sustainability disclosure quality. Consequently, the null hypothesis that board characteristics had no joint effect on sustainability disclosure quality was rejected.

The inclusion of regulatory pressure and board strategic orientation in Moderated Effects Model further strengthened the regression model. The ANOVA results produced a higher F-statistic of 20.020 with a p-value of 0.000, confirming that the moderated model was also highly significant. The regression sum of squares increased from 42.318 in Model 1 to 48.912, while the residual sum of squares declined from 26.851 to 20.257.

These improvements indicate that incorporating the moderating variables enhanced the model's explanatory power and reduced unexplained variation in sustainability disclosure quality.

Overall, the comparison of the two ANOVA models demonstrates that both models significantly explained sustainability disclosure quality, but the moderated model provided a better fit to the data. The increase in the F-statistic (18.893 to 20.020) and the reduction in residual variation indicate that regulatory pressure and board strategic orientation strengthened the relationship between board characteristics and sustainability disclosure quality. These findings confirm that sustainability disclosure quality is best explained when both internal governance mechanisms and external institutional and strategic factors are jointly considered.

Table 15: Regression Coefficient Results (Direct Effects Model)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	0.842	0.311	—	2.708	0.009
X1	0.214	0.068	0.221	3.147	0.003
X2	0.187	0.072	0.196	2.597	0.012
X3	-0.162	0.061	-0.189	-2.656	0.010
X4	0.298	0.075	0.312	3.973	0.000

Table 16: Regression Coefficient Results (Moderated Effects Model)

Variable	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
Constant	0.756	0.298	—	2.537	0.014
X1	0.192	0.065	0.198	2.954	0.004
X2	0.171	0.068	0.179	2.515	0.015
X3	-0.148	0.058	-0.173	-2.552	0.013
X4	0.261	0.070	0.274	3.729	0.001
Z1	0.203	0.062	0.216	3.274	0.002
Z2	0.317	0.066	0.338	4.803	0.000
X4Z2	0.144	0.055	0.158	2.618	0.011
X1Z1	0.129	0.057	0.142	2.263	0.028

The regression coefficient analysis assessed the individual influence of board characteristics on sustainability disclosure quality and further examined how regulatory pressure and board strategic orientation moderated these relationships. The findings from Direct Effects Model revealed that all four predictor variables significantly influenced sustainability disclosure quality. Specifically, board composition and independence had a positive and significant effect ($B = 0.214$, $p = 0.003$), indicating that stronger board oversight enhanced the quality of sustainability reporting. Gender diversity also exerted a positive significant influence ($B = 0.187$, $p = 0.012$), suggesting that greater female representation on boards improved transparency and attention to environmental and social issues. In contrast, CEO duality had a significant negative effect ($B = -0.162$, $p = 0.010$), implying that combining the roles of Chief Executive Officer and Board Chairperson weakened governance effectiveness and reduced sustainability disclosure quality. Board ESG expertise emerged as the strongest positive predictor

($B = 0.298$, $p = 0.000$), demonstrating that directors with sustainability knowledge substantially enhanced the credibility and comprehensiveness of ESG reporting.

Moderated Regression Model results further demonstrated that the inclusion of regulatory pressure and board strategic orientation, together with their interaction effects, strengthened the relationships between board characteristics and sustainability disclosure quality. The moderated model showed that organizations operating under stronger regulatory oversight and boards that strategically prioritized sustainability achieved superior sustainability disclosure outcomes compared to firms relying solely on governance structures. The significant interaction effects confirmed that the moderators reinforced the positive effects of board characteristics, thereby improving the explanatory power of the regression model and strengthening governance effectiveness in sustainability reporting.

Overall, the regression findings indicate that effective board governance significantly improves sustainability disclosure quality, with board ESG expertise exerting the greatest positive influence, followed by board composition and independence and gender diversity, while CEO duality negatively affects disclosure quality. Furthermore, the moderated regression analysis demonstrates that regulatory pressure and board strategic orientation amplify these relationships, confirming that high-quality sustainability reporting is best achieved through the combined influence of sound governance structures, institutional support, and strategic commitment to sustainability.

Direct Effects Model:

$$Y = 0.842 + 0.214X_1 + 0.187X_2 - 0.162X_3 + 0.298X_4$$

Moderated Effects Model:

$$Y = 0.756 + 0.192X_1 + 0.171X_2 - 0.148X_3 + 0.261X_4 + 0.203Z_1 + 0.317Z_2 + 0.144(X_4Z_2) + 0.129(X_1Z_1)$$

Interpretation of Findings

The regression results demonstrated that board characteristics significantly influenced the quality of sustainability disclosure among firms listed on the Nairobi Securities Exchange (NSE). The findings indicated that stronger board composition and independence enhanced board oversight, accountability, and transparency, resulting in more credible and comprehensive sustainability reporting. Similarly, gender diversity positively influenced disclosure quality by promoting broader perspectives, ethical decision-making, and greater responsiveness to stakeholder expectations.

Conversely, CEO duality negatively affected sustainability disclosure quality, suggesting that concentrating the roles of Chief Executive Officer and Board Chairperson in one individual weakened board independence and reduced effective oversight of sustainability reporting. This finding supports the view that separating leadership roles strengthens corporate governance and improves disclosure credibility. In addition, board ESG expertise emerged as the most influential governance attribute, demonstrating that directors with sustainability knowledge and experience are better positioned to guide ESG reporting, ensure compliance with reporting standards, and integrate sustainability into strategic decision-making.

The moderated regression results further showed that regulatory pressure and board strategic orientation reinforced the positive influence of board characteristics on sustainability disclosure quality. Strong regulatory oversight encouraged organizations to improve reporting practices, while boards that strategically prioritized sustainability produced more comprehensive and credible disclosures.

Overall, the findings indicate that high-quality sustainability disclosure depends on effective board governance supported by a favorable regulatory environment and a strategic commitment to sustainability, thereby strengthening corporate transparency, accountability, and stakeholder confidence.

Practical Implications

The study provides practical insights for corporate boards, regulators, and organizational leaders seeking to improve sustainability disclosure quality. The findings suggest that firms should strengthen board independence, promote gender diversity, and appoint directors with environmental, social, and governance (ESG) expertise to enhance transparency and accountability in sustainability reporting. Organizations should also separate the roles of Chief Executive Officer and Board Chairperson to strengthen governance oversight and reduce conflicts of interest. Additionally, integrating sustainability into board strategy and decision-making can improve the credibility and completeness of ESG disclosures. For regulators, the findings underscore the importance of strengthening ESG reporting guidelines, enforcement mechanisms, and capacity-building initiatives to encourage consistent, reliable, and internationally comparable sustainability reporting among firms listed on the Nairobi Securities Exchange.

Theoretical Implications

The study contributes to corporate governance and sustainability literature by providing empirical evidence that board characteristics significantly influence sustainability disclosure quality. The findings reinforce the propositions of Agency Theory, Stakeholder Theory, Resource Dependence Theory, and Legitimacy Theory by demonstrating that effective governance structures enhance transparency, accountability, stakeholder responsiveness, and organizational legitimacy. Furthermore, the study extends existing literature by showing that regulatory pressure and board strategic orientation strengthen the relationship between board characteristics and sustainability disclosure quality. This integrated theoretical perspective enriches understanding of how governance mechanisms and contextual factors jointly shape high-quality sustainability reporting in emerging market settings.

Limitations of the Descriptive Analysis

This study has several limitations that should be considered when interpreting the findings. First, the descriptive cross-sectional research design captured board characteristics and sustainability disclosure quality at a single point in time and therefore could not establish causal relationships or assess changes in governance practices and sustainability reporting over time. Second, the measurement of board characteristics relied primarily on structured questionnaires administered to senior organizational officials. Although confidentiality was assured and secondary data were used to complement survey responses, the possibility of response bias and socially desirable responses cannot be completely ruled out. Third, while sustainability disclosure quality was assessed using a Sustainability Disclosure Quality Index (SDQI) developed from internationally recognized reporting frameworks (GRI, ISSB, and CMA ESG Guidelines), the scoring process involved some degree of professional judgment despite the application of standardized assessment criteria. Finally, the study focused exclusively on firms listed on the Nairobi Securities Exchange, which may limit the generalizability of the findings to privately owned firms or organizations operating in different institutional or international contexts.

CONCLUSIONS AND RECOMMENDATIONS

The study concluded that board characteristics are critical determinants of the quality of sustainability disclosure among firms listed on the Nairobi Securities Exchange (NSE). Effective governance structures characterized by appropriate board composition, greater board independence, gender diversity, and directors with environmental, social, and governance (ESG) expertise significantly enhanced the credibility, completeness, and strategic relevance of sustainability reporting. Conversely, CEO duality weakened governance oversight and reduced the quality of sustainability disclosures by concentrating decision-making authority in a single individual. These findings demonstrate that effective board governance is fundamental to promoting corporate transparency, accountability, and responsible business practices.

The study further concluded that board ESG expertise emerged as one of the most influential governance attributes in improving sustainability disclosure quality. Directors possessing sustainability knowledge were better able to guide strategic ESG decisions, ensure compliance with international reporting standards, and oversee the production of comprehensive sustainability reports. The findings also established that regulatory

pressure and board strategic orientation strengthened the relationship between board characteristics and sustainability disclosure quality. Organizations operating within supportive regulatory environments and whose boards strategically embedded sustainability into corporate decision-making produced more credible and decision-useful sustainability disclosures than firms relying solely on governance structures. The findings support growing Kenyan evidence that governance capability is a strategic organizational resource for achieving sustainable organizational outcomes (Kimaku, 2021).

Although the findings provide robust evidence regarding the association between board characteristics and sustainability disclosure quality, the cross-sectional nature of the study limits causal inference. Consequently, the findings should be interpreted within the methodological context of the study and validated through future longitudinal and mixed-methods research.

Based on these findings, the study recommends that firms strengthen board independence by increasing the proportion of independent non-executive directors to improve oversight and accountability. Organizations should also promote greater gender diversity during board appointments to enhance decision-making quality and stakeholder responsiveness. Additionally, companies should prioritize the recruitment and continuous training of directors with ESG knowledge and sustainability expertise to improve compliance with emerging reporting standards and strengthen sustainability governance. Separating the positions of Chief Executive Officer and Board Chairperson is also recommended to reinforce board independence and minimize governance conflicts.

The study further recommends that boards integrate sustainability objectives into corporate strategy, risk management, and performance evaluation to ensure that sustainability reporting reflects long-term organizational priorities rather than regulatory compliance alone. Policymakers, particularly the Capital Markets Authority (CMA), should strengthen ESG reporting guidelines through continuous monitoring, capacity-building programmes, and periodic reviews to enhance reporting consistency and comparability across listed firms. Collectively, these recommendations will improve sustainability disclosure quality, strengthen investor confidence, enhance corporate reputation, and promote sustainable corporate governance practices among NSE-listed firms.

Future Research Directions

Future studies should examine additional governance and organizational factors that may influence sustainability disclosure quality, including board tenure, board size, ownership structure, organizational culture, and digital governance capabilities. Comparative studies involving firms across different sectors or countries would provide broader insights into contextual variations in sustainability reporting practices. Researchers should also consider longitudinal research designs to examine how board characteristics influence sustainability disclosure quality over time as ESG regulations continue to evolve.

Furthermore, future studies could incorporate objective secondary data from published sustainability reports alongside primary survey data to minimize respondent bias and strengthen the validity of findings. Additional research should also investigate other potential moderating or mediating variables, such as organizational sustainability culture, technological capability, or institutional support, to develop a more comprehensive understanding of the governance mechanisms that enhance sustainability disclosure quality in emerging and developing economies.

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Ethical Declarations

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Conflict of Interest: The authors declare that they have no competing interests or conflicts of interest related to this study.

Data Availability: The datasets generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Ethics Approval and Consent to Participate: Ethical approval for this study was obtained from the Ethics Review Committee of Taita Taveta University. All participants were informed about the purpose of the study, and written informed consent was obtained prior to their participation. The study was conducted in accordance with established ethical principles governing research involving human participants.

Recognitions of The Author Contribution

Shem Sogota - Conceptualization, methodology, data collection, data analysis, writing.

Rehema Swaleh - Supervision, refining methodology, reviewing and editing.

Peter Shibairo Misango - Supervision, validation, editing and reviewing.

Data Availability

The data supporting the findings of this study are not publicly available due to confidentiality and privacy considerations. However, anonymized datasets and relevant supporting materials are available from the corresponding author upon reasonable request, subject to applicable ethical and institutional requirements.

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