Sustainability Reporting and Performance of Selected Quoted Firms in Nigeria

ABSTRACT

The performance of quoted firms listed on the Nigerian Exchange Group (NGX) is crucial for driving economic development, job creation, and wealth generation in Nigeria. Despite the growing interest in sustainability practices among Nigerian firms, there is a lack of empirical research examining the relationship between sustainability reporting and financial performance. To address this gap, this study conducted a comprehensive analysis of the link between sustainability reporting and the financial performance of quoted firms in Nigeria.This research employed an ex-post facto research approach, utilizing data from annual reports, financial statements, and sustainability reports of 153 publicly listed companies on the Nigerian Exchange Group (NGX). Through quantitative methods, the study assessed the extent and quality of sustainability reporting among Nigerian companies and its relationship with financial performance indicators. A purposive sampling method was used to select a sample of 10 firms known for their voluntary disclosure of information in financial reports. The study spanned from 2012 to 2021, totaling 10 years, and involved both descriptive and inferential statistical analyses of the collected data. Using regression analysis, the study found a statistically significant positive impact of sustainability reporting metrics - including governance information disclosure, credibility information disclosure, and environmental profile disclosure - on firm performance. This suggests that companies in Nigeria that disclose information regarding governance policies, credibility, and environmental practices tend to perform better financially.This study concluded that companies that engage in transparent reporting regarding governance policies, credibility, and environmental practices demonstrate better financial performance. Based on the findings, it is recommended that Nigerian regulators and policymakers encourage and support sustainability reporting initiatives among quoted firms.

Keywords: Sustainability reporting, Governance information disclosure. Credibility information disclosure, Environmental profile disclosure, Firm performance, Quoted companies in Nigeria.

INTRODUCTION

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Nigeria, as one of the largest economies in Africa, has experienced significant economic growth and development in recent decades. With a diverse range of industries spanning sectors such as oil and gas, telecommunications, banking, agriculture, and manufacturing, the Nigerian business landscape is characterized by a dynamic and complex mix of firms operating in various sectors of the economy (Botchwey et al., 2022). The performance of quoted firms listed on the Nigerian Exchange Group (NGX) holds substantial importance. Quoted firms play a vital role in driving economic development, job creation, and wealth generation, thereby contributing significantly to the overall socio-economic landscape of the country (Ayeni-Agbaje et al., 2024).Understanding the determinants of firm performance among quoted firms in Nigeria is crucial for policymakers, investors, regulators, and other stakeholders (Dagunduro et al., 2024). Firm performance serves as a key indicator of the efficiency, effectiveness, and competitiveness of businesses operating within the Nigerian market. Moreover, insights into the factors influencing firm performance can inform strategic decision-making processes aimed at enhancing corporate governance, operational efficiency, and financial sustainability (Lawal et al., 2024).

Sustainability reporting has gained increasing attention worldwide as businesses recognize the importance of environmental, social, and governance (ESG) considerations in their operations. This trend is particularly significant in emerging economies like Nigeria, where rapid industrialization and economic growth have brought about heightened concerns regarding sustainability and corporate responsibility (Dagunduro et al., 2024). As companies strive to balance profitability with social and environmental impacts, sustainability reporting has emerged as a crucial tool for enhancing transparency, accountability, and stakeholder engagement (Olatunde et al., 2021).

While there is growing interest in sustainability practices among Nigerian firms, empirical research examining the link between sustainability reporting and financial performance remains limited. This gap in the literature underscores the need for rigorous empirical investigations to understand the dynamics between sustainability reporting and firm performance within the Nigerian context. This study aims to address this gap by conducting a comprehensive analysis of the relationship between sustainability reporting and the financial performance of quoted firms in Nigeria. By examining a diverse sample of companies listed on the Nigerian Exchange Group (NGX), this study seeks to provide empirical evidence on the impact of

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sustainability reporting practices on various aspects of firm performance, including profitability, shareholder value, and market reputation.Through this research, the study intends to contribute to the existing body of knowledge on sustainability reporting and its implications for corporate decision-making, stakeholder engagement, and long-term sustainability in the Nigerian business environment. By elucidating the linkages between sustainability reporting practices and firm performance, this study aims to inform policymakers, regulators, investors, and corporate stakeholders about the potential benefits and challenges of integrating sustainability considerations into business strategies in Nigeria. Ultimately, with the hope that this research will catalyze discussions and actions aimed at fostering sustainable business practices and enhancing the overall competitiveness and resilience of Nigerian firms in a rapidly evolving global landscape.

LITERATURE REVIEW

Sustainability Reporting

Sustainability reporting, also known as corporate sustainability reporting or environmental, social, and governance (ESG) reporting, refers to the practice of disclosing a company's environmental, social, and governance performance (Ibrahim et al., 2021). It involves the systematic reporting of non-financial information, alongside traditional financial reporting, to provide stakeholders with a comprehensive understanding of a company's impact on the environment, society, and economy (Kaya &Akbulut, 2019). This includes the company's efforts to reduce its environmental footprint, such as energy and resource use, greenhouse gas emissions, waste generation, and pollution control measures.Sustainability reporting is often guided by international frameworks and standards, such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-related Financial Disclosures (TCFD). These frameworks provide guidelines and indicators for companies to report on their sustainability performance in a consistent and comparable manner (Kolawole et al., 2023).The primary objectives of sustainability reporting are to enhance transparency and accountability. By disclosing non-financial information, companies provide stakeholders, including investors, customers, employees, regulators, and communities, with a clearer understanding of their environmental, social, and governance practices (Nazim et al., 2017).Sustainability reporting facilitates dialogue and engagement with stakeholders, allowing companies to respond to stakeholder concerns, address issues, and build trust and credibility.By

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measuring and reporting on sustainability performance, companies can identify areas for improvement, set targets, and implement strategies to enhance their overall sustainability performance. Sustainability reporting plays a crucial role in promoting sustainable business practices, responsible corporate citizenship, and long-term value creation for companies and society (Mohammed, 2018).

Governance information disclosure

Governance information disclosure refers to the practice of firms making public various types of information related to sustainability, environmental stewardship, social responsibility, and economic performance. It involves the release of data, reports, policies, and other relevant information by these entities to provide transparency on their sustainability efforts and initiatives (Dagunduro et al., 2024). Organisations may disclose information related to environmental impact assessments, air and water quality monitoring data, greenhouse gas emissions, waste management practices, and conservation efforts. This data helps stakeholders assess the environmental performance of these organizations and track progress towards environmental goals and targets. Governance information disclosure may also include data on economic performance, such as investment in sustainable infrastructure, and procurement practices. This information provides insights into the firms economic policies, priorities, and contributions to sustainable economic development (Lawal et al., 2024).

Firms may disclose information on regulatory frameworks, laws, and regulations related to sustainability and corporate responsibility. This includes updates on environmental regulations, labor standards, consumer protection laws, and corporate governance requirements that impact their operations. Governance information disclosure in the context of sustainability reporting plays a crucial role in promoting transparency, accountability, and stakeholder engagement (Nzekwe et al., 2021) It enables investors, regulatory authorities, public and civil society organizations to assess firms' performance, track progress on sustainability goals, and hold them accountable for their actions and decisions. Additionally, it facilitates collaboration and knowledge-sharing among stakeholders, driving collective efforts towards achieving sustainability objectives (Turuianu, 2023).

Credibility Information Disclosure

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In the realm of sustainability reporting, credibility information disclosure refers to the transparent and accurate communication of data, practices, and initiatives related to sustainability by organizations. It involves the dissemination of information that is reliable, trustworthy, and credible to stakeholders, including investors, consumers, employees, regulators, and the broader community (Dilling & Cay Koylu , 2019). Firms must ensure that the information disclosed in sustainability reports is accurate, reliable, and based on robust data collection and reporting processes. This includes using validated measurement methodologies, conducting thorough audits, and verifying the accuracy of reported data.Credibility information disclosure requires transparency in the reporting process, including the disclosure of methodologies, assumptions, and data sources used to compile sustainability reports. This transparency allows stakeholders to understand how information is gathered, analyzed, and reported, enhancing trust in the reported data (Fitiriana&Wardhani, 2020). Firms should strive for consistency and comparability in sustainability reporting over time and across different reporting periods. This allows stakeholders to track progress, identify trends, and benchmark performance against industry peers and established standards.

Credible sustainability reporting focuses on disclosing information that is material and relevant to stakeholders. Organizations should prioritize the disclosure of sustainability issues that have a significant impact on their business, operations, and stakeholders, ensuring that reported information is meaningful and actionable (Asuquo et al., 2018).To enhance credibility, organizations may opt for independent verification or assurance of their sustainability reports by third-party auditors or verification agencies. Independent verification provides stakeholders with assurance that reported data is accurate, reliable, and in compliance with relevant standards and guidelines.Credible sustainability reporting involves engaging with stakeholders throughout the reporting process, including identifying their information needs, soliciting feedback on reporting practices, and incorporating stakeholder perspectives into the reporting framework (Nazim et al., 2017). This ensures that sustainability reports are relevant, responsive, and aligned with stakeholder expectations. Credibility information disclosure in sustainability reporting is essential for building trust, fostering transparency, and demonstrating organizational commitment to sustainability. By providing stakeholders with credible and transparent information, organizations can enhance their reputation, mitigate risks, and create value for both them and society ((Kaya &Akbulut, 2019).

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Environmental Profile Disclosure

Environmental profile disclosure in the context of sustainability reporting refers to the systematic and transparent communication of information related to a company's environmental performance, impacts, and initiatives. It involves disclosing detailed data, metrics, and narratives concerning the company's environmental footprint, resource consumption, pollution emissions, and efforts to minimize environmental harm (Kolawole et al., 2023).This involves quantifying and reporting on the company's environmental impacts, such as greenhouse gas emissions, energy consumption, water usage, waste generation, and pollution levels. Companies may provide data on their emissions intensity, water efficiency, waste diversion rates, and other relevant metrics to assess their environmental performance.Companies disclose information about the environmental risks they face, such as regulatory compliance requirements, climate change impacts, natural resource scarcity, and ecosystem degradation (Mohammed, 2018). Additionally, they may identify opportunities for innovation, resource efficiency improvements, and cost savings through environmental management practices.This includes detailing the company's strategies, policies, and initiatives aimed at minimizing its environmental footprint and promoting sustainable practices. Companies may disclose information about environmental management systems, pollution prevention measures, eco-efficiency initiatives, sustainable sourcing practices, and environmental certifications or standards adopted.

Companies may disclose their environmental targets, goals, and performance benchmarks to track progress over time and demonstrate their commitment to continuous improvement. This may include targets related to reducing greenhouse gas emissions, improving energy efficiency, conserving water resources, reducing waste generation, and enhancing biodiversity conservation efforts (Lawal et al., 2024).Environmental profile disclosure may also include information about stakeholder engagement activities related to environmental issues. This could involve consulting with communities, engaging with environmental NGOs, collaborating with industry peers, and seeking input from customers, investors, and regulators to inform environmental decision-making and improve performance. Environmental profile disclosure plays a critical role in promoting transparency, accountability, and responsible environmental stewardship. By openly communicating their environmental performance and initiatives, companies can enhance stakeholder trust, mitigate environmental risks, drive innovation, and contribute to the transition to a more sustainable economy (Boluwaji et al., 2024).

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Firm Performance

Firm performance refers to the measure of how well a company achieves its objectives and goals, reflecting its overall success and effectiveness in various aspects of its operations (Asubiojo et al., 2023). It encompasses the evaluation of financial, operational, strategic, and qualitative indicators to assess the company's ability to generate profits, create value for shareholders, and sustain competitive advantage in the market (Aluko et al., 2022; Dagunduro et al., 2022).This involves assessing the company's financial health and profitability through metrics such as revenue growth, profit margins, return on investment (ROI), earnings per share (EPS), and cash flow. Financial performance indicators provide insights into the company's ability to generate profits, manage costs, and allocate resources efficiently (Ayeni-Agbaje et al., 2024).Operational performance evaluates the efficiency and effectiveness of the company's day-to-day operations, including production processes, supply chain management, inventory turnover, and distribution logistics (Oluwagbade et al., 2023). It focuses on optimizing operational processes to enhance productivity, reduce waste, and improve customer satisfaction.Market performance examines the company's competitiveness and market share relative to competitors, as well as its ability to meet customer needs and preferences. Market performance indicators may include sales growth, market penetration, customer retention rates, brand recognition, and customer satisfaction surveys (Awotomilusi et al., 2023).

Strategic performance assesses the company's ability to execute its long-term goals and strategic initiatives, such as expanding into new markets, launching innovative products or services, diversifying revenue streams, and forging strategic partnerships or alliances. It evaluates the company's strategic alignment with market trends, industry dynamics, and competitive positioning (Adewara et al., 2023).In addition to financial metrics, firm performance increasingly includes considerations of social and environmental impact. This involves evaluating the company's corporate social responsibility (CSR) initiatives, sustainability practices, ethical standards, and contributions to community development and environmental conservation. Firm performance serves as a comprehensive measure of a company's overall health, competitiveness, and ability to create long-term value for stakeholders, including shareholders, employees, customers, and society at large (Dada et al., 2023). It is a multifaceted concept that encompasses financial, operational, strategic, and societal dimensions, providing

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stakeholders with insights into the company's overall success and sustainability (Dagunduro et al., 2023).

Net Profit Margin

Net profit margin is a financial metric used to assess a company's profitability by measuring the percentage of revenue that translates into net income after accounting for all expenses, taxes, and other costs associated with operations (Dagunduro et al., 2022). It is calculated by dividing the net income (or net profit) by total revenue and expressing the result as a percentage.Net profit margin provides insights into the efficiency of a company's operations and its ability to generate profits from its core business activities (Dagunduro et al., 2023; Oluwagbade et al., 2023). A higher net profit margin indicates that the company is more effective at controlling costs and converting revenue into profits, while a lower net profit margin may suggest inefficiencies or higher expenses relative to revenue.Net profit margin is a key financial ratio used by investors, analysts, and stakeholders to evaluate a company's financial health, profitability, and performance over time. It is often compared with industry benchmarks and historical data to assess the company's competitive position and profitability trends (Dada et al., 2023).

Sustainability Reporting and Firm Performance

Sustainability reporting refers to the practice of disclosing a company's environmental, social, and governance (ESG) performance to stakeholders, including investors, employees, customers, and the public. It involves the communication of information about a company's sustainability initiatives, policies, goals, and outcomes, as well as its environmental impact, social responsibility efforts, and governance practices (Atanda et al., 2021). Sustainability reporting aims to provide transparent and comprehensive insights into how a company manages its economic, environmental, and social impacts, as well as its contributions to sustainable development.Firm performance, on the other hand, encompasses various measures used to evaluate the overall effectiveness, efficiency, and success of a company in achieving its objectives and delivering value to stakeholders (Lawal et al., 2024). It typically includes financial metrics, such as profitability, revenue growth, and return on investment, as well as non-financial indicators, such as customer satisfaction, employee productivity, and market share. Firm performance reflects the company's ability to generate profits, manage risks, innovate, and create long-term value for shareholders and other stakeholders.

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The relationship between sustainability reporting and firm performance is complex and multifaceted. Many studies have examined the impact of sustainability initiatives and reporting practices on various aspects of firm performance. Some research suggests that companies that prioritize sustainability and engage in transparent reporting may experience benefits such as improved financial performance, enhanced reputation, reduced risk, increased investor confidence, and greater stakeholder trust (Adnyana et al., 2021). However, the extent to which sustainability reporting directly influences firm performance may vary depending on factors such as industry, company size, geographic location, regulatory environment, and stakeholder expectations (Boluwaji et al., 2024). The integration of sustainability considerations into business strategies and reporting practices is increasingly recognized as a key driver of long-term competitiveness and resilience. By adopting robust sustainability reporting practices, companies can not only demonstrate their commitment to responsible business practices but also position themselves for sustainable growth and success in an evolving global marketplace (Dagunduro et al., 2024).

Theoretical Framework

This study underpinned by Stakeholder Theory. Stakeholder Theory, proposed by Freeman (1984), asserts that organizations are accountable not only to their shareholders but also to a broader range of stakeholders, encompassing employees, customers, communities, and the environment. According to this theory, organizations should consider the interests and concerns of all stakeholders in their decision-making processes to achieve long-term sustainability and value creation (Freeman, 1984).In the context of sustainability reporting, Stakeholder Theory offers a valuable framework for understanding the relationship between firms' engagement with stakeholders and their performance outcomes. Sustainability reporting serves as a mechanism through which organizations communicate their economic, environmental, and social impacts to stakeholders (Gray et al., 1996). By disclosing information on their sustainability practices, firms demonstrate their commitment to addressing the interests and concerns of various stakeholders, including environmental conservation, social responsibility, and ethical governance (Elkington, 1997).

Stakeholder Theory posits that by actively engaging with stakeholders and responding to their expectations, firms can enhance their reputation, legitimacy, and trustworthiness, thereby contributing to their long-term success and performance (Freeman, 2010). For example,

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companies that prioritize stakeholder engagement and incorporate stakeholder feedback into their sustainability reporting processes are more likely to build stronger relationships with customers, attract and retain talented employees, and foster goodwill within the communities in which they operate (Mitchell et al., 1997).Moreover, research has shown that firms with robust stakeholder engagement practices tend to outperform their peers in terms of financial performance and market valuation (Harrison & Wicks, 2013). This suggests that there is a positive relationship between stakeholder engagement, as facilitated through sustainability reporting, and firm performance outcomes.Stakeholder Theory provides a compelling framework for understanding how sustainability reporting practices contribute to firms' engagement with stakeholders and ultimately influence their performance. By addressing the interests and concerns of stakeholders through transparent and meaningful reporting, organizations can enhance their long-term sustainability and create value for all stakeholders involved.

Empirical Review

Boluwaji et al. (2024) investigated the influence of sustainable business practices on the continuity of listed manufacturing companies in Nigeria, focusing on stakeholder inclusiveness, dynamic workplace, and community engagement. The research utilized an ex-post facto research design, analyzing data from 60 consumer and industrial goods manufacturing companies listed on the Nigerian exchange group as of December 31, 2021. The findings suggested that stakeholder inclusiveness, a dynamic workplace, and community engagement positively and significantly influenced the net asset per share of these listed manufacturing companies.

Lawal et al. (2024) investigated the impact of sustainability reporting on the value creation of listed manufacturing firms in Nigeria. Their study employed a longitudinal research design with a population of 45 quoted manufacturing firms on the Nigeria Exchange Group as of May 30, 2023. All 45 firms were utilized as the sample size using a specific sampling method. Data were collected from the annual reports of selected manufacturing firms from 2012 to 2021. Multivariate regression analysis was applied to examine how sustainability reporting variables affect firm value creation. The study found that social sustainability disclosure had a positive and significant effect on the earnings per share of the listed manufacturing firms in Nigeria under study.

Dagunduroet al. (2024) examined the connection between non-financial disclosure and firm performance in the context of listed consumer goods manufacturing companies in Nigeria.

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Their study focused on 21 such companies within Nigeria's consumer goods manufacturing sector, selected as the sample size through thorough census sampling techniques. The research spanned from 2013 to 2022, employing the FGLS regression model to analyze the relationship between the variables. The results revealed that environmental and social disclosures positively and significantly influenced firm performance, whereas governance disclosure had a negative and significant impact. This suggests that companies embracing robust non-financial disclosure practices tend to achieve better overall performance.

Turuianu (2023) aimed to analyze the impact of sustainability and non-financial reporting on companies' engagement in earnings management practices. The research involved assessing and analyzing three earnings management metrics resulting from multiple linear regression models applied to a sample of 31 companies listed on BSE. The findings highlighted a decrease in the use of income smoothing practices by sampled companies in the post-adoption period of 2017-2019 compared to the period before the implementation of the EU directive related to mandatory disclosure of non-financial information, 2015-2016. Hence, firms characterized by higher transparency in sustainability reporting are less inclined to engage in earnings management practices.

Botchwey et al. (2022) investigated the correlation between sustainability reporting and bank performance across Africa. The study relied on secondary data sourced from the audited financial statements of listed banks in Africa over a decade from 2010 to 2020. Specifically, the financial statements of 20 listed banks from Ghana, Nigeria, and South Africa underwent quantitative content analysis to gauge the level of sustainability content. This analysis adhered to the sustainability reporting framework outlined by the global reporting initiative. The aim was to identify and categorize the extent to which firms reported on the economic, governance, social, and environmental dimensions of sustainability. The results indicated that the economic, social, and governance reporting of sustainability content in financial statements had a significantly positive association with Tobin's Q and Return on Assets (ROA). Additionally, banks' reporting of environmental sustainability content had a significant positive impact on ROA but did not significantly affect Tobin's Q.

Adnyana et al. (2021) sought to examine the impact of sustainability report disclosure on the performance of LQ45 companies on the Indonesia Stock Exchange (IDX). The study focused on 45 LQ45 companies according to GRI-G4 standards with 91 items. Using purposive

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sampling, 19 companies were selected, resulting in a total sample of 57 companies during the period from 2016 to 2018. The study collected data through the documentation method, analyzing the contents of the LQ45 sustainability report and the companies' financial statements. Multiple regression analysis was employed for data analysis, revealing that economic performance disclosure, environmental performance disclosure, and social performance disclosure related to supply chain management positively affected company performance.

Ibrahim et al. (2021) examined the influence of sustainability reporting on the financial performance of listed Nigerian oil and gas firms. The study's population comprised 12 listed oil and gas firms in Nigeria, employing a census sampling technique with specific filtering criteria. Return on Asset (ROA) was used to measure financial performance, and secondary sources provided relevant data. Regression analysis indicated that environmental sustainability had a significantly positive effect on ROA, while economic sustainability had a positive but insignificant effect, and social sustainability had an insignificant effect on ROA.

Atanda et al. (2021) analyzed the impact of sustainability disclosure on firm value using data from ten randomly selected listed deposit money banks covering the period from 2014 to 2018. Qualitative content analysis was applied to information from audited reports and accounts to measure overall sustainability disclosure index and its three dimensions (environmental, social, and economic). Descriptive tools and ordinary least square fixed-effects regression were utilized for analysis, revealing that overall sustainability and environmental sustainability disclosures were detrimental to firm value.

Fitriana and Wardhani (2020) aimed to explore the effects of enterprise risk management (ERM) and sustainability reporting quality on firms' performance. The study involved 734 observations from 324 non-financial listed companies across Indonesia, Singapore, Malaysia, Thailand, and the Philippines during 2013–2018. Results indicated that ERM and sustainability reporting quality positively influenced Return on Assets (ROA).

Kaya and Akbulut (2019) investigated the relationship between sustainability reporting and firm performance using panel data logistic regression analysis of 155 automotive firms from 20 different countries between 2010 and 2018. Financial data such as Tobin's Q ratio, firm size, financial leverage ratio, and return on assets were utilized to measure firm performance. Findings showed a significant positive relationship between sustainability reporting and firm size, and a negative relationship with financial leverage.

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Drawing from the literature review, empirical research examining the link between sustainability reporting and financial performance remains limited. This gap in the literature underscores the need for rigorous empirical investigations to understand the dynamics between sustainability reporting and firm performance within the Nigerian context. This study aims to address this gap by conducting a comprehensive analysis of the relationship between sustainability reporting and the financial performance of quoted firms in Nigeria.

Conceptual Framework

Figure 1 below shows the interaction between the independent variable (Sustainability Reporting) and the dependent variable (Firm Performance).

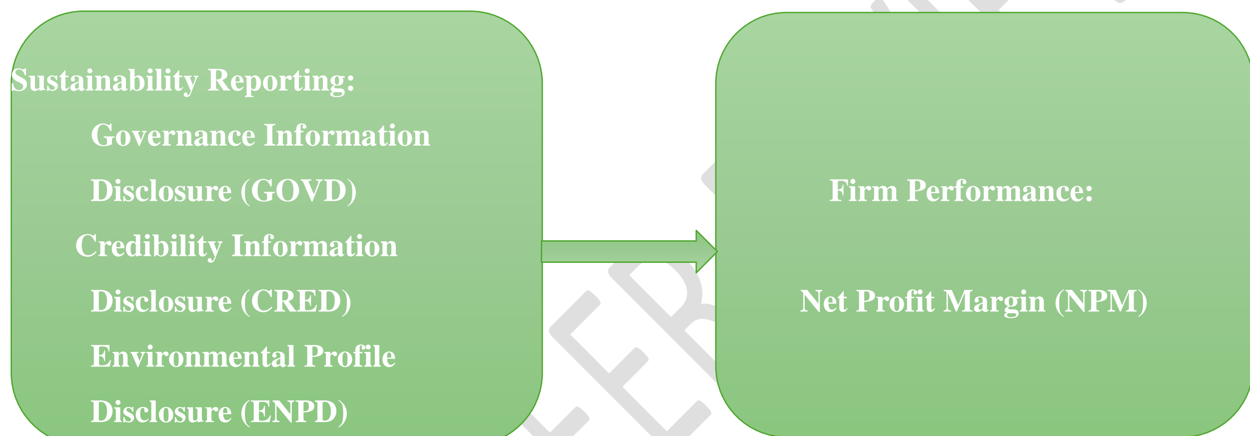

Figure 1: Conceptual Framework

Source: Authors' Concepts (2024)

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METHODOLOY

This research utilized an ex-post facto research approach, utilizing data from annual reports, financial statements, and sustainability reports of 153 publicly listed companies on the Nigerian Exchange Group (NGX). Employing quantitative methods, the study aimed to evaluate the level and caliber of sustainability reporting among Nigerian companies and its correlation with financial performance indicators. A purposive sampling method was employed to select a sample of 10 firms based on their voluntary disclosure of information in financial reports. The study covered the period from 2012 to 2021, totaling 10 years, and collected data underwent both descriptive and inferential statistical analyses.

Model Specification

The functional relationship between sustainability reporting and performance of quoted firms in Nigeria is specified using econometric model. This model was used to establish the link between both the dependent variable and independent variables. Based on the theoretical and empirical review, this linear function was specified to account for the dependent and independent variables, its degree of association, and other factors not considered that might affect such relationship. This factors, although represented by ϵ, potentially encompasses all other variables that might impact performance.

NPM = f (GOVD, CRED, ENPD) ……………………………………1

$NPM = \beta 0 + \beta 1\ GOVD + \beta 2\ CRED + \beta 3\ ENPD + \epsilon$

Where:

NPM = Net profit margin

GOVD = Governance information disclosure

CRED = Credibility information disclosure

ENPD = Environmental Profile Disclosure

β0 represents the intercept, while β1, β2, and β3 represent the mean coefficients of independent variables, ϵ represents the error term.

Table 1: Operationalization, Description, and Measurement of Variables

SN	Variable	Acronym	Role	Measurement	Source
1	Firm Performance	FP	Dependent		
1a	Net Profit Margin	NPM	Dependent	It is calculated by dividing the net income (or net profit) by total revenue and expressing the result as a percentage.	Awotomilusi et al. (2023); Oluwagbade et al. (2023)
2	Sustainability Reporting	SUSR	Independent		
2a	Governance information disclosure	GOVD	Independent	Expressed as the sum of these disclosures outlined in the index: Board composition, Executive compensation, Ethical standards, financial expertise of board members, and Risk management practices.	Dagunduro et al. (2024)
2b	Credibility Information Disclosure	CRED	Independent	Expressed as cumulative index of disclosed information, encompassing: Accuracy, Reliability, and Relevance of the information provided.	Dagunduro et al. (2024)
2c	Environmental	(ENPD)	Independent	Quantified as the combined	Dagunduro

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Profile Disclosure	disclosures outlined in the index: Environmental impact, Material usage, Energy consumption, Water usage, Biodiversity conservation efforts, Emissions, Waste disposal practices, Environmental impact of products/services, and Adherence to environmental laws and regulations.	et al. (2024)

Authors' Compilation (2024)

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Descriptive Statistics

Table 2 displays the unique properties of the data used in the regression analysis. This displays the overall characteristics of the data collected. NPM is utilised to measure the dependent variable (performance), while GOVD, CRED, and CRED represent the independent variable (sustainability reporting). NPM has an average value of 19.5753. This indicates that net profit margin was 19.5753 over sales revenue. But this subjected to a low variation of 17.5444. Although, the value ranges from -12.051 to 67.1467. Also, GOVD has a mean value of 3.39. the distribution of value spread from the mean by 1.2704, while it ranges from 1 to 5. The average value of CRED is 2.42 while its standard deviation is 1.6045. The values ranged from 0 to 6. These data have an average deviation from the mean value of 1.6045. In terms of EPID, the mean is 3.515. This indicates that the environmental profile disclosure size is 3.515 on average. Due to the form of the distribution, the spread around the mean value is 2.311. The minimum value is 0, while the maximum is 6.

Table 2: Overall Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Minimum	Maximum
NPM	100	19.5753	17.5444	-12.051	67.1467
GOVD	100	3.39	1.2704	1	5
CRED	100	2.42	1.6045	0	6
EPID	100	3.515	2.311	0	6

Source: Researchers' Computation (2024)

The Regression Analysis Between Sustainability Reporting and Performance

This part examined the degree and significance of the relationship between the sustainability reporting and disclosure made by selected firms and its influence on performance. This

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demonstrates the number, quality, and breadth of disclosure choices made in the financial statements, as well as its effect on performance.

Post Estimation Test and Regression Diagnostics

Unlike other regression methods, panel regression analysis does rely on distributional assumptions. For statistical robustness and regression estimates' efficiency, various tests were carried out to ensure conformity with these distributional assumptions. Based on this, Ramsey's RESET test was carried out to determine whether the functional form of the regression is adequate. While panel regression analysis assumes linearity, the relationship between the dependent and independent variables was testedusing Ramsey's RESET test.This relationship entails linearity in both parameter and variables. With chi of 0.08 and p-value of 0.9712, the outcome of the test showed that there were no omitted variables.For stability, independent variables must follow a multivariate normal distribution. To confirm this, the study employedShapiro-Wilktest. The chi value from the outcome of this test for NPM, GOVD, CRED and EPID respectively were 3.969, 4.082, 1.399 and 5.364. While its p-values are 0.0001, 0.0000,0.0809, and 0.0000 respectively. This implies that CRED is normally distributed, while other variables are not normally distributed. Therefore, NPM, GOVD and EPID were transformed to make them normally distributed.

Furthermore, multicollinearity among the independent variables has the potential to impair stability. As a result, the independent variables were assessed for the existence or lack of multicollinearity using variance inflation factor. The variance inflation factor values for GOVD, CRED and EPID were 5.59, 3.31 and 3.19 respectively. These were well below the threshold of 10, denoting the absence of multicollinearity among the independent variables.Also, Breusch-Pagan/Cook-Weisberg test for heteroskedasticity was used to assess the presence or otherwise of homoskedascity among independent variables. This denotes constant variance among residuals. The null hypothesis states that the residuals are distributed with equal variance, while the alternative hypothesis states that the residuals are not distributed with equal variance. If the Chi-Square test statistic has a p-value less than a specified level of 0.05, the null hypothesis is rejected, while the study concludesheteroscedasticity. Otherwise, the null hypothesis is accepted while the study assumes homoscedasticity. In this regard, the test result showed a chi statisticof 8.53 and p-value of 0.0035, suggesting the rejection of the null hypothesis and conclusion of the presence ofheteroscedasticity in data distribution.

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Wooldridge test for autocorrelation in panel data was used to assess the level of dependence among the independent variables. The null hypothesis states that no first order autocorrelation while the alternative hypothesis states that there is first order autocorrelation. If the p-value for the Chi-Square test is less than the stipulated level of 0.05, reject the null hypothesis and conclude serial correlation. Otherwise, the study accepts the null hypothesis and assume no serial correlation. Based on the result of the test which showed a chi statistic of 31.13 and p-value of 0.0003, the null hypothesis was rejectedwhile concluding serial correlation.A redundant fixed effect test was carried out to identify which model to adopt. The test statistic of 23.07 and p-value of 0.0000 demonstrate that the fixed effect model is more appropriate than the pooled OLS model. Additionally, the Hausman test was used to evaluate the statistical power of both the fixed effect and random effect models. The test statistic was 2.74, and the p-value was 0.4334, indicating that the random effect model is more resilient than the fixed effect model. Breusch and Pagan's Lagrangian multiplier test for random effects, with a result of 164.83 and p-value of 0.0000 was also carried out. This indicates that the random effect model is more appropriate than pooled OLS. However, Generalised Least Squares was employed to account for heteroskedasticity and autocorrelation, while abandoning the random effect model.

Table 3: Post Estimation Result

Variable	NPM	GOVD	CRED	EPID
VIF		5.59	3.31	3.19
Shapiro-Wilk W test for normal data	3.696(0.0001)	4.082(0.0000)	1.399(0.0809)	5.364(0.0000)
Breusch-Pagan /Cook-Weisberg test for heteroskedasticity	8.53(0.0035)			
Wooldridge test for autocorrelation in panel data	31.138(0.0003)			
Hausman fixed random	2.74(0.4334)			
Ramsey RESET test	0.08(0.9712)			
Breusch and Pagan Lagrangian multiplier test	164.83(0.0000)			

Source: Researchers' Computation (2024)

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The Effect of sustainability reporting on performance of selected firms in Nigeria

Table 4 below shows the outcome of panel regression analysis carried out. The Wald test statistic is 139.65, and the p-value is 0.0000. This is a F test that assumes that the model's coefficients are all different from zero. The model is efficient because the p-value is less than 0.05 significant level. The coefficient of GOVD, which is considered statistically significant (at a p-vale of

0.0000), is 0.3646. This suggests that each unit increase in the volume of GOVD disclosure results in a 36.46% increase in the value of NPM. Additionally, the CRED coefficient is 0.4291. While being statistically significant at a p-value of 0.0000, this means that every unit increase in CREDresults in a 42.91% increase in the value of NPM. Also, the coefficient of EPID is 0.1180 with a p-value of 0.031. This is statistically significant. It implies that a unit increase in the quality and quantity of EPID, would increase NPM value by 11.8%.

Table 4: Regression Estimate on Effect of sustainability reporting on Firms' performance.

	Pooled OLS		**Fixed Effect**		**Random Effect**	
Variables	**Coeff**	**p-value**	**Coeff**	**p-value**	**Coeff**	**p-value**
GOVD	-0.9655	0.0200	0.3159	0.4040	0.1714	0.6380
CRED	0.4317	0.1800	0.5041	0.0170	0.5071	0.0130
EPID	0.6753	0.0060	-0.2993	0.2950	-0.1798	0.5030
Constant	-1.0891	0.0000	-1.2669	0.0000	-1.2540	0.0000
R-squared	0.0209					
Adj. R-squared	0.0677					
F-statistic	3.4000		4.9300		13.6300	
Probability	0.0209		0.0033		0.0035	

Source: Author's computation (2024)

Table 5: ***GLS Estimate on Effect of Sustainability reporting on Firms' performance.***

Variables	Generalized Least squares		
	Coeff	t-value	p-value
GOVD	0.3646	4.47	0.0000
CRED	0.4291	8.59	0.0000
EPID	0.1180	2.16	0.0310
Constant	-1.1566	-26.15	0.0000
Wald Chi2(3)	139.6500		
Probability	0.0000		

Source: Author's computation, (2024)

Discussion of Findings

The performance of quoted firms listed on the Nigerian Exchange Group (NGX) holds substantial importance. Quoted firms play a vital role in driving economic development, job

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creation, and wealth generation, thereby contributing significantly to the overall socio-economic landscape of the country. While there is growing interest in sustainability practices among Nigerian firms, empirical research examining the link between sustainability reporting and financial performance remains limited. This gap in the literature underscores the need for rigorous empirical investigations to understand the dynamics between sustainability reporting and firm performance within the Nigerian context. This study aims to address this gap by conducting a comprehensive analysis of the relationship between sustainability reporting and the financial performance of quoted firms in Nigeria. The outcome of regression analysis conducted to examine the relationship between sustainability reporting metrics (specifically governance information disclosure, credibility information disclosure, and environmental profile disclosure) and the performance of publicly listed companies in Nigeria. The analysis found that these sustainability reporting metrics had a statistically significant positive impact on firm performance. This statement suggests that companies in Nigeria that disclose information related to governance policies, credibility, and environmental practices tend to perform better financially. This finding implies that there may be a link between transparency in sustainability reporting and positive financial outcomes for companies in Nigeria. These findings are in consistent with the findings of Boluwaji et al. (2024), Dagunduro et al. (2024), and Lawal et al. (2024), among others.

CONCLUSION AND RECOMMENDATIONS

The performance of quoted firms listed on the Nigerian Exchange Group (NGX) is crucial for driving economic development, job creation, and wealth generation in Nigeria. Despite the growing interest in sustainability practices among Nigerian firms, there is a lack of empirical research examining the relationship between sustainability reporting and financial performance. To address this gap, this study conducted a comprehensive analysis of the link between sustainability reporting and the financial performance of quoted firms in Nigeria. Using regression analysis, the study found a statistically significant positive impact of sustainability reporting metrics - including Governance information disclosure, credibility information disclosure, and environmental profile disclosure - on firm performance. This suggests that companies in Nigeria that disclose information regarding governance policies, credibility, and environmental practices tend to perform better financially.The findings of this study highlight the importance of sustainability reporting for quoted firms in Nigeria. Companies that engage in

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transparent reporting regarding governance policies, credibility, and environmental practices demonstrate better financial performance. This implies that incorporating sustainability reporting practices into business strategies can contribute to enhanced financial outcomes for Nigerian firms. The results underscore the significance of promoting and incentivizing sustainability reporting initiatives among Nigerian companies to foster both economic and environmental sustainability.

Based on the findings, it is recommended that Nigerian regulators and policymakers encourage and support sustainability reporting initiatives among quoted firms. This can be achieved through the development of frameworks, guidelines, and incentives that promote transparent reporting practices. Additionally, stakeholders such as investors, consumers, and civil society organizations can play a crucial role in advocating for sustainability reporting and holding companies accountable for their environmental and social impacts. Furthermore, companies should invest in improving their sustainability reporting processes and disclosures to enhance transparency and credibility.

This study contributes to the existing literature by providing empirical evidence on the relationship between sustainability reporting and financial performance specifically within the Nigerian context. By demonstrating the positive impact of sustainability reporting metrics on firm performance, the study offers insights for policymakers, regulators, companies, and investors seeking to promote sustainable business practices in Nigeria. Moreover, the findings highlight the potential benefits of integrating sustainability considerations into corporate decision-making processes, thereby advancing both economic development and environmental sustainability agendas in Nigeria.

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