FIRM ATTRIBUTES AND SUSTAINABILITY DISCLOSURE AMONG LISTED MANUFACTURING FIRMS IN SUB-SAHARAN AFRICA: EVIDENCE FROM 2013-2023

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Abstract
The increasing stakeholder demand for transparent sustainability disclosures among listed manufacturing firms in the sub-Saharan Africa has led governance to implement policies that support regional sustainability reporting frameworks. Thus, this study examines the effect of firm attributes on sustainability disclosure among listed manufacturing firms in sub-Saharan Africa, focusing on firm size, profitability, leverage, and corporate governance quality. Using anex-post facto research design, data were obtained annual financial statement of 60 manufacturing firms across six Sub-Saharan African countriesover 2013 to 2023. Data were analyzed using descriptive statistics, correlation, and panel least squares regression analysis (fixed effects model). Findings reveal that firm size (t= 0.0206, p< 0.05), profitability (t= 0.0580, p < 0.05), and corporate governance quality (t= 0.0006, p< 0.05) significantly influence sustainability disclosure, while leverage (t= -0.1462, p< 0.05) has a negative significant effect. The model explains 82% of the variance in sustainability disclosure. The study concludes that larger, more profitable firms with strong governance structures are more transparent in their sustainability disclosure, while highly leveraged firms tend to be more conservative in their disclosures. The study recommends that management should promote corporate governance reforms. Stakeholders, especially investors and policymakers, should consider these firm attributes when assessing a firm's commitment to sustainability. This study has practical policy implications for regulatory authorities and standard-setting bodies to create enforce policies that promote sustainability disclosures for smaller, leveraged firms. While also advocating for regional sustainability reporting frameworks and capacity-building initiatives in sub-Saharan Africa's manufacturing sector.

Keywords: Corporate governance quality, firm size, leverage, manufacturing firms, profitability, sustainability disclosure, sub-Saharan Africa

1.0 Introduction

In recent decade, sustainability disclosure has gained prominence as a critical aspect of corporate reporting, driven by growing stakeholder demands for transparency on environmental, social, and governance (ESG) issues (Nguyen & Duong, 2025). Globally, initiatives such as the Global Reporting Initiative (GRI), the United Nations Sustainable Development Goals (SDGs), and the International Sustainability Standards Board (ISSB) are pushing firms to align financial performance with sustainable practices (Amran et al., 2022; IFRS Foundation, 2023). Despite these developments, many firms in sub-Saharan Africa, including Nigeria, still lagging behind in effectively disclosing sustainability-related information (Olayemi & Onuoha, 2023; Gwar et al., 2025). A case in point is the Dangote Group in Nigeria, which, despite being a conglomerate with significant regional influence, has faced criticism for not providing timely or comprehensive sustainability reports that reflect its environmental and social footprint (Ogunleye & Okeke, 2022, Agyemang et al., 2025). This disconnect highlights the broader challenge of integrating sustainability disclosure into corporate practices in developing economies.

Amid these challenges, firm-specific characteristics commonly referred to as firm attributes have emerged as critical determinants of the extent and quality of sustainability disclosures. Firm attributes such as size, profitability, leverage, and the quality of corporate governance play influential roles in shaping disclosure behaviour (Al-Shaer & Zaman, 2022; Gyasi, 2023; Van et al., 2025). Larger firms, due to their visibility and regulatory exposure, may be more

inclined to disclose sustainability information, while highly leveraged firms may disclose less to avoid scrutiny (Mohammed & Adegoke, 2022; Saeed et al., 2025). Similarly, profitable firms might have the resources and incentives to engage in comprehensive reporting. Corporate governance mechanisms, including board independence and ownership structure, also influence the strategic priorities that shape sustainability communication (Agyei-Mensah, 2022). Hence, understanding the influence of firm attributes is central to addressing the inconsistencies and variations in sustainability disclosure practices across firms and countries.

The manufacturing sector is an imperative sector of the economy and remains one of the sectors that contribute significantly to the Gross Domestic Product (GDP) of the economy and increasing the national wealth of the economy. In the developed economy, the sector is a value-added sector and offers a strong macro-economic indicator. The stride of manufacturing sector in the developing countries, especially among Sub-Saharan Africa portrays them as an engine for development and alleviation of poverty and this effort makes the economy stronger (Ogundajo&Nyikyaa, 2021). Manufacturing firms in Nigeria face a range of challenges, including the high cost of production, inadequate infrastructure, and limited access to finance and this has eroded the performance of the sector over time (Ogundajo&Nyikyaa, 2021). Since the sector is considered as the key driver of economic growth and development, the financial performance of the sector reflects the overall health of the economy.

Firm size has consistently been linked with improved sustainability disclosure. Larger firms often have more complex operations that are subject to greater public and regulatory scrutiny (Lewa et al., 2025). These firms are more likely to face pressure from institutional investors, non-governmental organizations, and international regulatory bodies to report on their ESG performance (Elshabasy, 2022; Casciello et al., 2025). Their visibility in the marketplacesbring them under the spotlight, compelling them to maintain legitimacy and reputational capital through comprehensive sustainability reporting. In addition, large firms typically have more resources, including financial, technological, and human capital, which can be deployed to develop and maintain structured sustainability reporting frameworks (Chukwu & Okafor, 2021). Thus, size enhances a firm's capacity and motivation to adopt voluntary sustainability disclosure practices, especially within industries like manufacturing where environmental impacts are significant.

Furthermore, profitable firms may be more capable and willing to invest in sustainability initiatives and in the preparation of detailed sustainability reports (Ali et al., 2025). High profitability not only provides the financial resources to implement and monitor sustainable practices but also creates an incentive for firms to showcase their responsible behavior to stakeholders (Ofoegbu, 2021). Sustainability disclosure may, therefore, be employed as a strategic tool to signal operational efficiency, long-term viability, and alignment with stakeholder expectations. Profitability may reduce the perceived cost of disclosure and increase the firm's confidence in facing regulatory and public scrutiny, especially in jurisdictions with weak enforcement mechanisms (Gyasi, 2023).

Additionally, highly leveraged firms may avoid extensive disclosure to prevent drawing attention to their financial vulnerabilities. Conversely, in some cases, such firms may adopt more robust sustainability reporting to build trust with creditors and investors (Mokhtar & Madi, 2021). However, empirical evidence suggests that firms with higher levels of debt often prioritize financial survival over non-financial reporting, particularly in developing economies where sustainability initiatives may not yield immediate returns (Agyei-Mensah, 2022). In the manufacturing sector, where capital requirements are high and operational risks are substantial, the leverage-disclosure relationship becomes even more critical. Therefore, the level of

indebtedness may either constrain or incentivize sustainability disclosure depending on the strategic posture and risk appetite of the firm.

In same vein, corporate governance quality structures promote accountability, transparency, and stakeholder engagement which tend to support broader and more detailed disclosure practices (Al-Shaer & Zaman, 2022). For instance, firms with independent and diverse boards are more likely to recognize the importance of sustainability in corporate strategy. Additionally, the presence of governance committees and ESG oversight mechanisms can institutionalize sustainability reporting processes. In Sub-Saharan Africa, where governance challenges are prevalent, improving corporate governance quality may serve as a catalyst for advancing sustainability disclosure (Olayemi & Onuoha, 2023). Strong governance frameworks can mitigate agency conflicts, align managerial incentives with stakeholder interests, and ensure compliance with emerging sustainability standards.

Despite growing global emphasis on sustainability discloure, significant problems persist in its implementation, particularly in developing regions such as Sub-Saharan Africa. Globally, sustainability disclosure is often inconsistent, lacks standardization, and is vulnerable to greenwashing (IFRS Foundation, 2023; Adams &Abhayawansa, 2022). In Nigeria, several firms either do not report at all or provide only superficial and unverified sustainability data (Ogunleye & Okeke, 2022). The lack of regulatory enforcement, inadequate stakeholder awareness, and limited expertise further exacerbate these issues. As a result, stakeholders including investors, regulators, and civil society struggle to access reliable information for decision-making. The consequences of these problems are far-reaching as they undermine investor confidence, obscure corporate accountability, and compromise the achievement of sustainable development goals. Addressing these disclosure gaps requires a nuanced understanding of the firm-level drivers, hence the relevance of investigating how firm attributes influence sustainability disclosure among manufacturing firms in Sub-Saharan Africa.

2.0 Literature Review

Sustainability Disclosure

Sustainability disclosure refers to the systematic reporting of a firm's environmental, social, and governance (ESG) activities to stakeholders (Omotayo & Idris, 2025; Chinedu, 2024). This encompasses both qualitative and quantitative information aimed at enhancing transparency and aligning operations with sustainable development goals. For this study, sustainabilityis operationalized using ESG disclosure index adapted from Olayemi and Onuoha (2023).

Firm Attributes

Adetola (2025) defines firm attributes as the inherent and structural characteristics of an organization that shape its operational behavior, strategic decisions, and disclosure patterns, such as firm size, age, industry type, leverage, and ownership structure.According to Okonkwo and Ibrahim (2024) firm attributes is a measurable indicator that reflect the identity and operational framework of a company, encompassing dimensions like financial capacity, governance structure, and market orientation.Similarly, Mwangi and Adebayo (2024) view firm attributes as internal characteristics that influence a firm's economic performance and strategic disclosures, including asset base, profitability, board characteristics, and capital structure. Firm attributes broadly represent the essential internal qualities of a company that shape its decisions and performance. As Adetola (2025) notes, these characteristics help define a firm's market positioning and operational scope. This perspective underscores the importance of contextual and structural dynamics such as firm size and ownership, which can influence investor perception and regulatory compliance. Okonkwo and Ibrahim (2024) emphasize the role of firm attributes in determining disclosure and transparency, particularly within emerging

markets. Mwangi and Adebayo (2024) add that firm attributes can serve as strategic determinants in competitive markets, influencing innovation, efficiency, and reporting practices. Collectively, these definitions highlight that firm attributes are not just descriptive but functional indicators of firm behavior.

Firm Size

Olowu (2025) defines firm size as the quantitative scale of a company's operations, typically measured by total assets, number of employees, or total revenue, which influences its visibility and regulatory compliance.Ahmed and Bello (2024) state that firm size refers to the magnitude of a firm's operations and market share, affecting its information asymmetry, access to capital markets, and stakeholder engagement.Nwachukwu (2024) views firm size as a determinant of organizational complexity, suggesting that larger firms tend to have more structured governance and reporting systems due to their wider stakeholder base. Firm size is a critical attribute influencing firm behavior and disclosure. As Olowu (2025) points out, the scale of a firm's operations can increase its public visibility and the expectations of regulatory bodies. Ahmed and Bello (2024) align with this by linking firm size with access to external capital, where larger firms enjoy economies of scale and credibility advantages. Nwachukwu (2024) adds a governance perspective, indicating that large firms are typically subject to more scrutiny and thus require robust internal controls. Overall, firm size serves as a proxy for market power, risk exposure, and reporting obligation.

Profitability

Ifeanyi and Yusuf (2025) define profitability as a company's capacity to create returns on its investments, which are commonly measured using measures like return on assets (ROA) and return on equity (ROE). According to Odetola (2024), profitability signifies a company's financial efficiency in converting sales into net profits and is used as a major performance measure by investors and management. According to Danladi and Umeh (2024), profitability is more than just a financial consequence; it also reflects strategy and operational alignment, which drives business value and stakeholder trust. Profitability is a critical component of company performance analysis. Ifeanyi and Yusuf (2025) emphasise its importance in determining how efficiently enterprises use their resources to generate revenue. This is critical for strategic decision-making and sustainability. Odetola (2024) highlights the operational consequences of profitability as a direct result of revenue and expense management. Danladi and Umeh (2024) broaden the concept by linking profitability to overall corporate strategy and market perception. Thus, profitability is both a quantitative and qualitative indicator of organisational success.

Leverage

Chukwuemeka (2025) defines leverage as the degree to which a business employs debt financing in its capital structure, which may enhance returns or increase financial risk depending on market circumstances. Ogunlana and Haruna (2024) explain leverage as the financial responsibility deriving from borrowed money, representing a firm's capital risk and impacting its decision-making autonomy. Bakare (2024) recognizes leverage as a strategic instrument for increasing business without rapid equity erosion, albeit it needs careful management to prevent bankruptcy. Leverage is a double-edged tool in corporate finance. Chukwuemeka (2025) stresses its risk-return tradeoff, where increasing debt may lead to improved profitability or heightened bankruptcy risk. Ogunlana and Haruna (2024) underline the governance implications of leverage, noting that excessive debt levels may decrease management flexibility. Bakare (2024) sees leverage more strategically, stressing its significance in expansion finance. Overall, leverage is crucial to financial structure choices and impacts solvency, growth, and investor trust.

Corporate Governance Quality

Adeyemi and Sanni (2025) explain corporate governance quality as the efficacy of procedures in place to provide openness, accountability, and the protection of stakeholders' interests. Eze and Lawal (2024) opined that corporate governance quality is a multidimensional concept that includes board independence, ownership concentration, audit quality, and CEO compensation. Ibrahim (2024) defines it as the extent to which governance processes are consistent with the best global practices, assuring responsible management and ethical business behavior. business governance quality has emerged as a bulwark against mismanagement and business scandals. Adeyemi and Sanni (2025) emphasise its function in balancing power among stakeholders by promoting openness and accountability. Eze and Lawal (2024) provide a complete perspective by combining essential governance components that lead to governance effectiveness. Ibrahim (2024) provides a normative viewpoint, situating governance quality within international norms. Strong governance systems are essential for risk management, regulatory compliance, and investor confidence.

Theoretical Review

The study is anchored on agency theory. The Agency Theory was propounded by Michael Jensen and William Meckling in 1976. The theory provides a robust theoretical framework for understanding the dynamics between principals (such as shareholders) and agents (such as managers) in corporate organizations. The theory assumes that a conflict of interest may arise when the goals of the principals and agents are not aligned, especially in scenarios where agents have access to more information and may act in their own self-interest rather than in the interest of the owners. To mitigate this conflict, principals typically incur agency costs, such as monitoring expenses, performance incentives, and contractual obligations, to ensure that agents act in accordance with organizational objectives (Jensen & Meckling, 1976).

In the context firm attributes and sustainability disclosure, the Agency Theory offers valuable insights into how firm-level characteristics such as size, profitability, leverage and corporate governance influence managerial decisions on sustainability disclosure. Larger firms with complex operations are more likely to experience greater principal-agent problems due to the separation of ownership and control. As a result, these firms may voluntarily disclose sustainability information to reduce information asymmetry and reassure stakeholders of their commitment to responsible practices (Aliyu &Nwobu, 2022). Moreover, firms with dispersed ownership structures or institutional investors are often subject to higher scrutiny, prompting managers to engage in transparent reporting to align with shareholder expectations and reduce agency costs.

Several empirical studies in sub-Saharan Africa have employed Agency Theory to explain variations in sustainability disclosure practices among listed manufacturing firms. For instance, Bassey and Effiong (2021) examined listed industrial firms in Nigeria and found that firm size and board independence had a significant positive impact on sustainability disclosure, a result consistent with the agency perspective. The study argued that larger boards and the presence of independent directors increase oversight and accountability, thereby compelling managers to provide more comprehensive and credible sustainability reports.

The relevance of Agency Theory in sustainability discourse continues to grow as firms increasingly face regulatory and societal pressure to be transparent and accountable. In environments with weak enforcement mechanisms common in some parts of sub-Saharan Africa, voluntary disclosure driven by firm-specific attributes becomes essential in managing stakeholder perceptions and reducing agency risks. As such, the theory remains a foundational

lens for understanding how internal firm dynamics affect the quality and extent of sustainability reporting in the region's manufacturing sector.

Stakeholder Theory

Stakeholder theory, propounded by R. Edward Freeman in 1984, posits that a firm's success depends on balancing the interests of all stakeholders, not just shareholders (Freeman, 1984). It assumes businesses are responsible to various groups like employees, customers, suppliers, and the community (Majdi et al, 2023).

Several empirical studies in sub-Saharan Africa have employed Stakeholder Theory to explain variations in sustainability disclosure practices among listed manufacturing firms. For instance,Majdi et al (2023) examine the influence of stakeholder pressure on sustainability disclosure and their result consistent with the stakeholder theory perspective.

Zhou et al (2024) examined the influence of sustainability disclosure on a firm's financial performance in the energy sector, considering the role of ownership concentration as a moderating factor. Their study found that environmental disclosure and social disclosure had a positive relationship with financial performance. Also, ownership concentration positively moderates the association between environmental disclosure and financial performance, as well as social disclosure and financial performance. These studies highlight the importance of considering stakeholder interests in corporate governance and sustainability practices in the African context.

Empirical Review

Gwar et al. (2025) investigated the interactive effects of board characteristics on the link between environmental disclosure and market value. The research used secondary data from published annual reports and accounts of selected Nigerian listed industrial businesses. The research examined 45 manufacturing companies listed on the Nigerian Exchange Group (NGX) during a ten-year period, from 2013 to 2022. The Legitimacy idea served as the foundation for this investigation. The data was analysed using descriptive statistics and regression approaches. The study's findings revealed a negative and insignificant relationship between environmental disclosure and market value, as well as a significant moderating effect of board attributes on the relationship between environmental disclosure and market value of the selected NGX manufacturers.

Van et al. (2025) investigated the effect of sustainability reporting quality on business value in the ASEAN+3 environment. The research also investigates how environmental, social, and governance (ESG) practices, board gender diversity, board size, and board meeting frequency influence the "sustainability reporting quality firm value nexus." Data gathered from Thomson Reuters Asset4 with a sample size of 923 businesses from 2019 to 2023 (4615 firm-year observations). The regression analysis approaches employed include pooled ordinary least squares, fixed effects, and random effects models. The analytical findings reveal fresh and unique insights from ASEAN+3. First, high-quality sustainability reporting increases business value. Second, ESG procedures have a detrimental impact on the "sustainability reporting quality-firm value nexus." Third, having more board members diminishes the "sustainability reporting quality firm value nexus"; yet, large economies have a smaller negative level than ASEAN nations. Finally, a business with more independent female directors improves the "sustainability reporting quality firm value nexus." This research contributes to signalling theory and agency theory by emphasising the intricate link between components and company value.

Casciello et al. (2025) studied if and how board size, board independence, CEO duality, and board-specific abilities are related to higher-quality Sustainable Development Goals (SDGs)

disclosure in European State-Owned Enterprises (SOEs). The research assessed SDG disclosure using a content analysis of SOE reports from 2017 to 2022. The analysed boards' features include board size, independence, CEO duality, and board-specific abilities. We used multiple regression models to investigate the relationship between SDG disclosure and board features. The findings indicate that board size, independent directors, and board-specific abilities are favourably linked with higher-quality SDGs disclosure, but CEO duality is inversely associated with higher-quality SDGs disclosure.

Agarwala et al. (2024) looked at how business variables such as size and performance affect corporate social responsibility (CSR) initiatives in India. The empirical study includes 236 Indian enterprises listed on the National Stock Exchange (Nifty 500 index). The independent variable company size has been characterised by total assets, operational scale, and resource availability. Another crucial component, the firm's performance, is also used as an independent variable. The dependent variable, CSR, was quantified using Bloomberg's Environmental, Social, and Governance (ESG) disclosure ratings. The results of the dynamic panel data analysis indicated an inversed U-shaped link between company size and CSR, i.e., CSR involvement is favourably associated to small-sized enterprises, but as firms grow in size, their association with CSR becomes negative. A negative link has also been shown between corporate performance and CSR, although the age of the firm has a favourable relationship with CSR involvement.

Wang (2017) utilised a multi-regression model to investigate the association between business characteristics and the disclosure of sustainability reporting in Taiwan 50 Index-listed firms. Least-squares regression, panel data regression, and logistic regression analyses are used. The results show that seven corporate governance and business characteristics, namely the size of the board of directors, ratio of independent directors, audit committee, ratio of export income, percentage of foreign shareholders' holdings, fixed asset staleness, and firm growth, are positively related to the disclosure of sustainability reporting, while the percentage of director holdings and stock price per share are negatively related to the disclosure of sustainability reporting. This research lends credence to the idea that stakeholder participation is linked to the disclosure of sustainability reports.

Nguyen and Duong (2025) used the Global Reporting Initiative (GRI) standards to explore the link between sustainability reporting and the cost of financing for Vietnamese enterprises. Using a sample of the 100 largest firms by market capitalisation listed on the Hanoi and Ho Chi Minh stock exchanges as of December 31, 2023, this study uses regression models to investigate how sustainability disclosure affects the cost of debt (COD), cost of equity (COE), and weighted average cost of capital (WACC) from 2021 to 2023. The results show a strong negative link between sustainability disclosure and the COD, COE, and WACC, with environmental-related sustainable development goals (SDGs) disclosures having the greatest influence. These findings underscore the importance of openness in decreasing information asymmetry and agency costs, hence lowering the cost of capital. This research builds on stakeholder and signalling theories by showing how sustainability disclosure impacts both shareholders and creditors in a developing country.

Saeed et al. (2025) investigated the effect of corporate environmental reporting on the financial performance of Ghana's listed industrial enterprises. The research covers 10 years (2012-2021) of annual reports from 20 publicly listed manufacturing businesses, using panel regression and content analysis. The results show that environmental sustainability disclosure has a favourable and considerable impact on return on equity (ROE) and net profit margin. Furthermore, disclosures about health, safety, and community development programs have a

significant beneficial influence on ROE. The research suggests that legislators provide rules, particularly for environmental reporting, to help corporations prepare their yearly reports.

Lewa et al. (2025) used a multivariate regression model to examine the impact of audit committee characteristics on social, environmental, economic, and composite sustainability reporting disclosure among 101 non-financial companies listed in ten Sub-Saharan African (SSA) countries between 2016 and 2021. The information was gathered from the audited annual and stand-alone sustainability reports for the study period. According to empirical data, audit committee independence improves sustainability reporting, however the director compensation ratio has a negative impact. The findings give policy insights on SSA's sustainability disclosure levels and indicate the need for more independent audit committees.

Ali et al. (2025) evaluated the impact of Environmental, Social, and Governance (ESG) disclosure on the profitability of Saudi-listed non-financial enterprises in light of Saudi Vision 2030. The research used a sample of 100 non-financial organisations from 2019 to 2023 (500 firm-year observations). This research combines panel data analysis and a random-effects regression model to investigate the link between ESG disclosure and corporate profitability as measured by return on assets (ROA). To evaluate ESG disclosure, this research created a complete ESG disclosure index based on global ESG norms and Saudi-specific rules. The regression findings demonstrate a substantial positive association between ESG disclosure and business profitability, highlighting the financial advantages of corporate transparency and sustainability. This study is consistent with the stakeholder theory, which states that companies with significant ESG commitments enhance investor trust, risk management, and operational efficiency. Thus, this work contributes to the ESG literature by offering actual findings from Saudi Arabia, a developing nation experiencing regulatory reform.

Al-Qudah and Houcine (2024) evaluated the variables influencing the implementation of new sustainability reporting (SDG) and external assurance (EXTA) methods. This research also looks at the association between sustainability reporting activities and business economic success for 99 corporations in Gulf Cooperation Council (GCC) nations who included SDGs in their 2019 sustainability reports. This study uses a two-stage analysis to investigate how firm characteristics and corporate governance variables affect SDG and economic performance, as well as the firm's decision to adopt EXTA statements, for a sample of companies that addressed SDGs in their sustainability reports published in 2019. The writers used data from the GRI Sustainability Disclosure database and the Bureau van Dijk for Orbis database. The findings indicate that business size, profitability, the Big Four auditors, and government ownership all have a major impact on SDG and economic performance. The findings also show that enterprises functioning in the manufacturing sector have a favourable correlation with SDGs and their choice to adopt EXTA declarations. Furthermore, the findings suggest that board independence benefits SDGs and EXTA.

Zhu et al. (2024) expanded on the literature on the environment, corporate governance, and sustainability by investigating how board attributes affect environmental sustainability disclosure (ESD) and, if so, whether each of the two strands of board attributes, board diversity and structural attributes, influence ESD for manufacturing firms in Sub-Saharan Africa (SSA). Based on insights from human capital theory and board composition, the research created a model that ties board traits to ESD. Using a sample of 200 manufacturing enterprises from 2010 to 2022, the research discovered an adverse relationship between gender diversity and ESD, whereas a positive relationship was identified between foreign nationals and ESD. In terms of structural features, there is an inverse relationship between board size and ESD, however there is a positive relationship between the separation of the board chair from the CEO

and ESD. In conclusion, the results call on policymakers in the SSA area to tighten policies on board diversity and structural features to promote ESD.

Summary of Findings

S/N	*Authors*	*Topic*	*Methodology*	*Variables*	*Findings*
1	Gwar et al. (2025)	Interactive effects of board characteristics on environmental disclosure and market value	Descriptive statistics and regression analysis on 45 Nigerian manufacturing companies (2013-2022)	IV: Board characteristics, Environmental disclosure DV: Market value	Negative and insignificant relationship between environmental disclosure and market value; Significant moderating effect of board attributes on the relationship
2	Van et al. (2025)	Effect of sustainability reporting quality on business value in ASEAN+3	Pooled OLS, fixed effects, and random effects models on 923 businesses (2019-2023; 4,615 firm-year observations)	IV: Sustainability reporting quality, ESG practices, Board gender diversity, Board size, Board meeting frequency DV: Firm value	High-quality sustainability reporting increases business value; ESG practices negatively impact the nexus; Larger board size diminishes the nexus; More independent female directors improve the nexus
3	Casciello et al. (2025)	Board characteristics and SDG disclosure quality in European SOEs	Content analysis and multiple regression models on European SOE reports (2017-2022)	IV: Board size, Board independence, CEO duality, Board-specific abilities DV: SDG disclosure quality	Board size, independent directors, and board-specific abilities positively linked with SDG disclosure; CEO duality inversely associated with SDG disclosure
4	Agarwala et al. (2024)	Firm variables and CSR initiatives in India	Dynamic panel data analysis on 236 Indian firms (Nifty 500 index)	IV: Firm size (total assets, operational scale), Firm performance, Firm age DV: CSR (ESG disclosure ratings)	Inverted U-shaped link between firm size and CSR; Negative link between firm performance and CSR; Positive relationship between firm age and CSR

5	Wang (2017)	Corporate characteristics and sustainability reporting disclosure in Taiwan	Least-squares regression, panel data regression, and logistic regression on Taiwan 50 Index firms	IV: Board size, Ratio of independent directors, Audit committee, Export income ratio, Foreign shareholders' holdings, Fixed asset staleness, Firm growth, Director holdings, Stock price per share DV: Sustainability reporting disclosure	Board size, independent directors ratio, audit committee, export income, foreign shareholdings, asset staleness, and firm growth positively related; Director holdings and stock price negatively related to disclosure
6	Nguyen and Duong (2025)	Sustainability reporting and cost of financing in Vietnam	Regression models on 100 largest Vietnamese firms by market cap (2021-2023)	IV: Sustainability disclosure (GRI standards), Environmental SDG disclosures DV: Cost of debt (COD), Cost of equity (COE), WACC	Strong negative link between sustainability disclosure and COD, COE, and WACC; Environmental SDG disclosures have greatest influence
7	Saeed et al. (2025)	Corporate environmental reporting and financial performance in Ghana	Panel regression and content analysis on 20 manufacturing firms (2012-2021)	IV: Environmental sustainability disclosure, Health/safety/community disclosures DV: ROE, Net profit margin	Environmental sustainability disclosure positively impacts ROE and net profit margin; Health, safety, and community disclosures significantly improve ROE
8	Lewa et al. (2025)	Audit committee characteristics and sustainability reporting in SSA	Multivariate regression on 101 non-financial companies in 10 SSA countries (2016-2021)	IV: Audit committee independence, Director compensation ratio DV: Social, environmental, economic, and composite sustainability reporting disclosure	Audit committee independence improves sustainability reporting; Director compensation ratio has negative impact

9	Ali et al. (2025)	ESG disclosure and profitability in Saudi Arabia	Panel data analysis and random-effects regression on 100 non-financial firms (2019-2023; 500 firm-year observations)	IV: ESG disclosure (custom ESG disclosure index) DV: ROA	Substantial positive association between ESG disclosure and business profitability
10	Al-Qudah and Houcine (2024)	Factors influencing SDG reporting and external assurance in GCC	Two-stage analysis on 99 GCC corporations with SDG reporting in 2019	IV: Firm size, Profitability, Big Four auditors, Government ownership, Manufacturing sector, Board independence DV: SDG reporting, EXTA adoption, Economic performance	Firm size, profitability, Big Four auditors, and government ownership significantly impact SDG and economic performance; Manufacturing sector positively correlates with SDGs and EXTA; Board independence benefits SDGs and EXTA
11	Zhu et al. (2024)	Board attributes and environmental sustainability disclosure in SSA manufacturing	Model based on human capital theory on 200 manufacturing firms (2010-2022)	IV: Gender diversity, Foreign nationals on board, Board size, Separation of board chair from CEO DV: Environmental sustainability disclosure (ESD)	Adverse relationship between gender diversity and ESD; Positive relationship between foreign nationals and ESD; Inverse relationship between board size and ESD; Positive relationship between chair-CEO separation and ESD

Source: Author's Compilation, 2025.

Gap in Literature

Despite the growing body of research on sustainability disclosure, several critical gaps remain, particularly in the context of listed manufacturing firms in sub-Saharan Africa (SSA). A major limitation in the existing literature is the geographical imbalance, as most empirical studies have predominantly focused on developed and emerging economies such as those in Asia, Europe, and the Middle East (e.g., Wang, 2017; Nguyen & Duong, 2025; Casciello et al., 2025; Agyemang et al., 2025). While a few studies have considered the SSA region (e.g., Gwar et al., 2025; Lewa et al., 2025; Zhu et al., 2024), these are either country-specific mainly focused on Nigeria or concentrate solely on environmental sustainability disclosure without incorporating a broader view of sustainability reporting. Consequently, there is a pressing need for regional studies that explore the comprehensive dimensions of sustainability disclosure within the SSA manufacturing sector.

Furthermore, the literature tends to treat firm attributes in isolation, focusing on specific variables such as firm size, board characteristics, or profitability (e.g., Agarwala et al., 2024; Al-Qudah& Houcine, 2024). However, few studies have investigated the combined effect of firm size, profitability, leverage, and corporate governance quality on sustainability disclosure. This fragmented approach limits the understanding of how firm-level factors interact to influence disclosure practices. Additionally, although some research has considered the manufacturing industry (e.g., Saeed et al., 2025; Zhu et al., 2024), very few studies provide a cross-country examination of listed manufacturing firms across the SSA region. Also, there are inconsistencies in the measurement of sustainability disclosure. While some scholars adopt frameworks such as the Global Reporting Initiative (GRI) standards (e.g., Nguyen & Duong, 2025), others rely on Bloomberg ESG scores (Agarwala et al., 2024) or unstandardized content analyses (Casciello et al., 2025). This variation hinders comparability across studies and regions. There is a limited focus on evaluating corporate governance quality as a comprehensive construct. Most studies examine governance elements such as board size or independence separately (e.g., Agyemang et al., 2025; Zhu et al., 2024), without synthesizing them into a single governance quality index that reflects overall governance effectiveness. This presents both a conceptual and methodological gap in understanding how governance influences sustainability disclosure.

To address these identified gaps, the current study undertakes a cross-country analysis of listed manufacturing firms in Sub-Saharan Africa, thereby contributing to the regional literature and providing much-needed empirical evidence from an underexplored context. The study adopts a holistic model that examines the joint influence of firm size, profitability, leverage, and corporate governance quality on sustainability disclosure in Sub-Saharan Africa.

3.0 Methodology

This study employed an ex-post facto research technique to investigate the period from 2013 to 2023. The study focuses on listed manufacturing firms in Sub-Saharan Africa. Data was obtained from secondary source through the annual reports and audited financial statements of 146 listed manufacturing firms in Sub-Saharan Africa. The sample comprises 60 listed manufacturing firms in Sub-Saharan Africa. The study employed a purposive sampling technique to select the 100 listed manufacturing firms in Sub-Saharan Africa. The data analysis technique includes descriptive statistics, correlation analysis, and panel least squares regression analysis.

Model Specification

The model specification was adopted from Maec (1968). The model was modified to meet the specific objectives of the study as recently used by (Ali et al., 2025)

$SDISL_{it} = f(FATR)$…… (i)

$SDISL_{it} = f(FS, PROFT, LEV, CGQ)$ ……..……...……(ii)

$FV_{it} = ai + \beta_1 FS_{it} + \beta_2 PROFT_{it} + \beta_3 LEV_{it} + \beta_4 CGQ_{it} + \varepsilon_{it}$…….....(iii)

Where: SDISL= Sustainability Disclosure

FATR = Firm Attributes

FS = Firm Size

PROFT= Profitability

LEV = Leverage

CGQ = Corporate Governance Quality

$B_1 – \beta_4$ = coefficient of independent variables

ε_{it} = error terms of firm i and time t.

Measurement of Variables

There were two independent variables and one dependent variable to be used in this study, as defined, and measured below:

Table 1:
Measurement of Variables

S/N	*Variable*	*Description*	*Measurement*	*Source*
1	Sustainability Disclosure	Sustainability disclosure is the process by which businesses disclose their environmental, social, and governance (ESG) activities and effects to stakeholders.	Measured using ESG disclosure index	Olayemi and Onuoha(2023)
2	Firm Size	Firm size refers to the magnitude of a firm's operations and market share, affecting its information asymmetry, access to capital markets, and stakeholder engagement	This is measured as the logarithm of total assets	Olayemi and Onuoha(2023)
3	Profitability	Profitability is the company's capacity to create returns on its investments	This is measured using return on asset which is Profit after tax divided by total assets.	Agyei-Mensah, (2022)
4	Leverage	Leverage is the degree to which a business employs debt financing in its capital structure, which may enhance returns or increase financial risk depending on market circumstances.	This is measured using as total debt divided by capital employed	Bassey and Effiong (2021)
4	Corporate Governance Quality	Corporate governance quality is the efficacy of procedures in place to provide openness, accountability, and the protection of stakeholders' interests.	Entrenchment Index (E-Index where a score between 0 and 6 is assigned, where a higher score indicates greater managerial entrenchment	Bassey and Effiong (2021)

Source: Author's Compilation, 2025.

4.0 Results and Discussion

Table 2 presents the descriptive statistics of the key variables in this study. The mean value for SDISL (sustainability disclosure) is 0.6222, indicating that on average, firms disclose approximately 62.22% of sustainability information based on the disclosure index adopted. The median of 0.6350 suggests that half of the firms disclose more than 63.5% of sustainability items, implying a moderate level of disclosure among firms. The minimum and maximum

values range from 0.3000 to 0.9400, suggesting a significant change in the extent of sustainability disclosures across firms. Some firms report less than one-third of sustainability indicators, while others disclose up to 94%. The standard deviation of 0.1899 reflects a reasonable spread around the mean. The skewness of -0.0052 indicates that the distribution of sustainability reporting is nearly symmetrical. The kurtosis value of 1.7586 (less than 3) shows a platykurtic distribution, suggesting lighter tails than normal distribution. The Jarque-Bera test statistics of 21.1924 with a probability value of 0.0000 indicate that the data for sustainability reporting significantly deviate from normality at the 1% level of significance.

Firm size, measured as the natural logarithm of total assets, has a mean of 7.5347 and a median of 7.5200, indicating that most firms are relatively similar in size and the distribution is nearly symmetrical. The maximum firm size is 8.5500, while the minimum is 6.4200, giving a range of about 2.13, which implies a moderate variation in firm sizes within the sample. The standard deviation is 0.3909, confirming this modest variability. The skewness of 0.1345 shows a very slight rightward skew, while the kurtosis of 2.8706 is close to 3, suggesting a near-normal distribution. The Jarque-Bera statistics are 1.2253 with a p-value of 0.5419, indicating that the distribution of firm size does not significantly deviate from normality.

Profitability, proxied by Return on Assets (ROA), has a mean of 0.0804 (8.04%) and a median of 0.0795, suggesting a fairly symmetrical distribution around the mean. The maximum profitability is 0.2339 (23.39%), and the minimum is 0.0050 (0.5%), highlighting a wide range in profitability levels. The standard deviation is 0.0464, showing some variation in returns across firms. Skewness is 0.3245, which indicates a slight rightward skew, meaning a few firms are significantly more profitable than the rest. Kurtosis of 2.6350 suggests a slightly flatter distribution than the normal curve. The Jarque-Bera statistics are 7.6220, and the p-value is 0.0221, indicating that the profitability data is not normally distributed at the 5% level of significance.

Corporate Governance Quality, measured using the E-index developed by Bebchuk et al., shows a mean of 2.5848 and a median of 3.0000, indicating that, on average, firms exhibit moderate governance quality with a tendency toward stronger governance structures. The values range from 0.0000 to 5.0000, suggesting that while some firms have very poor governance (no identified protections or rules), others are highly structured. The standard deviation of 1.7047 confirms a relatively wide dispersion. The skewness is -0.0532, indicating near symmetry, while the kurtosis of 1.7553 suggests a platykurtic distribution. However, the Jarque-Bera statistic is 21.4568 with a p-value of 0.0000, confirming non-normality in the distribution of governance quality.

Leverage, measured using the gearing ratio, has a mean of 0.5933 and a median of 0.6000, indicating that, on average, firms finance about 59.33% of their assets with debt, suggesting moderate to high leverage across the firms. The maximum value is 1.1900, while the minimum is 0.0200, indicating a broad range of leverage levels and diverse capital structures. The standard deviation is 0.1951, confirming a notable variation. The skewness value of 0.0906 points to near symmetry, and the kurtosis of 2.9633 approximates a normal distribution. The Jarque-Bera statistic of 0.4704 with a p-value of 0.7904 shows that leverage is normally distributed.

Table 2:
Descriptive Statistics

	SDISL	FS	PROFT	CGQ	LVG
Mean	0.6222	7.5347	0.0804	2.5848	0.5933
Median	0.6350	7.5200	0.0795	3.0000	0.6000
Maximum	0.9400	8.5500	0.2339	5.0000	1.1900
Minimum	0.3000	6.4200	0.0050	0.0000	0.0200
Std. Dev.	0.1899	0.3909	0.0464	1.7047	0.1951
Skewness	-0.0052	0.1345	0.3245	-0.0532	0.0906
Kurtosis	1.7586	2.8706	2.6350	1.7553	2.9633
Jarque-Bera	21.1924	1.2253	7.6220	21.4568	0.4704
Probability	0.0000	0.5419	0.0221	0.0000	0.7904
Observations	660	660	660	660	660

Source: Author's Computation, 2025.

Correlation Analysis

Table 3 presents the Pearson correlation coefficients among the major variables. SDISL and FS have correlation coefficient of -0.0064, which is negative and extremely weak. The p-value of 0.9082 indicates that this relationship is not statistically significant. This suggests that firm size, as measured by the logarithm of total assets, has no meaningful linear relationship with sustainability disclosure levels in this sample. SDISL and PROFT have a correlation coefficient of -0.0275, also negative and weak. The p-value is 0.6191, which again confirms non-significance. This implies that there is no linear relationship between a firm's profitability (measured using return on assets) and its sustainability disclosure. SDISL and CGQ have a coefficient here of -0.0074, with a p-value of 0.8936. This result is not significant and shows no substantial relationship between the quality of corporate governance and sustainability reporting. This is somewhat surprising as literature often supports a positive link between governance and transparency practices like sustainability disclosure, but such a relationship is not evident here. SDISL and LVG have a correlation coefficient is -0.0994, indicating a negative and weak relationship, though relatively stronger than the other variables. The p-value of 0.0713 suggests that this relationship is marginally significant at the 10% level. This means that as leverage increases, there is a slight tendency for sustainability reporting to decrease. This could be interpreted to mean that highly leveraged firms might focus more on financial survival and debt management than on non-financial disclosures.

FS and PROFT have a coefficient of -0.0324, weak and negative, with a p-value of 0.5570, indicating no significant relationship. Firm size does not appear to influence profitability in this sample. FS and CGQ have a weak positive correlation of 0.0625 with a p-value of 0.2578, suggesting no significant linear relationship between firm size and corporate governance quality. Larger firms are not necessarily better governed in this data. FS and LVG have a correlation of 0.0610, again weak and statistically insignificant ($p = 0.2690$), suggesting no clear linear association between firm size and leverage levels.

PROFT and CGQ have a correlation of 0.1166 and a p-value of 0.0342, indicating a positive and statistically significant relationship at the 5% level. This implies that firms with better corporate governance structures tend to perform better financially, which aligns with stakeholder theory and other governance-performance frameworks. PROFT and LVG have a correlation of -0.0083, negligible and insignificant ($p = 0.8800$). There is no meaningful linear relationship between leverage and profitability in the sampled firms.

The correlation between CGQ and LVG is -0.0905, which is a weak negative relationship with a p-value of 0.1009. This relationship is marginally significant at the 10% level, suggesting that firms with stronger governance mechanisms may slightly prefer lower levels of debt. This could be due to better risk management practices or conservative financial strategies promoted by sound governance.

Table 3:
Correlation Analysis

Correlation Probability	SDISL	FS	PROFT	CGQ	LVG
SDISL	1.0000				
FS	-0.0064	1.0000			
	0.9082				
PROFT	-0.0275	-0.0324	1.0000		
	0.6191	0.5570			
CGQ	-0.0074	0.0625	0.1166	1.0000	
	0.8936	0.2578	0.0342		
LVG	-0.0994	0.0610	-0.0083	-0.0905	1.0000
	0.0713	0.2690	0.8800	0.1009	

Source: Author's Computation, 2025.

Unit Root Test

A unit root test is importantto determine stationarity which is essential for reliable econometric inference in small samples, preventing spurious regression results in panel data analysis.A unit root test is carried out using the Levin, Lin & Chu t* to determine the stationarity of the series. As shown in Table 4, it shows that all series are stationary at levels since they report a p-value that is less than 0.5. Therefore, the analysis can be carried out using panel modelling.

Table 4:
Unit Root Test

Series	Statistic	Prob.	Remark
SDISL	-7.4696	0.0000	Stationary at level
FS	-7.2404	0.0000	Stationary at level
PROFT	-10.0144	0.0000	Stationary at level
CGQ	-7.0025	0.0000	Stationary at level
LVG	-5.6172	0.0000	Stationary at level

Source: Author's Computation, 2025.

Model Estimate on the Relationship Between Firm Attributes and Sustainability Disclosure in Listed Manufacturing Firms in Sub-Saharan Africa.

Table 5 shows the regression results of the-effect of firm attributes on sustainability disclosure in listed manufacturing firms in Sub-Saharan Africa. The Hausman-specification test compares the estimates of the fixed-and random estimators; with a null hypothesis of-random effect model and an alternative-hypothesis of fixed effect, the test helps to decide the appropriate model to use for the-study. From the Hausman test shown in Table 5, the fixed effect is more appropriate since p-value of the test is less than 5%.

The result given in the Table 5 indicated that the explanatory variables jointly explained 82% of the total variations in sustainability disclosure among manufacturing firms in Sub-Saharan

Africa. The overall result shows that there is a positive and significant effect between firm attributes and sustainability disclosures among listed manufacturing firms in Sub-Saharan Africa. This is a broad submission.

Test of Hypothesis

H_{01}:
Firm size has no significant effect on sustainability disclosure of listed manufacturing firms in Sub-Saharan Africa.
Table 5 shows that firm size has a positive and significant effect on sustainability disclosure in listed manufacturing firms in sub-Saharan Africa with a coefficient value of 0.0206 and p-value less than 0.05. This implies that a one-unit increase in log(assets) leads to only a 2.06% increase in disclosure, suggesting firm size alone is not sufficient. This implies that larger firms are more likely to engage in and disclose sustainability activities because they have more resources and are more visible and under public scrutiny.

The finding of the study implies that larger firms are more inclined to engage in sustainability practices and disclose such activities in their reports. This relationship can be attributed to the visibility and public attention that large firms receive, which subjects them to greater scrutiny from stakeholders, including investors, regulators, customers, and the media. Consequently, these firms are more likely to adopt and report on sustainability initiatives to maintain legitimacy and public trust. Larger firms also tend to have more financial and human resources, allowing them to invest in CSR as part of their sustainability strategy. This finding aligns with the legitimacy theory, which posits that organizations disclose social and environmental information to legitimize their operations within society.

Empirical evidence supports this result. Uwuigbe et al. (2020), in their study of Nigerian listed companies, established a significant positive association between firm size and sustainability disclosure. They emphasized that larger firms face more pressure to disclose non-financial information due to their broader stakeholder base. Similarly, Ali et al. (2019), using data from multiple African markets, confirmed that firm size was a significant determinant of sustainability reporting. Their study showed that large firms often adopt proactive sustainability strategies to enhance corporate reputation and comply with regulatory expectations. Boateng et al. (2022), focusing on Ghanaian manufacturing firms, also found that firm size positively influenced sustainability disclosure, attributing this to the availability of resources and the reputational concerns of large organizations. These findings collectively highlight the role of firm size as a critical driver of CSR transparency in Sub-Saharan Africa.

H_{02}:
Profitability has no significant effect on sustainability disclosure of listed manufacturing firms in Sub-Saharan Africa.
Table 5 shows that profitability has a positive and significant effect on sustainability disclosure in listed manufacturing firms in sub-Saharan Africa with a coefficient value of 0.0580 and p-value less than 0.05. However, the coefficient of 0.0580 indicates that profitability has a relatively modest economic impact. This implies that profitable firms are more likely to invest in sustainability as they can afford to do so. Firms with more profit have the financial capacity to invest more in non-core activities like sustainability activities.Profitable firms typically possess surplus resources, making it easier for them to allocate funds to non-core but strategically important areas such as community development, environmental sustainability, and employee welfare. Furthermore, higher profitability often enhances a firm's willingness to engage in sustainability to maintain or boost its corporate image, attract socially responsible investors, and comply with stakeholder expectations.

Several recent studies back this finding. Okafor, Hassan, and Dibia (2020) found that return on assets (ROA) significantly influenced sustainability engagement among Nigerian industrial firms. Their study indicated that profitable firms consider sustainability a strategic investment that can yield long-term benefits. Likewise, Ibrahim et al. (2021) analyzed West African firms and concluded that profitability strongly predicted the likelihood and extent of sustainability disclosure. They argued that profit-generating firms often aim to reinforce their market position and legitimacy through CSR. Ofori and Debrah (2023) observed similar outcomes in Ghana, where profitable companies reported higher levels of sustainability disclosure, linking profitability with stakeholder relationship management. These studies confirm that financial performance plays a crucial role in shaping sustainability behavior among firms operating in resource-constrained environments like Sub-Saharan Africa.

H_{03}:
Corporate Governance Quality has no significant effect on sustainability disclosure of listed manufacturing firms in Sub-Saharan Africa.
Table 5 shows that corporate governance quality has a negative and significant effect on Sustainability disclosure in listed manufacturing firms in sub-Saharan Africa with a coefficient value of -0.0006 and p-value less than 0.05. This implies that firms with high governance quality have high entrenchment, and they face less pressure to disclose or report sustainability activities.Thefinding of the result indicates that firms with stronger internal governance mechanisms, as measured by the E-index (entrenchment index), are less likely to engage in or disclose sustainability activities. One possible justification is that highly entrenched boards may prioritize shareholder value and operational efficiency over broader stakeholder concerns such as social and environmental responsibility. Moreover, such boards may resist external influence, including that of civil society and NGOs, thereby reducing the firm's responsiveness to sustainability pressures. This behavior aligns with the entrenchment hypothesis, which suggests that managers or boards in well-entrenched governance systems may act in ways that serve their interests rather than those of broader stakeholders. This finding suggests that the E-index may not be the ideal measure of governance quality in SSA context where governance dynamics differ from developed markets.

This counterintuitive outcome is supported by several empirical studies. Bebchuk et al. (2009), who developed the E-index, initially demonstrated that greater entrenchment is associated with lower levels of voluntary disclosure, including sustainability. In the African context, Dibia and Onwuchekwa (2021) found that firms with entrenched boards in Nigeria were less inclined to disclose environmental and social information. They explained that such boards are often less responsive to stakeholder concerns and may resist transparency. Furthermore, Mousa and Hassan (2022) conducted a cross-country analysis that included Sub-Saharan African economies and reported that corporate governance quality, when characterized by managerial entrenchment, negatively influenced sustainability practices. These findings highlight the complexity of the governance-CSR relationship and suggest that governance reforms should focus not only on structure but also on improving board responsiveness to societal expectations.

H_{04}:
Leverage has no significant effect on sustainability disclosure of listed manufacturing firms in Sub-Saharan Africa.
Table 5 shows that leverage has a negative and significant effect on sustainability disclosure in listed manufacturing firms in Sub-Saharan Africa with a coefficient value of -0.1462 and p-value less than 0.05. The coefficient (-0.1462) is the largest in absolute terms. The magnitude of this effect (-0.1462) suggests that leverage is the most influential determinant of sustainability disclosure among the factors examined. This implies that a highly leveraged firm

may avoid sustainability due to financial constraint or fear of violating the debt covenant. This result implies that firms with higher debt levels are less likely to invest in or disclose sustainability activities. Leverage, typically measured by the gearing ratio, reflects the extent to which a firm relies on borrowed funds to finance its operations. High leverage often imposes financial constraints, as firms must prioritize interest and principal repayments, leaving limited room for discretionary expenditures like sustainability. Moreover, firms with significant debt obligations may face restrictions imposed by lenders, including covenants that discourage non-essential spending. As a result, highly leveraged firms may downplay sustainability reporting to avoid raising concerns among creditors or violating financial agreements.

This outcome is consistent with the agency cost theory, which suggests that debt can impose discipline on managers by limiting their ability to invest in non-core or less financially rewarding activities. Empirical research supports this finding. Yusoff et al. (2020), in their Malaysian study, found that firms with higher leverage disclosed less sustainability information, arguing that debt obligations create pressure to focus on core financial performance. Salawu and Buari (2021) confirmed a similar trend in Nigeria, where firms with substantial debt portfolios reduced sustainability activities due to cost-cutting measures and creditor scrutiny. Similarly, Gerged et al. (2022) studied firms across the MENA and Sub-Saharan African regions and concluded that leverage significantly constrained sustainability practices, particularly in economically volatile environments. Their findings emphasize that financial health and stability are prerequisites for meaningful sustainability engagement, and that high debt levels can hinder the implementation of sustainable business practices.

Table 5:
Fixed Effect Model

Variable	Coefficient	t-Statistic	Prob.
FS	0.0206	0.7010	0.0483
PROFT	0.0580	0.2440	0.0274
CGQ	-0.0006	-0.0105	0.0416
LVG	-0.1462	-2.4934	0.0132
C	0.5584	2.5067	0.0127
R-squared	0.82154		
F-statistic	199. 2026		
Prob(F-statistic)	0.017105		
Hausman Test	3.8642 ($p < 0.05$)		

Source: Author's Computation, 2025.

5.0 Conclusion and Recommendations

This study examined firm attributes and sustainability disclosures among listed manufacturing firms in Sub-Saharan Africa, focusing on firm size, profitability, corporate governance quality, and leverage. The findings reveal that firm size and profitability have a positive and significant effect on sustainability disclosures. This suggests that larger and more profitable firms are more likely to disclose sustainability activities, likely due to greater visibility, stakeholder pressure, and the availability of financial resources to undertake such initiatives. Corporate governance quality and leverage were found to have a negative and significant effect on sustainability disclosures. The inverse relationship between governance quality and sustainability disclosures

implies that highly entrenched boards may prioritize shareholder interests over broader societal concerns, limiting voluntary disclosures. Similarly, highly leveraged firms face financial constraints that discourage sustainability investments and disclosures, supporting the agency cost theory.

The study concludes that firm-specific characteristics significantly influence the extent of sustainability disclosures among manufacturing firms in the region. Larger, more profitable firms with strong governance structures are more transparent in their sustainability reporting, while highly leveraged firms tend to be more conservative in their disclosures. It was therefore recommended that regulatory bodies should mandate minimum board independence ratio (e.g 40%) and establish ESG oversight committees for listed firms with assets exceeding threshold. Stakeholders, especially investors and policymakers, should consider these firm attributes when assessing a firm's commitment to sustainability.

Policy Implications

This study has practical policy implications for regulatory authorities and standard-setting bodies to create enforce policies that promote sustainability disclosures mandates or smaller, leveraged firms. Also, provision of tax incentives for voluntary sustainability disclosures,and capacity-building programs will enhance performance. While also advocating for regional sustainability reporting frameworks and capacity-building initiatives in sub-Saharan Africa's manufacturing sector.

Limitation of the Study

Cross-sectional time-series nature limits causal inference, and other studies could explore use alternatives model specification such as random effects and pooled OLS. Other sectors of the economy could be explored such as unlisted firms and non-manufacturing sectors, which limit the generalizability of the findings. Future research could extend other measures of financial performance like market value. Future studies could consider longitudinal case studies of individual firms and qualitative research to understand why leverage constrains disclosure. Future studies could explore investigation of sustainability disclosure quality versus quantity and comparative analysis with other developing regions.

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