

---

# **CORPORATE ATTRIBUTES AND SUSTAINABILITY DISCLOSURE AMONG NIGERIAN LISTED NON-FINANCIAL FIRMS: THE MODERATING EFFECT OF BOARD GOVERNANCE SCORE**

**Muhammad Sani Sabo**

Department of Vocational Education, Faculty of Technology Education Abubakar Tafawa  
Balewa University, Bauchi

**Bello Usman Baba, Umar Salisu and Shamsudeen Ladan Shagari**

Department of Accounting, Faculty of Management Sciences, Sa'adu Zungur University,  
Gadua Bauchi State, Nigeria

**Correspondence Email:** [mssabo66@gmail.com](mailto:mssabo66@gmail.com)/08066449815

## **Abstract**

---

*This study examines the effect of corporate attributes on sustainability disclosure among Nigerian listed non-financial companies, with Board Governance Score (BGS) as a moderator. Framed within two theories, the research adopts an ex-post facto design within the positivism paradigm. Sustainability disclosure was measured using a binary score, while BGS was constructed as a composite index of board size and audit committee using median split technique. The study analyzed longitudinal panel data from 84 non-financial companies listed on the Nigerian Exchange Group (NGX), with 59 companies selected through a filtering procedure over ten years (2015–2024). Data were sourced from annual reports, sustainability reports, interim reports, and company websites. Analysis employed descriptive statistics, correlation, and panel regression. Diagnostic tests confirmed data normality and minimal multicollinearity. Heteroscedasticity and autocorrelation were addressed using PCSE, and a link test validated model specification. Findings revealed that profitability and firm size have a positive and significant relationship with sustainability disclosure. Moderation analysis confirmed that these relationships remained significant when BGS was included as a moderator. However, liquidity showed no significant effect on sustainability disclosure under BGS's moderating influence. The study recommends that Nigerian regulators and corporate boards implement targeted incentives and capacity-building programs to encourage robust sustainability reporting. Specific benchmarks should be established for larger firms, while tailored support should be provided for younger and highly leveraged companies to improve sector-wide compliance and disclosure quality.*

---

**Keywords:** Corporate Attributes, Sustainability Disclosure, Board Governance Score And Listed Non-Financial Companies

## **1. Introduction**

In today's contemporary globalized economy, characterized by intense industrial competition and rapid technological advancement, stakeholders are increasingly demanding for greater corporate responsibility, accountability and transparency. This shift is driven by the recognition that corporate pursuits of profit and expansion have exacerbated environmental damage, creating significant external pressure (Modozie & Amahalu, 2024). Consequently, the strategic focus of corporations has evolved from solely maximizing shareholder wealth to embracing social responsibility towards their communities and operating environments (Fahlevi et al., 2024). Companies now face the dual challenge of demonstrating a commitment to sustainability while maintaining investor confidence in their economic objectives (Kajola et al., 2024). Sustainability reporting has emerged as a vital tool for organizations to disclose ethical compliance and social initiatives, thereby promoting corporate legitimacy and public acceptance (Olayinka & Owolabi, 2023). It serves to address environmental issues such as pollution and litigation while encouraging robust environmental accounting (Olorunnisola & Usman, 2024). However, traditional accounting systems have been criticized for inadequately capturing a firm's environmental impact, making comprehensive sustainability reporting a global imperative (Jeroh, 2023). As a result, firms are urged to integrate environmentally friendly practices and sustainability metrics into their mainstream financial reports to mitigate negative consequences and retain stakeholder support (Raji, 2023).

Based on the foregoing, this study examines whether internal corporate attributes specifically profitability, firm size, and liquidity are essential determinants of sustainability disclosure, as they reflect a firm's capacity and strategic motivation (Islamiati & Suryandari, 2023; Sun et al., 2023; Meini & Chotimah, 2023). Profitability is a fundamental indicator of corporate viability, reflecting a company's ability to sustain growth in both the short and long term (Rahmi et al., 2024). Larger companies face greater regulatory pressure to disclose sustainability compliance, which can help them access societal resources and enhance their reputation (Bidari & Djajadikerta, 2023; Nguyen et al., 2024). However, larger firms may also incur greater political costs that could potentially constrain their disclosure practices (Fahlevi et al., 2024). Regarding liquidity, Adhipradana and Daljono (2023) postulate that, liquidity enables stakeholders to trust and support management decisions. Similarly, Ariyani (2023) adds that a high liquidity level signals effective management and builds a positive external impression, with the company's credibility being demonstrated through the extent of its disclosure. The role of the board of directors is critical in corporate decision-making. A number of studies indicate that ineffective corporate governance was a major contributing factor to economic turmoil (Salina & Nazrul, 2022). Board governance, encompassing factors such as size, gender diversity, meeting frequency, independence, expertise, and audit committee effectiveness, serves as a vital mechanism for monitoring corporate activities and providing strategic guidance (Niazi et al., 2024; Bhat et al., 2023).

Furthermore, effective boards help attract investment and ensure market efficiency (OECD, 2023). While both board governance and sustainability disclosure are increasingly integrated into business practices (Awodiran, 2023), managers may sometimes use sustainability initiatives to pursue personal interests rather than shareholder objectives (Adodo, 2024). An effective board can curb such tendencies, thereby directly influencing the company's sustainability initiatives and disclosures (Olayinka, 2023; Adodo, 2024). Therefore, to fully comprehend the relationship between internal corporate attributes and sustainability

disclosure, it is imperative to examine the moderating role of board governance score. The urgency of this research is underscored by severe environmental challenges in Nigeria, including air and water pollution, oil spills, deforestation, and flooding, largely attributable to industrial activities (Pona et al., 2024). Reports indicate a continued increase in air pollution exposure in Nigeria, rising from 91.3% in 2021 to 92.6% in 2023. With regard to deforestation, the United Nations reported that Nigeria has the highest deforestation rate in the world, with an estimated 3.7% of its forest cover lost annually (DGB Group, 2024). This alarming trend has prompted the government and other stakeholders to introduce various policies to address the problem, among which is the promotion of sustainability disclosure. Nigeria continues to rank very low on the Environmental Performance Index (EPI). In 2023, Nigeria's EPI score was 28.3%, which is comparatively lower than other Sub-Saharan African nations such as Angola and Burundi (30.5% each), Cameroon (30.2%), Benin (29.6%), and Mali (28.5%). This poor performance highlights the critical need for listed non-financial companies in Nigeria to enhance their sustainability disclosure to support governmental and broader stakeholder efforts.

Existing Nigerian studies on sustainability disclosure have produced mixed results, often focusing on external attributes, specific sectors, or direct relationships without adequately considering the moderating effect of board governance score (Abdulsalam & Babangida, 2023; Haladu et al., 2021). Therefore, this study aims to fill this gap by providing a clearer understanding of the relationship between key corporate attributes and sustainability disclosure, as moderated by board governance score, in the context of Nigerian listed non-financial firms. This gap is particularly severe in Nigeria, characterized by intense global concern where immense environmental degradation occurs alongside poor sustainability performance. Widespread corporate-related environmental crises; from oil spills in the Niger Delta to illegal mining and desertification across various regions persist despite government interventions, as evidenced by Nigeria's critically low Environmental Performance Index (Windling et al., 2024). This situation raises urgent concerns about the authenticity and effectiveness of sustainability disclosures from Nigerian non-financial companies.

Empirical research on the relationship between corporate attributes and sustainability disclosure has yielded inconsistent results (Ezekwesili & Ezejiofor, 2022; Lambe et al., 2022; Abdulsalam & Babangida, 2023; Mardiana, 2023), with significant limitations as it predominantly focuses on developed economies like Europe and Asia, with few studies from developing nations (Ezekwesili & Ezejiofor, 2022; Almaqtari et al., 2024; Kumar et al., 2023). This study proposes board governance score as a key moderator, a choice grounded in the methodological prescriptions of Baron and Kenny (1986) and the theoretical reasoning of Frazier et al. (1991). This choice is further justified through the integrated lenses of Stakeholder Theory and the Resource-Based View, which collectively posit that the board is the central mechanism for interpreting external pressures, allocating resources, and legitimizing corporate action. The motivation for this study stems from the persistent inadequacy of disclosure practices among non-financial companies in Nigeria, despite growing environmental crises and regulatory pressure. Therefore, this study aims to resolve inconsistencies in prior findings and provide empirical insights tailored to the Nigerian context.

## 2.0 Literature Review and Hypotheses Development

## 2.1 Sustainability Disclosure

From a historical viewpoint, the concept of sustainability is as old as human civilization, traceable from Roman times through the medieval period to the Industrial Revolution of the 18th century (Lui, 2025). Today, thousands of companies worldwide produce sustainability reports (Omodero, 2025). The concept is viewed through different disciplinary lenses: Economics, Management, Marketing, and Law (John & Blessing, 2025). According to some scholars, sustainability disclosure is a subdivision of financial accounting that focuses on the disclosure of non-financial information of a firm's operational and physical performance to external parties such as shareholders, stakeholders, creditors, and regulators (TNFD & GRI, 2025). The Global Reporting Initiative (GRI) defines sustainability disclosure as the process whereby organizations provide information about the economic, environmental, and social impacts caused by their everyday activities (Martens, Reesink, & Soeters, 2025). Other experts, such as Bao and Yang (2025), define sustainability disclosure as a subset of accounting and reporting that deals with the activities, methods, and systems to record, analyze, and report non-financial performance. However, the most widely accepted definition was conceptualized by the World Commission on Environment and Development (WCED) in the Brundtland Report (1987) as "meeting the needs of the present generation without compromising the ability of future generations to meet their own needs" (Boyd, Scollan, & Lee, 2025). This report is considered the first international summit to raise awareness of companies' environmentally harmful operations in the pursuit of economic benefit. Another milestone was the first United Nations Conference on Sustainable Development in Rio (1992).

Regarding the Nigerian context, the banking sector has been a pioneer in adopting sustainability disclosure, driven by professional bodies like ICAN and ANAN, as well as regulatory institutions such as the CBN and SEC (Iyawe & Chijuka, 2025). Despite this early leadership, sustainability reporting in Nigeria remains voluntary, primarily used by banks as a strategic tool to build customer trust and demonstrate performance rather than as a compliance obligation (Ogundele et al., 2021). The sector's commitment was institutionalized through key milestones, including the adoption of GRI guidelines in 2009, the development of the Nigerian Sustainable Banking Principles (NSBPs) in 2011, and the integration of sustainability into corporate philosophy as a framework that is now embraced industry-wide (Generation Impact Global, 2025). Meanwhile, Nigeria faces severe and escalating environmental crises that underscore the urgent need for corporate accountability. The country contends with rampant oil spills, extensive gas flaring, deforestation, soil erosion, and widespread pollution in both urban and rural areas (John & Blessing, 2025). These anthropogenic activities have led to declining agricultural yields, loss of biodiversity, and escalating economic costs. The growing global and local outcry over climate change and environmental degradation highlights the critical necessity for legislated sustainability disclosure, shifting the burden of environmental protection from the government alone to a shared responsibility where companies are mandated to transparently report their environmental impact (Ogundele et al., 2021).

## 2.2 Corporate Attributes

Corporate attributes referred to corporate or firm characteristics, were first studied by Singhvi (1968), since then, corporate characteristics have been considered an important internal factor that is likely to influence business decisions. Ali and Isa (2023) defined to corporate attributes

as the distinctive features that differentiate one company from another. Shuaibu (2023) looks firm characteristics as specific attributes possesses of a firm that define its activities. Corporate attributes play a crucial role in determining corporate decisions based on the relevant information provided in a company's financial report for a specific accounting period. Attributes such as profitability, firm size, and liquidity represent different aspects of corporate performance and generate distinct stakeholder demands, necessitating their independent management (Selvam et al., 2023). Consequently, these characteristics enable firms to effectively utilize their unique resources and information for strategic decision-making, as evidenced by their significant influence on the extent and nature of corporate disclosure in prior literature (Alarussi & Alhaderi, 2023; Maryana & Carolina, 2024; Islamiati & Suryandari, 2023). The present study considers profitability, firm size, and liquidity as prominent attributes that are likely to influence corporate sustainability disclosure.

### 2.2.1 Profitability

Profitability is a fundamental area of growing interest for accounting researchers, as it recounts corporate success or failure (Milissa Horton, 2024). Kusuma and Handayani (2023) point out several reasons why research on profitability bridges an important gap in sustainability disclosure literature. First, profitability is a crucial construct for understanding why and how a company discloses information. For instance, when a firm makes a profit, it is more likely to report this good news to stakeholders promptly compared to reporting a loss. Second, companies with higher economic performance than the average have greater incentives to engage in various economic, environmental, and social activities compared to less profitable companies. The amount of profit generated affects a company's decision-making regarding sustainability report disclosure (Sonia & Khafid, 2023). Over time, numerous studies across the world have examined the relationship between corporate profitability and sustainability disclosure, yielding overlapping and often contradictory empirical evidence. Based on Stakeholder theory, parties with an interest can play a role in corporate operational activities. Subsequently, many studies were conducted to establish whether a relationship exists between profitability and sustainability disclosure (Abubakar et al., 2023; Alarussi & Alhaderi, 2023; Amahalu, 2024; Omoye, 2023; Sanusi & Sanusi, 2024; Sonia & Khafid, 2023). These studies have found positive, negative, and even no relationship. Scholars such as Sonia and Khafid (2023), Uche et al. (2024), Amahalu et al. (2024), and Haladu et al. (2024) advocate for a positive association, while others like Eneh and Amakor (2024), Fatmawati (2023), Abubakar et al. (2023), and Okerekeoti (2023) report different findings. Based on this discussion, the study seeks to test the following hypothesis:

***H1:** Profitability has a positive significant effect on sustainability disclosure in non-financial companies.*

### 2.2.2 Firm Size

Firm size is regarded as an important and fundamental characteristic in many corporate contexts. Babalola (2023) postulates that the size of a firm plays an important role in determining the kind of relationship it enjoys within and outside its operating environment. Large firms are often confident in their prospects and are willing to incur expenses to publicize more voluntary information to differentiate themselves from rivals and increase their value (Hasan & Hosain, 2023). Since larger companies have more stakeholders, they are more likely

to seek legitimacy over the resources necessary for their daily operations (Abdulsalam & Babangida, 2023). Furthermore, large-scale operations generate higher stakeholder expectations and greater social visibility; for instance, environmental emissions are often proportional to the scale of operations (Artiach et al., 2023). Firm size is considered a key internal factor influencing sustainability disclosure. Unlike small firms, large companies are of particular interest to different societal groups and are under more pressure to disclose CSR activities to legitimize their operations. For example, Salehi, Tarighi, and Rezanezhad (2024) showed a significant positive relationship between firm size and the level of social and environmental disclosure. Similarly, Badulescu et al. (2023) concluded there is a positive connection between firm size and CSR disclosure. Haddad et al. (2023) observe that firm size consistently affects the level of environmental disclosure. Several studies show a positive relation between firm size and environmental disclosure. In contrast, Marquis and Qian (2023) and Shamil et al. (2023) found a negative correlation between firm size and CSR disclosure, while Kolsi (2022) shows that firm size has no impact on the level of disclosure adopted. Drawing upon these arguments, the following hypothesis is formulated:

*H2: Firm Size has a positive influence on sustainability disclosure in non-financial listed companies.*

### **2.2.3 Liquidity**

Liquidity refers to a firm's ability to meet short-term obligations with current assets (Ariyani, 2023). It is the ability of a firm to convert an asset to cash quickly and to pay off its short-term commitments. Liquidity is measured by ratios such as the current ratio, quick ratio, and cash ratio. Good liquidity is essential for running a business properly (Alarussi & Alhaderi, 2023) and indicates strong management of current assets and liabilities. A high level of liquidity signals a strong financial condition. Such companies tend to disclose wider information to outsiders to demonstrate their credibility. Islamiati and Suryandari (2023) established that liquidity has a significant negative association with sustainability disclosure, arguing that liquidity does not affect a firm's management decision to expand voluntary information disclosure. This result coincides with the findings of Oktaviani and Amanah (2024) and Sari and Marsono (2023), who found that liquidity had no influence on the disclosure of sustainability reports. In contrast, Jannah and Kurnia (2023) showed a positive connection between liquidity and sustainability report disclosure, indicating that an increase in company liquidity leads to an increase in sustainability report disclosure. Based on these views, the following hypothesis is formulated:

*H3: Liquidity has a negative influence on the sustainability disclosure of non-financial listed companies in Nigeria.*

## **2.4 Empirical Studies on Corporate Attributes and Sustainability Disclosure**

Studies examining the influence of Corporate Attributes (CA) on Sustainability Disclosure (SD) have documented mixed results, some found a positive influence (Haladu et al., 2024; Sonia & Khafid, 2023), while others found no relationship. Scholars now recommend investigating moderating variables to clarify these relationships (Solarino & Boyd, 2023; Bhatia & Gulati, 2024). Uche et al. (2024) conducted a study on the corporate environmental performance of quoted industrial goods firms in Nigeria from 2013–2022. Using Generalized

Least Squares, the researchers disclosed that corporate attributes (proxied by firm size, profitability, and firm age) have a significant positive effect on environmental disclosure. However, this study was limited to a single sector (manufacturing) and a limited set of proxies, prompting a suggestion for future research to consider more attributes.

In another study, Okerekeoti (2023) reported that profitability has no bearing on the sustainability disclosure of companies. The study utilized Ordinary Least Squares (OLS) regression and recommended that firms engage more in corporate social responsibility and report these activities transparently. Majumder, Li, and Begum (2024) also found a negative association between profitability and sustainability reporting, though their study was limited to the manufacturing sector. Abdulsalam and Babangida (2023) stated that firm size and sustainability disclosure have a significant positive impact, meaning that larger firms have more resources and information to pass to stakeholders. In contrast, Kolsi (2022) shows that firm size has no impact on the level of disclosure adopted. Haddad et al. (2023) observed a positive relation, indicating that large firms disclose more environmental information to demonstrate their care for the environment. Conversely, Marquis and Qian (2023) and Shamil et al. (2023) found a negative correlation, while Kolsi (2022) found no impact. The support for a positive association may be because larger, more visible firms disclose more information voluntarily as a means of managing legitimacy, especially in environmentally sensitive industries. Finally, Yu (2023) examined the role of large companies, noting they are more capable of allocating resources to sustainability and its disclosure. Meini and Chotimah (2023) opined that liquidity has a significant positive effect on firm value, implying that continuous social and environmental activities can increase investor confidence. Similarly, Sonia and Khafid (2023) found a positive and significant effect of liquidity on sustainability disclosure for non-financial companies listed on the Indonesian Stock Exchange. Ruhana (2023) also found a positive association, indicating that higher liquidity leads to more sustainability reporting. In contrast, Islamiati and Suryandari (2023) established a significant negative association, arguing that liquidity does not affect a firm's decision to expand voluntary disclosure. This coincides with the findings of Oktaviani and Amanah (2024) and Sari and Marsono (2023). Ariyani (2023) studied key factors affecting sustainability disclosure in Indonesia and concluded that liquidity does not affect SR disclosure because lenders focus more on financial performance information than on social and environmental activities.

## 2.5 Theoretical Framework

Examining the influence of corporate attributes on the sustainability disclosure of listed non-financial companies in Nigeria requires more than one theoretical framework for a comprehensive understanding. Relying on a single theory is insufficient. This study is therefore underpinned by two core theories: Stakeholder Theory and the Resource-Based View (RBV). Stakeholder Theory is primarily associated with the view of Freeman (1984) who posits that a company's survival depends on managing relationships with all groups affecting or affected by its operations, not just shareholders. The theory suggests that firms disclose sustainability information to meet the expectations of powerful stakeholder groups, reduce information asymmetry, and maintain legitimacy. A motivation confirmed by empirical studies in various contexts, including developing countries. This makes it a relevant lens for examining corporate disclosure behavior in Nigeria, where companies face pressure to address diverse stakeholder concerns.

The Resource-Based View (RBV) theory is rooted in the work of Penrose and later advanced by Barney (1991). The theory provides a complementary perspective by framing a firm as a unique bundle of resources and capabilities that drive competitive advantage. From this viewpoint, sustainability initiatives and their disclosure are strategic investments that can create unique, intangible resources such as reputation and innovation capacity that improve long-term performance (Galloway et al., 2023; Santoro et al., 2023). Furthermore, RBV supports investigating board governance score as a moderating variable, conceptualizing an effective board as a valuable internal resource that enhances a firm's ability to leverage its attributes (profitability) for superior sustainability outcomes. Thus, RBV helps explain how a firm's internal resources and governance structures interact to influence its sustainability disclosure practices.

### 3.0 Methodology

The study employed ex-post facto research design, utilizing documentary data covering the period 2015–2024. Data was sourced from annual reports, company websites, interim reports, the NGX Fact-book, and standalone sustainability disclosures. The sample consists of fifty-nine (59) listed non-financial companies in Nigeria, selected from a total population of eighty-four (84) after excluding service and financial sectors due to their limited direct environmental impact (Matuszak & Kabaciński, 2024). The sample was determined using a two-point filter procedure. The criteria for inclusion were: first, the company must have been listed on or before 31 December 2013; second, the company must have remained listed without delisting between 2013 and 2022. After applying these filters, fifty-nine companies qualified. The study includes several sets of variables: dependent, independent, moderating, and control variables. The **dependent variable** (Sustainability Disclosure) is measured using a binary score (0 or 1). A score of 1 is assigned if the company discloses any sustainability-related information in its annual reports, and 0 otherwise. **The independent variables** are Corporate Attributes (CA), represented by: **Profitability (PRO)**: Measured as Net Profit After Tax divided by Equity Capital. **Firm Size (FSZ)** measured as the natural logarithm of total assets. **Liquidity (LQT)** is measured as current assets divided by current liabilities. Board Governance Score (BGS), measured using a binary median split dichotomization technique based on board size and audit committee effectiveness. Scores range from 0–1, with a higher score indicating greater board effectiveness. **Control Variable**: Institutional Ownership (IOW), measured as the percentage of shares owned by institutional investors. Descriptive statistics, correlation analysis, and multiple regression were employed for data analysis. The correlation analysis was conducted to determine the nature of relationships between the CA and SD variables. Multiple regression was conducted using Panel Corrected Standard Errors (PCSEs). This technique was chosen for its relevance in previous similar research (Meini & Chotimah, 2023; Shuaibu, 2023). Given the use of panel data, the study was subjected to diagnostic tests for heteroscedasticity, autocorrelation, and cross-sectional dependency. Panel-Corrected Standard Errors (PCSEs) were employed to address these issues. The model based on the study variables is stated as follows:

$$SD_{it} = \beta_0 + \beta_1 PRO_{it} + \beta_2 FSZ_{it} + \beta_3 LQD_{it} + BGS + \beta_5 PRO * BGS + \beta_6 PRO * BGS + \beta_7 FSZ * BGS + \beta_9 LQD_{it} + \beta_{10} IOW_{it} e_{it}$$

Where:

SD = Sustainability Disclosure

PRO = Profitability

FSZ = Firm Size

IOW = Industrial Ownership

$\beta_0$  = Intercept

#### 4.0 Result and Discussion

A robustness test was conducted to improve the validity of all statistical inferences. These tests provide concrete evidence that the regression results were free of errors capable of invalidating key regression assumptions. The tests carried out include normality, multicollinearity, heteroscedasticity, autocorrelation, and model specification tests. A skewness and kurtosis test was performed for all variables. The values for PRO and LQT initially fell outside the acceptable normal range. Following recommendations, the data for these variables were Winsorized at the 3% level, bringing them within an acceptable range. Diagnostic tests confirmed that heteroscedasticity was not statistically significant, the model was correctly specified, and multicollinearity was not an issue (VIF values were 1.08). A test for autocorrelation rejected the null hypothesis of no first-order autocorrelation. As recommended in such situations, robust standard errors were incorporated. Panel-Corrected Standard Errors (PCSEs) were used to account for both autocorrelation and panel heteroskedasticity. Consequently, all subsequent interpretations of the regression results are based on these robust estimations.

#### 4.1 Descriptive Statistics

Table 4.1 presents the result of descriptive statistics for the study. The results revealed that sustainability disclosure (SD) among Nigerian non-financial listed firms averaged 59.32% (mean = 0.593) with a standard deviation of 0.491, indicating moderate but inconsistent reporting practices, with some firms disclosing fully (max = 1) and others not at all (min = 0). This suggests gradual improvement in voluntary SD practices, aligning with Umukoro et al. (2019) but contrasting with Haladu et al. (2021), who found lower compliance (27%). Firm size (mean = 7.18, SD = 0.92) showed acceptable normality, while liquidity exhibited extreme variability (mean = 3.63, SD = 43.42), ranging from negative values to 1,048.008, highlighting stark differences in short-term solvency. Board Governance Score averaged 26% (mean = 2.62 out of 4, SD = 1.25), suggesting that firms with stronger governance are more likely to disclose SD information, though overall governance varies significantly. These findings underscore the need for standardized sustainability reporting frameworks and enhanced board oversight to improve transparency in Nigeria's non-financial sector.

Table 1: **Descriptive Statistics for the Variables**

Variables	Obs	Mean	Std. Dev.	Min.	Max
SD%	590	0.59	0.49	0	1
PRO (₦)	590	7.08	37.0	-90.96	474.54

<b>FSZ (₦)</b>	590	7.18	0.92	3.59	9.19
<b>LQT (₦)</b>	590	3.63	43.42	-0.43	1048.1
<b>BGS (₦)</b>	590	2.62	1.25	0	4
<b>IOW(%)</b>	590	0.21	0.25	0	0.9

Source: Descriptive Statistics Result using STATA 17.0

### 4.3 Correlation Result

From Table 4.2 the result of the correlation analysis for the dependent variable Sustainability Disclosure (**SD**) and Profitability (**PRO**) shows a significant positive correlation with coefficient value of 0.0990 and the p-value of 0.0161. The correlation between SD and Firm Size (**FSZ**) shows a coefficient of 0.1593 with p-value of 0.0001, at the 1% or 5% levels. This suggests that variations in SD are systematically associated with changes in PRO and FSZ. According to Wooldridge (2020), significant correlations at the 1% level in panel data indicate a strong and non-random relationship, implying that SD could be important variable explaining differences in these corporate governance attributes.

Similarly, Profitability (**PRO**) is positively correlated with **FSZ**, with coefficient of 0.1588 and p-value of 0.0001. Moreover, correlation analysis result indicated positive correlation between Board Governance Score (BGS) and both firm size (FSZ) and sustainability disclosure (SD) is consistent with resource-based view arguments, suggesting that larger boards in bigger firms possess greater expertise and resources to oversee complex environmental and social reporting (Jizi et al., 2014). Similarly, the significant link between firm size (FSZ) and sustainability disclosure (SD) supports the notion that larger organizations face higher public. Therefore, firm size (FSZ) emerges as the strongest predictor of sustainability disclosure and is significantly correlated with nearly all governance variables at the 1% level. This suggests that larger firms disclose significantly more information, and similarly, effective boards are associated with higher levels of disclosure, as evidenced by studies from Rahman et al. (2024) and Nindiasari (2021). Liquidity (LQT) demonstrates insignificant correlations with all other variables in the dataset. This finding suggests that a firm's liquidity operates independently of its governance structures and organizational size. According to Gill and Biger (2013), liquidity is often influenced more by short-term operational strategies and prevailing market conditions than by long-term structural or governance features.

Table 2: Correlation Matrix of the Dependent and Explanatory Variables

	<b>SD</b>	<b>PRO</b>	<b>FSZ</b>	<b>LQT</b>	<b>BGS</b>	<b>IOW</b>
<b>SD</b>	1000					
<b>PRO</b>	0.0990*	1000				
<b>FSZ</b>	0.1593*	0.1588*	1000			

<b>LQT</b>	0.0484	-0.004	0.0307	1000		
<b>BGS</b>	0.1452*	0.0192	0.2700*	0.0208	1000	
<b>IOW</b>	0.0289	-0.0523	0.1621*	-0.0325	0.1658*	1000

**Source:** Generated from the data collected through the annual report of the sampled Nigerian listed Non-financial companies.

#### 4.4 Presentation and Interpretation of Regression Result

The analysis was conducted using **Panel-Corrected Standard Errors (PCSE)**, which accounts for heteroskedasticity and panel-specific autocorrelation, suitable for panel data analysis. The results, presented in Table 3, indicate that the model demonstrates a strong overall fit, with an  $R^2$  value of 0.3525 and a Wald chi-square statistic of 388.82 ( $p = 0.000$ ). This suggests that the explanatory variables collectively account for approximately 35.25% of the variance in sustainability disclosure, a figure comparable to recent empirical studies (Adams et al., 2023). Diagnostic tests confirm that heteroskedasticity is negligible (Hetttest  $p = 0.0586$ ), validating the robustness of the standard errors employed. The interaction between profitability and Board Governance Score (PRO\*BGS) has a positive and significant effect on sustainability disclosure (coefficient = 0.051,  $p = 0.031$ ). This finding supports both Resource-Based View theory, which holds that profitable firms have the financial flexibility to invest in voluntary sustainability reporting, and Stakeholder Theory, which suggests that such firms face greater stakeholder expectations for transparency. The result is consistent with prior research by Almashhadani and Almashhadani (2023), who documented a similar moderating role of profitability in the relationship between stakeholder pressure and sustainability reporting in Malaysian social enterprises. The interaction term between firm size and Board Governance Score (FSZ\*BGS) also demonstrates a significant positive relationship with sustainability disclosure, with a coefficient of 0.0953 ( $p = 0.032$ ). This finding suggests that an increase in firm size is associated with enhanced sustainability disclosure, particularly when moderated by strong governance structures. Larger firms typically operate under greater public and regulatory scrutiny, compelling them to adopt more transparent reporting practices to maintain legitimacy and stakeholder trust. In contrast, the interaction term between liquidity and Board Governance Score (LQT\*BGS) yields a coefficient of 0.061 with a  $p$ -value of 0.421, indicating a statistically insignificant relationship. This result demonstrates that the presence of strong corporate governance does not meaningfully transform the relationship between liquidity and sustainability disclosure. It suggests that liquidity, as a measure of short-term financial health, may not independently drive sustainability reporting behavior, even when governance mechanisms are in place.

**Table 3: Panel Corrected Standard Error PCSE Regression Result**

VARIABLES	Coeff.	P value
<b>SD</b>	Model 2 Mod eff.	
<b>PROBGS</b>	0.051	0.031
<b>FSZBGS</b>	0.953	0.032
<b>LQTBGS</b>	0.061	0.421

<b>IOW</b>	0.034	0.401
<b>_CONS</b>	0.089	0.435
<b>Obsev</b>	590	
<b>Hetest</b>	0.059	
<b>R-SQUARE</b>	0.352	
<b>WALD CHI2 (8)</b>	388.82	
<b>PROB&gt;CHI2</b>	0.000	

Notes PROBGs=Profitability Board Governance Score: FSZ=Firm Size Board Governance Score: LQT=Liquidity Board Governance Score: IOW=Institutional Ownership

**Source:** Generated from the data collected through the annual report of the sampled Nigerian listed Non-financial companies.

### 5.0 Conclusion and Recommendation

Based on the empirical findings that profitability and firm size are significant positive determinants of sustainability disclosure, several practical and policy implications emerge. The finding indicates that, profitable firms demonstrate a significant positive relationship with sustainability disclosure, aligning with stakeholder theory, this also implies that corporate boards, particularly profitable companies, should prioritize sustainability as a core strategic issue rather than treating it as an optional activity. By allocating resources to comprehensive sustainability reporting, these firms can strengthen stakeholder relationships, enhance corporate reputation, and demonstrate their commitment to responsible business practices. From a policy perspective, regulators should develop targeted support programs, including capacity-building initiatives and simplified reporting frameworks, to help smaller and less profitable firms enhance their sustainability reporting capabilities, thereby bridging the disclosure gap and creating a more level playing field.

Furthermore, the finding that firm size emerged as the strongest positive driver of sustainability disclosure, reinforcing RBV theory, carries important implications for both practice and policy. Large corporations face heightened scrutiny and greater legitimacy pressures, which compels them to adopt more transparent and extensive disclosure practices. Practically, this means that large firms should proactively institutionalize transparent sustainability reporting as part of their governance structure, including establishing dedicated sustainability committees, adopting internationally recognized reporting standards such as the Global Reporting Initiative (GRI), and regularly engaging with stakeholders to address their concerns. From a policy standpoint, regulators should consider implementing mandatory sustainability disclosure requirements specifically targeted at large corporations, given their significant impact on society and the environment. Such mandates would ensure that these highly visible firms institutionalize transparent reporting practices, thereby enhancing accountability and maintaining their social license to operate while managing their heightened visibility in the public and regulators.

## References

- Abdulsalam, A., & Babangida, M. (2023). Corporate attributes and sustainability disclosure in Nigeria: A sectoral analysis. *Journal of Accounting in Emerging Economies*, 13(2), 210- 229.
- Abubakar, M., Moses, O., & Inuwa, I. (2023). Revisiting the profitability-disclosure nexus in emerging markets. *African Journal of Economic and Management Studies*, 14(3), 401-417.
- Adams, D., Adams, K., Ullah, S., & Ullah, F. (2023). Green innovation and corporate sustainability disclosure. *Journal of Cleaner Production*, 428, 450.
- Addo, I. O. (2024). Managerial opportunism and sustainability reporting in Nigeria. *Corporate Governance: The International Journal of Business in Society*, 24(2), 345-362.
- Adhipradana, R., & Daljono, D. (2023). Liquidity, trust, and corporate transparency in Southeast Asia. *Asian Journal of Business Ethics*, 12(1), 89-104.
- Alarussi, A. S., & Alhaderi, S. M. (2023). The impact of corporate characteristics on sustainability disclosure: New evidence from GCC countries. *Journal of Financial Reporting and Accounting*, 21(4), 789-810.
- Ali, M., & Isa, M. (2023). Corporate distinctiveness and strategic disclosure in Nigeria. *International Journal of Disclosure and Governance*, 20(1), 56-73.
- Almashhadani, M., & Almashhadani, H. A. (2023). The Impact of Sustainability Reports to Enhance Company Performance and its Sustainability. *International Journal of Scientific and Management Research*, 6(09), 149-163.
- Almaqtari, F. A., Al-Homaidi, E. A., & Tabash, M. I. (2024). Sustainability reporting determinants: A comparative study of developed and developing nations. *Journal of Cleaner Production*, 415, 137-152.
- Amahalu, N. N. (2024). Determinants of sustainability reporting in Nigerian financial institutions. *Journal of Sustainable Finance & Investment*, 14(1), 120-138.
- Aquilani, B., Piccarozzi, M., & Abbate, T. (2023). The economic foundations of corporate sustainability: An interdisciplinary review. *Business Strategy and the Environment*, 32(2), 567-584.
- Ariyani, A. P. (2023). Signaling credibility: The role of liquidity in voluntary disclosure. *Journal of Applied Accounting Research*, 24(3), 512-528.
- Artiach, T., Lee, D., & Walker, J. (2023). Scale, visibility, and environmental disclosure: A global study. *Sustainability Accounting, Management and Policy Journal*, 14(1), 1-22.
- Awodiran, M. A. (2023). Integrating governance and sustainability: Evidence from Nigerian listed firms. *Journal of Business Research*, 155, 113-125.
- Babalola, Y. A. (2023). Firm size, stakeholder networks, and corporate legitimacy in Africa. *African Journal of Business Management*, 17(2), 34-49.

- Badulescu, D., Badulescu, A., & Bac, D. P. (2023). The relationship between firm size and CSR disclosure: Evidence from European listed companies. *Journal of Business Economics and Management*, 24(1), 1-19.
- Bao, J., & Yang, L. (2025). Will ESG disclosure affect the green innovation level of SMEs? *Finance Research Letters*, 8(3), 107-118.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations revisited. *Journal of Personality and Social Psychology*, 126(1), 1-15.
- Bhat, K. S., Chen, Y., & Saeed, A. (2023). Board governance mechanisms and corporate oversight: A meta-analysis. *Corporate Governance: An International Review*, 31(5), 401-420.
- Bhatia, A., & Gulati, R. (2024). Resolving mixed findings in corporate disclosure research: The role of moderators. *Journal of International Accounting Research*, 23(1), 45-67.
- Bidari, G., & Djajadikerta, H. G. (2023). Political costs and benefits of sustainability disclosure: The role of firm size. *Pacific Accounting Review*, 35(2), 234-251.
- Boyd, D., Scollan, A., & Lee, K. (2025). Understanding the world matters. In K. Lee & V. Veale (Eds.), *School Readiness Matters: Embedded and Threaded Transitions 5* (2), 101–109. TACTYC.
- Dembo, A. M. (2017). The impact of sustainability practices on the financial performance: Evidence from listed oil and gas companies in Nigeria. In *Dimensional Corporate Governance: An Inclusive Approach* 215-233. Cham: Springer International Publishing.
- DGB Group. (2024). *Global deforestation report 2024*. <https://www.dgb.earth>
- Eneh, O. C., & Amakor, I. C. (2024). Re-examining the profitability-sustainability link in Nigeria's oil and gas sector. *Energy Policy*, 174, 113-125.
- Ezekwesili, O. R., & Ezejiofor, R. A. (2024). Corporate attributes and sustainability reporting in emerging economies: A decade of evidence. *Journal of Accounting in Emerging Economies*, 14(1), 1-23.
- Fahlevi, M., Adebayo, T. S., & Aljughiman, A. A. (2024). The political economy of corporate sustainability disclosure in large firms. *Journal of Cleaner Production*, 430, 139-155.
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2024). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, 71(1), 1-12.
- Galloway, C., Kwan, A., & Hazelton, J. (2023). Sustainability disclosure as a resource for competitive advantage. *Journal of Business Ethics*, 185(2), 287-301.
- Gill, A. S., & Biger, N. (2013). The impact of corporate governance on working capital management efficiency of American manufacturing firms. *Managerial Finance*, 39(2), 116-132.
- Generation Impact Global. (2025). *GRI Banking Sector Draft Standard: Completing the Financial Services Trio*.

- Global Reporting Initiative (GRI). (2023). *Consolidated set of the GRI standards*. <https://www.globalreporting.org>
- Haddad, A., AlShattarat, W., & Nobanee, H. (2023). Firm size and environmental disclosure: A meta-analytic review. *Journal of Environmental Management*, 325, 116-130.
- Haladu, A., Salim, B., & Bin-Nashwan, S. A. (2021). Recent evidence on corporate attributes and sustainability disclosure in Nigeria. *Social Responsibility Journal*, 20(3), 456-473.
- Hasan, M. M., & Hosain, M. Z. (2023). Corporate size, information asymmetry, and voluntary disclosure. *International Journal of Accounting & Information Management*, 31(2), 189-207.
- Ikporukpo, C. O. (2023). Petroleum pollution and environmental governance in the Niger Delta. *Nigerian Geographical Journal*, 18(1), 55-70.
- Islamiati, P., & Suryandari, D. (2023). Revisiting the liquidity-disclosure nexus in voluntary reporting. *Journal of Applied Accounting and Taxation*, 8(1), 15-30.
- Iyawe, O., & Chijuka, I.M. (2025). ESG Reporting and Financial Performance of Deposit Money Banks in Nigeria: A Contemporary Analysis. *EuroEconomica*, 44(2), 51–63.
- Jannah, R., & Kurnia, K. (2023). Does liquidity drive sustainability report quality? Evidence from Indonesia. *Asian Journal of Accounting Research*, 8(1), 45-59.
- Jasch, C., & Stasiškienė, Ž. (2022). *Environmental management accounting: Developments and future directions*. Springer.
- Jeroh, E. (2023). The inadequacy of traditional accounting and the rise of sustainability reporting in Africa. *African Journal of Accounting, Auditing and Finance*, 9(2), 123-140.
- John, A.O., & Blessing, B. (2025). *A Review of Environmental Reporting Practices Among Listed Oil And Gas Firms in Nigeria*. *Gusau Journal of Accounting and Finance*, 6(3), 163–177.
- Kajola, S. O., Adeyemi, S. B., & Sanyaolu, W. A. (2024). Balancing profit and planet: Stakeholder pressures on Nigerian firms. *Journal of Business Ethics*, 189(3), 567-584.
- Kolsi, M. C. (2022). The impact of firm characteristics on CSR disclosure: A GCC study. *Journal of Financial Reporting and Accounting*, 20(5), 890-909.
- Kumar, S., Rao, P., & Singh, A. K. (2023). Corporate sustainability disclosure in developing countries: A systematic review. *Journal of Cleaner Production*, 382, 134-150.
- Kusuma, I. W., & Handayani, S. (2023). Profitability as a key construct in sustainability disclosure research. *Journal of Accounting and Organizational Change*, 19(3), 345-363.
- Lambe, I., Adegbite, E., & Nakpodia, F. (2024). A decade of sustainability reporting research in Africa: Trends, contradictions, and future directions. *Business Strategy and the Environment*, 33(1), 1-18.
- Lui, G. (2025). Natural Language Processing Analysis of Sustainability Disclosures and Corporate Operation Efficiency. In *Operations Research Proceedings 2024* (66–71). Springer

- Majumder, M. T. H., Li, X., & Begum, M. (2024). Profitability and sustainability reporting: Contradictory evidence from manufacturing. *Journal of Manufacturing Technology Management*, 35(2), 210-228.
- Mardiana, S. (2023). Corporate attributes and environmental disclosure: An Indonesian perspective. *Journal of Environmental Accounting and Management*, 11(2), 145-160.
- Marquis, C., & Qian, C. (2023). The downside of size: Political scrutiny and CSR disclosure in China. *Organization Science*, 34(1), 1-20.
- Martens, P., Reesink, M., & Soeters, K. (2025). True sustainability is sustanimalism. *BioScience*, 75(5), 350-371.
- Maryana, S., & Carolina, V. (2024). The evolving role of firm characteristics in sustainability disclosure. *Asian Journal of Sustainability and Social Responsibility*, 9(1), 1-18.
- Matuszak, Ł., & Kabaciński, B. (2024). Sectoral materiality and sustainability reporting: Excluding financial and service firms. *Journal of Business Ethics*, 190(2), 345-360.
- Meini, L., & Chotimah, C. (2023). Liquidity, firm value, and sustainability activities: Empirical evidence from Indonesia. *Journal of Asian Finance, Economics and Business*, 10(5), 89- 98.
- Modozie, C., & Amahalu, N. N. (2024). Corporate expansion, environmental damage, and stakeholder pressure in Nigeria. *Environmental Economics and Policy Studies*, 26(1), 123-145.
- Nguyen, T. H., Elmagrhi, M. H., & Nitin, C. G. (2024). Regulatory pressure, firm size, and sustainability disclosure in emerging markets. *International Review of Financial Analysis*, 89, 102-115.
- Niazi, S. K., Bhatti, G. A., & Ashraf, D. (2024). Board effectiveness index: A composite measure for corporate governance research. *Corporate Governance: The International Journal of Business in Society*, 24(3), 456-475.
- OECD. (2023). *OECD corporate governance factbook 2023*. OECD Publishing.
- Ogundele, B., et al. (2021). Corporate environmental accountability in Nigeria: an example of regulatory failure and regulatory capture. *Journal of Accounting in Emerging Economies*, 11(1), 70-93.
- Okerekeoti, C. U. (2023). Profitability and sustainability disclosure: Evidence from Nigerian consumer goods firms. *Journal of Accounting and Taxation*, 15(2), 67-78.
- Oktaviani, R. M., & Amanah, L. (2024). The limited role of liquidity in voluntary sustainability reporting. *Journal of Indonesian Economy and Business*, 39(1), 34-49.
- Olayinka, I. A., & Owolabi, A. (2023). Sustainability reporting and corporate legitimacy in Nigeria: Recent evidence. *Journal of Global Responsibility*, 14(2), 234-250.
- Olorunnisola, O. A., & Usman, O. A. (2024). Sustainability reporting as a tool for environmental litigation risk management in Nigeria. *Law and Development Review*, 17(1), 1-22.

- Omodero, C.O. (2025). Sustainability in Finance: Examining the Integration of ESG Principles in Nigerian Financial Institutions. *Zenodo*.
- Pona, H. T., Dauda, S., & Eze, C. (2024). Environmental health challenges and corporate accountability in Nigeria. *Environmental Development*, 45, 100-1
- Rahman, M. M., & Said, R. (2024). Board Financial Expertise Moderating Profitability and Sustainability Reporting In Emerging Economies. *Journal of Accounting in Emerging Economies*, 14(1), 78-102.
- TNFD & GRI. (2025). *GRI & TNFD case studies: Identifying risks and opportunities to organizations arising from dependencies and impacts on nature*.
- Uche, E. P., Ndubuisi, A. N., & Chinyere, O. J. (2019). Effect of Firm Characteristics On Environmental Performance of Quoted Industrial Goods Firms in Nigeria. *International Journal of Research in Business, Economics and Management*, 3(6), 1-13.
- Yu, S. H., & Liang, W. C. (2020). Exploring the Determinants of Strategic Corporate Social Responsibility: An empirical examination. *Sustainability (Switzerland)*. 12(6), 1–16.  
<https://doi.org/10.3390/su12062368>