BOARD SUSTAINABILITY COMMITTEE AND CORPORATE FINANCIAL PERFORMANCE

BY

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FACULTY OF MANAGEMENT SCIENCES

UNIVERSITY OF BENIN

BENIN CITY.

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BEING A RESEARCH WORK SUBMITTED TO THE DEPARTMENT OF ACCOUNTING, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF BENIN, BENIN CITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF SCIENCE (B.SC) DEGREE IN ACCOUNTING.

NOVEMBER, 2025.

DECLARATION

I, **IDIAKE EFE VIRTUE**, claim that this project is all my own creation and effort. The work contained in this project has not been submitted in candidacy for any degree and is not being submitted concurrently for another degree. All references to the works of other individuals have been correctly acknowledged.

_____- _____

IDIAKE EFE VIRTUE **Date**

(Project Student)

CERTIFICATION

This accreditation confirms that **IDIAKE EFE VIRTUE,** completed this research in the Department of Accounting, Faculty of Management Sciences, at the University of Benin in Benin City. The research is regarded satisfactory in terms of scope and quality, and it partially meets the standards for conferring a Bachelor of Science (BSc.) degree in accounting.

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DEDICATION

This work is dedicated to GOD ALMIGHTY who provided me with the strength to complete my academic journey.

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I wish to express my deepest gratitude and honour to Almighty God, the source of my strength, wisdom, and inspiration. Without His guidance and blessings, this study would not have been possible.

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ABSTRACT

This study examined the effect of Board Sustainability Committees on corporate financial performance among listed companies in Nigeria. The main objective was to determine whether the existence, size, expertise, and meeting frequency of Board Sustainability Committees contributed meaningfully to firms' financial outcomes. The study also aimed to provide empirical evidence on whether sustainability governance practices, as recommended by global ESG frameworks and the Nigerian Code of Corporate Governance, translated into improved profitability within the Nigerian corporate environment.

The study adopted an ex-post facto research design and analysed panel data covering 50 listed companies over a five-year period (2019–2023). Secondary data were extracted from annual reports and sustainability disclosures of sampled firms. The variables were analysed using descriptive statistics, correlation analysis, and panel regression techniques. Diagnostics—including multicollinearity tests, heteroskedasticity tests, and the Hausman specification test—were conducted to validate the model, and the Fixed Effects estimator was selected as the most appropriate based on the diagnostic outcomes.

The findings revealed that Board Sustainability Committee existence, meeting frequency, expertise, and size all had positive and statistically significant effects on corporate financial performance, measured by Return on Assets. Firm size also exerted a positive and significant influence. The study concluded that sustainability governance enhanced financial performance and recommended that firms institutionalise functional sustainability committees with competent members, frequent meetings, and clearly defined mandates. It further recommended that regulators strengthen disclosure requirements on sustainability governance to encourage substantive, rather than symbolic, adoption of ESG oversight structures in Nigerian firms.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Corporate governance has evolved significantly over the past two decades, expanding beyond traditional concerns of financial accountability and shareholder protection to incorporate broader environmental, social, and governance (ESG) considerations. This shift reflects increasing stakeholder demands for transparency, ethical conduct, and sustainable value creation, as well as rising global awareness of environmental and social risks (Adams, Alhamood, and He, 2021). In contemporary business practice, companies are expected to balance profit maximization with responsible behaviour, social responsiveness, and environmental stewardship.

The growing relevance of sustainability in corporate governance has given rise to Board Sustainability Committees (BSCs), which are specialized committees tasked with overseeing ESG-related risks and opportunities. These committees play a central role in guiding firms on issues such as ethical compliance, climate change, environmental impact, and social accountability. They help integrate sustainability considerations into corporate strategy and long-term planning (Kotsantonis, Serafeim, and Yoon, 2023). Increasingly, BSCs are viewed as important governance structures capable of aligning business operations with the expectations of shareholders, regulators, and society.

Several theoretical frameworks provide insight into the rationale for BSCs. Stakeholder theory posits that organizations must consider the interests of all groups affected by corporate decisions, including shareholders, employees, customers, and communities. BSCs reflect this

orientation by elevating ESG issues to the board level, ensuring they receive strategic attention. Agency theory further suggests that strong governance structures can mitigate conflicts between managers and shareholders by enhancing transparency, reducing information asymmetry, and guiding managerial behaviour toward long-term financial and non-financial objectives (Gillan, Koch, and Starks, 2021).

Despite the theoretical justification for BSCs, empirical evidence remains mixed. Researchers have reported varied outcomes regarding the effectiveness of sustainability committees. Some studies indicate that well-structured and active committees enhance profitability, strengthen risk management, and support long-term value creation (Caliskan-Demirag, Zobel, and Fay, 2020). Other studies argue that the mere existence of a sustainability committee does not guarantee effectiveness unless the committee is properly constituted, meets regularly, and is integrated into broader governance processes (Liu, Wang, and Zhang, 2023). These inconsistencies suggest that the impact of BSCs may depend on their composition, expertise, activity level, and overall functionality.

In emerging economies, including Nigeria, the institutionalization of sustainability governance remains a developing process. Although the Nigerian Exchange Group (NGX) has issued sustainability disclosure guidelines to encourage ESG reporting, compliance levels vary widely, and many firms still treat sustainability as a regulatory requirement rather than a strategic priority (NGX, 2023). Nigerian firms operate within an environment characterized by environmental degradation, regulatory inconsistency, sociopolitical instability, and institutional gaps. These conditions highlight the potential value of strong sustainability

governance structures, yet they also pose challenges to their effective implementation (Ezekwesili and Onuoha, 2022).

Given this context, it becomes essential to examine whether BSCs genuinely contribute to improved corporate outcomes in Nigeria. Corporate financial performance remains one of the most widely used indicators of business success and is often measured using accounting metrics such as Return on Assets (ROA) and Return on Equity (ROE) (Nandy and Bandyopadhyay, 2022). Understanding the relationship between BSC characteristics and financial performance will help determine whether sustainability committees function as meaningful governance mechanisms or largely symbolic structures in Nigerian listed firms.

The present study therefore seeks to provide empirical evidence on how BSC characteristics influence the financial performance of listed companies in Nigeria. The study evaluates not only the existence of sustainability committees but also their meeting frequency, expertise, and size. By situating the investigation within an emerging economy, the study fills an important gap in sustainability governance literature and offers relevant insights to managers, investors, policymakers, and regulators. Ultimately, the findings contribute to ongoing discussions on how sustainability governance can support long-term value creation and strengthen corporate resilience.

1.2 Statement of the Problem

The integration of environmental, social, and governance principles into corporate governance has led to the increasing establishment of Board Sustainability Committees across global corporations. These committees are expected to enhance organizational accountability, improve risk management, and support long-term financial performance.

However, the actual impact of BSCs on financial outcomes remains unclear. Empirical studies present conflicting findings, as some researchers report that effective BSCs contribute positively to profitability and long-term firm value, while others indicate that the influence of BSCs is limited when committees lack expertise, meet infrequently, or are poorly aligned with overall corporate strategy. These inconsistencies raise questions about whether BSCs play a substantive or symbolic role in corporate governance.

The Nigerian context presents even more complexity. Although the Nigerian Exchange Group has introduced sustainability disclosure guidelines to promote ESG integration, many firms continue to perceive sustainability as a compliance requirement rather than a strategic component of governance. This frequently results in sustainability committees that exist only on paper, with limited authority, inadequate expertise, and minimal operational involvement. The effectiveness of BSCs is further complicated by significant variation in their size, composition, and activity levels across firms. These disparities make it difficult to determine whether the presence of a sustainability committee translates into measurable improvements in corporate financial performance.

Given these challenges, there is a clear need for empirical evidence on the extent to which BSC characteristics influence financial outcomes in Nigerian listed firms. Specifically, it is important to assess whether the existence of a sustainability committee, the frequency of its meetings, the expertise of its members, and its size have any meaningful effect on Return on Assets, which represents the financial efficiency of a firm. This study seeks to determine whether BSCs serve as genuine mechanisms for strengthening financial resilience and

competitiveness in Nigeria, or whether they remain largely symbolic structures with limited impact in emerging economies.

1.3 Research Questions

This study is guided by the following research questions:

1. What effect does the existence of a Board Sustainability Committee have on the financial performance of Nigerian listed firms?
2. How does the frequency of Board Sustainability Committee meetings influence the financial performance of Nigerian listed firms?
3. To what extent does the expertise of Board Sustainability Committee members affect the financial performance of Nigerian listed firms?
4. How does the size of the Board Sustainability Committee influence the financial performance of Nigerian listed firms?

1.4 Objectives of the Study

The main objective of this study is to examine the relationship between Board Sustainability Committee characteristics and the financial performance of Nigerian listed firms. The specific objectives are to:

1. Evaluate the effect of BSC existence on the financial performance of Nigerian listed firms.
2. Assess the influence of BSC meeting frequency on the financial performance of Nigerian listed firms.

3. Determine the effect of BSC expertise on the financial performance of Nigerian listed firms.
4. Examine how BSC size influences the financial performance of Nigerian listed firms.

1.5 Research Hypotheses

The following hypotheses are developed in their null form to guide this study:

- H_{01}: BSC existence has no significant effect on the financial performance of Nigerian listed firms.
- H_{02}: BSC meeting frequency does not significantly influence the financial performance of Nigerian listed firms.
- H_{03}: BSC expertise has no significant effect on the financial performance of Nigerian listed firms.
- H_{04}: BSC size does not significantly influence the financial performance of Nigerian listed firms.

1.6 Scope of the Study

This study focuses on listed firms on the Nigerian Exchange Group that provide explicit disclosures on their Board Sustainability Committees in their annual reports. The analysis covers the period from 2020 to 2024, a timeframe that allows for contemporary evaluation of sustainability governance practices within the Nigerian corporate environment. The study examines the characteristics of Board Sustainability Committees, specifically their existence, meeting frequency, expertise, and size, and evaluates how these attributes influence corporate financial performance. Financial performance is measured using Return on Assets, which

reflects the efficiency with which firms utilize their resources. The study excludes firms that do not disclose sustainability committee information and does not examine other financial indicators beyond ROA.

1.7 Significance of the Study

This study offers meaningful contributions to several stakeholders in both theoretical and practical domains.

For corporate managers, the findings provide insight into how Board Sustainability Committees can strengthen risk management, support innovation, and enhance financial performance. The study also highlights how committee structure, expertise, and meeting frequency may shape governance effectiveness.

For investors and shareholders, the study offers evidence that can inform investment decisions, especially for those concerned with sustainability-oriented firms. Understanding whether firms with functional sustainability committees achieve stronger performance can guide investment strategies in an increasingly ESG-focused market.

For policymakers and regulators, the study supplies empirical data that can support reforms of corporate governance codes and sustainability disclosure frameworks in Nigeria. These insights are relevant to institutions such as the Nigerian Exchange Group, which seek to improve compliance monitoring and encourage responsible corporate practices.

For academia and researchers, the study contributes to the limited literature on sustainability governance within emerging economies. It provides a foundation for future comparative and longitudinal studies that aim to explore ESG integration in similar contexts.

For society and the wider economy, the study demonstrates how sustainability governance can support environmental responsibility, ethical conduct, transparency, and social accountability. Improved sustainability practices can enhance investor confidence and contribute to national economic stability, thereby supporting Nigeria's broader sustainable development aspirations.

1.8 Operational Definition of Terms

1. Board Sustainability Committee (BSC): A committee of the board of directors responsible for guiding, overseeing, and integrating sustainability-related issues into corporate strategy, including environmental, social, and governance risks and opportunities.
2. Corporate Financial Performance (CFP): The financial outcomes of a firm, assessed through indicators such as Return on Assets, which measure how effectively the organization utilizes its assets to generate profit.
3. Environmental, Social, and Governance (ESG): A framework used to evaluate a company's environmental responsibility, social performance, and governance quality, extending beyond traditional financial reporting.
4. Stakeholder Theory: A governance perspective that proposes that organizations should consider the interests of all stakeholders, including employees, customers, communities, and shareholders, when making decisions.
5. Agency Theory: A theory that explains the relationship between managers and shareholders, focusing on how governance mechanisms such as sustainability

committees help reduce information asymmetry and align managerial actions with shareholder interests.

6. Sustainability Governance: The policies, structures, and processes through which firms integrate long-term sustainability principles into decision-making, regulatory compliance, and corporate strategy.

CHAPTER TWO

LITERATURE REVIEW

This chapter focuses on the review of related literature under the following headings; conceptual review, theoretical review and empirical review. Necessary literature would be gotten from published and unpublished works, articles and journals in this study.

2.1 Conceptual Review

2.1.1 Corporate Governance and Sustainability

Corporate governance refers to the framework of relationships, procedures, and institutions that govern how businesses are run and managed in order to balance the interests of management, shareholders, and other stakeholders (OECD, 2023). It includes the procedures via which businesses answer to stakeholders, guaranteeing openness, equity, and moral behavior in business choices (Mallin, 2020). A narrow focus on shareholder value has given way to a more comprehensive framework that takes sustainability and environmental, social, and governance (ESG) factors into account over the last 20 years (Eccles & Klimenko, 2019). This paradigm shift acknowledges that responsible management of social and environmental repercussions is just as important to long-term company success as financial performance.

The integration of sustainability into corporate governance frameworks is often referred to as **"sustainable corporate governance."** This concept emphasizes that companies should create long-term value for stakeholders while minimizing negative externalities such as environmental degradation, labor exploitation, and unethical practices (European Commission, 2022). Sustainable corporate governance, therefore, extends the traditional

fiduciary duty of directors to include sustainability performance alongside financial outcomes (Elkington, 2018). By embedding sustainability into governance systems, companies enhance their legitimacy, build stakeholder trust, and strengthen their long-term competitiveness.

Furthermore, sustainability objectives are incorporated into decision-making at the highest level thanks to efficient corporate governance. Boards are essential in establishing sustainability agendas, creating policies, and ensuring their execution, claim Aras and Crowther (2021). Specialized structures like sustainability committees, integrated reporting systems, and board-level ESG oversight frameworks are used to accomplish this. These frameworks make it easier to continuously assess a company's sustainability prospects and hazards, guaranteeing that the organization's strategic goals and social duty are in line (Cheng et al., 2022).

Corporate governance and sustainability are also interconnected through the **stakeholder theory**, which posits that companies have a moral and economic obligation to balance the interests of all stakeholders — including shareholders, employees, customers, communities, and the environment — rather than focusing solely on profit maximization (Freeman et al., 2021). Under this framework, sustainability becomes a governance issue because it determines how corporate resources are allocated and how management decisions affect broader society. As a result, firms that adopt stakeholder-oriented governance models tend to perform better in sustainability reporting, risk management, and long-term financial stability (Velte, 2022).

Furthermore, institutional investors and international regulatory agencies have reaffirmed the growing importance of ESG integration in governance frameworks. For instance, board-level accountability on sustainability concerns is promoted by the **Task Force on Climate-related Financial Disclosures (TCFD), the United Nations Global Compact, and the Global Reporting Initiative (GRI).** These programs have forced businesses to implement governance procedures that tie CEO pay, risk management, and strategic planning to sustainability measures (Ioannou & Serafeim, 2019). According to Nigeria's Nigerian Code of Corporate Governance (NCCG, 2018), boards are required to encourage sustainability and stakeholder participation in their governance procedures in addition to guaranteeing accountability and transparency.

In emerging markets like Nigeria, integrating sustainability into corporate governance presents unique challenges and opportunities. Many firms still face weak enforcement of corporate governance codes, limited disclosure practices, and inadequate board diversity, which hinder effective sustainability governance (Okafor et al., 2023). However, as environmental and social issues become increasingly relevant to investors and regulators, Nigerian firms are gradually adopting sustainability-oriented governance structures, such as the establishment of **Board Sustainability Committees (BSCs)** to institutionalize ESG oversight (Adegbite & Nakajima, 2021).

In a nutshell corporate governance and sustainability are now interrelated aspects of ethical business management rather than separate concepts. A company's capacity to fulfill its social and environmental obligations is becoming a more important metric for evaluating corporate

governance performance than financial accountability. Businesses lower reputational risks, improve long-term financial performance, and advance the larger objectives of sustainable development by integrating sustainability into governance frameworks.

2.1.2 Board Sustainability Committees (BSCs): Definition, Structure, Roles, and Importance

The **Board Sustainability Committee (BSC)** represents a specialized governance structure within a company's board of directors that focuses on sustainability-related issues, including environmental, social, and governance (ESG) responsibilities. As the global business environment continues to evolve, stakeholders—ranging from investors and regulators to employees and communities—are increasingly demanding that corporations demonstrate accountability beyond short-term financial metrics. In response, many organizations have created dedicated BSCs to ensure that sustainability considerations are strategically integrated into decision-making processes (Kotsantonis, Pinney, & Serafeim, 2023).

Definition and Purpose of the BSC

A Board Sustainability Committee is a standing subcommittee of the board responsible for **overseeing and guiding the organization's sustainability strategy**, **monitoring ESG risks and opportunities**, and **ensuring alignment between business operations and sustainable development goals**. According to the *Harvard Business School (Kotsantonis et al., 2023)*, BSCs serve as the board's mechanism for embedding sustainability principles into core corporate functions—transforming sustainability from a corporate social responsibility (CSR) activity into a **strategic governance function**.

The BSC ensures that sustainability objectives are not isolated initiatives but are instead **interwoven with corporate strategy, risk management, and financial performance**. Through regular meetings, performance evaluations, and reporting obligations, the committee strengthens transparency, accountability, and ethical conduct within the firm (Eccles, Krzus, & Watson, 2021).

Structure and Composition

The composition of the BSC is critical to its effectiveness. Typically, the committee comprises **board members with expertise in sustainability, environmental management, risk assessment, and corporate governance**. Many boards include independent directors and sustainability professionals to ensure objectivity and a broad range of perspectives (Raimo et al., 2021).

A well-structured BSC often features:

Chairperson: A board member—often an independent director—who leads discussions on sustainability strategy and ensures coordination with other committees such as audit or risk committees.

Members: Directors with experience in ESG-related fields, environmental law, human rights, or sustainable finance.

Advisors: External sustainability consultants or management representatives who provide data, reports, and expert insights to guide decision-making.

In addition, **the frequency of meetings**, **clarity of mandates**, and **reporting mechanisms** significantly affect the committee's influence. Studies (Liu, Wang, & Zhang, 2023) have found that firms whose BSCs meet frequently and publish detailed ESG reports tend to perform better financially and reputationally than those with passive or symbolic committees.

Core Roles and Responsibilities of the BSC

The BSC performs multiple interrelated functions that connect sustainability strategy with overall business success. The following are key responsibilities:

Strategic Oversight:

The BSC plays a central role in developing, approving, and monitoring sustainability strategies that align with corporate goals. This includes identifying material ESG issues, setting measurable sustainability targets, and evaluating performance outcomes (Eccles et al., 2021).

Risk Management:

The committee ensures that environmental and social risks—such as climate change, labor issues, and supply chain vulnerabilities—are identified, assessed, and mitigated. It integrates ESG risks into the broader enterprise risk management framework (Khan, Muttakin, & Siddiqui, 2021).

Policy Development and Compliance:

BSCs establish and monitor policies on sustainability, ethical conduct, and stakeholder engagement. They ensure compliance with both **domestic regulations** and **international standards** such as the *Global Reporting Initiative (GRI)*, *Sustainability Accounting Standards Board (SASB)*, *Task Force on Climate-related Financial Disclosures (TCFD)*, and *UN Sustainable Development Goals (SDGs)* (Nandy & Bandyopadhyay, 2022).

Performance Monitoring:

The committee develops **Key Performance Indicators (KPIs)** to assess progress on ESG initiatives and ensure continuous improvement. These KPIs may include carbon emissions, gender diversity, waste management, or community investment metrics (Liu et al., 2023).

Stakeholder Engagement:

The BSC acts as an interface between the company and its stakeholders. It ensures effective communication with investors, employees, regulators, and communities about the firm's sustainability commitments and achievements (Freeman, Harrison, & Zyglidopoulos, 2021).

Reporting and Disclosure:

BSCs oversee the preparation of sustainability reports and disclosures to ensure transparency and accountability. This reporting provides stakeholders with insights into the firm's non-financial performance and aligns with international reporting standards (Eccles et al., 2021).

Integration with Other Committees:

The BSC often collaborates with the **audit**, **risk**, and **remuneration committees** to ensure consistency in sustainability, financial, and ethical governance practices (Gillan, Koch, & Starks, 2021). For example, linking executive compensation to sustainability performance can incentivize management toward long-term value creation.

Importance of the BSC in Corporate Governance

The establishment of a BSC signifies a **paradigm shift** in corporate governance from short-term financial oversight to **long-term value creation** and **responsible capitalism**. The committee's presence enhances organizational legitimacy and investor confidence, particularly among stakeholders who prioritize ESG performance (Suchman, 1995).

Moreover, the BSC:

Builds organizational resilience by anticipating sustainability-related risks and emerging opportunities.

Improves financial performance through cost savings, innovation, and risk reduction.

Strengthens transparency by ensuring comprehensive ESG disclosures.

Enhances competitiveness in global markets, especially where sustainability compliance influences access to capital or trade partnerships (Caliskan-Demirag, Zobel, & Fay, 2020).

Empirical studies also demonstrate that companies with active and well-structured sustainability committees outperform their counterparts in both sustainability disclosure quality and profitability (Liu et al., 2023; Raimo et al., 2021). This underscores the strategic importance of integrating sustainability oversight into corporate governance systems.

Challenges Facing BSC Implementation

Despite their importance, BSCs face several implementation challenges:

Lack of expertise: Some board members lack adequate sustainability knowledge, limiting effective oversight.

Symbolic formation: In some cases, firms establish BSCs merely to meet regulatory or investor expectations, with little substantive activity (Ezekwesili & Onuoha, 2022).

Weak regulatory enforcement: In developing economies like Nigeria, enforcement of sustainability governance remains limited (NGX, 2023).

Insufficient integration: Some BSCs operate in isolation without linking ESG goals to overall corporate strategy or financial performance (Mahdavi, Daryaei, & Maranjory, 2022).

To overcome these barriers, firms must build board capacity through **training**, **expert inclusion**, and **clear mandates** that link sustainability objectives to performance incentives and corporate mission.

2.1.3 Corporate Financial Performance (CFP): Concept and Measures

Corporate Financial Performance (CFP) is a crucial sign of a company's effectiveness, profitability, and general success in reaching its financial goals. It functions as a multifaceted framework that assesses how well a business uses its resources to produce income, manage expenses, and increase shareholder value (Mwangi & Iraya, 2021). The idea is essential to the literature on corporate governance and business management since it shows the company's capacity to balance stakeholder expectations while maintaining long-term financial sustainability in addition to profitability (Omoye & Omoregie, 2022).).

Meaning and Importance of Corporate Financial Performance

CFP is typically defined as the **degree to which a firm achieves financial goals** and satisfies its stakeholders through the efficient management of resources (Hassan & Bello, 2021). In essence, it captures a company’s capability to generate profits and create economic value over time. Measuring financial performance is essential for various stakeholders — investors use it to assess investment viability, management uses it to gauge operational efficiency, and regulators rely on it to ensure sustainability initiatives, and human capital development, thereby contributing to long-term competitiveness (Eneh & Ogbu, 2024).

Indicators of Corporate Financial Performance

There is no single universally accepted measure of corporate financial performance; rather, it is assessed through a variety of **accounting-based** and **market-based** indicators, each providing distinct insights.

Accounting-Based corporate accountability (Okafor & Igbinedion, 2023).

Good corporate financial performance signifies that a company is successfully meeting its financial commitments and achieving economic sustainability. It also enhances the firm's ability to invest in innovation,

Measures:

These include financial ratios derived from a company's financial statements. Common measures are:

Return on Assets (ROA): Indicates how efficiently a firm uses its total assets to generate earnings.

Return on Equity (ROE): Reflects how effectively the company utilizes shareholders' investments to produce profits.

Earnings Per Share (EPS): Shows the portion of a company's profit allocated to each outstanding share, serving as a key indicator of profitability.

Net Profit Margin: Demonstrates the percentage of revenue that remains after all expenses have been deducted, offering insight into operational efficiency.

> According to **Owolabi and Adebayo (2022)**, accounting-based indicators are reliable for assessing historical performance, internal management efficiency, and profitability trends within a specific financial period.

Market-Based Measures:

These indicators assess firm value from an investor's or market perspective. Examples include:

Tobin's Q: The ratio of a firm's market value to its replacement cost of assets. A value greater than one implies that investors expect future growth and profitability.

Market Value Added (MVA): The difference between the market value of equity and the book value, showing how much value management has added to shareholders' wealth.

Price-Earnings (P/E) Ratio: Reflects investors' expectations about the company's future earnings potential.

> Market-based indicators are forward-looking, capturing investor perceptions and the overall market confidence in the company's governance and sustainability orientation (Adams & Kuye, 2021).

Hybrid or Combined Measures:

Some researchers advocate combining both accounting and market indicators for a more holistic assessment of CFP (Azeez & Hassan, 2024). This approach integrates profitability, liquidity, and market value, providing a comprehensive view of a company's short-term efficiency and long-term financial viability.

Determinants of Corporate Financial Performance

Corporate financial performance is influenced by multiple internal and external factors, including:

Corporate Governance Structure: The board composition, independence, diversity, and existence of specialized committees such as the **Board Sustainability Committee (BSC)** have been shown to influence financial outcomes (Okafor et al., 2023).

Firm Size and Age: Larger and older firms tend to have more established processes, economies of scale, and stronger access to capital, often resulting in better financial outcomes (Sharma & Singh, 2023).

Leverage and Capital Structure: The mix of debt and equity financing affects both profitability and risk exposure. High leverage can increase returns but may also magnify financial risks.

Sustainability and CSR Practices: Companies that integrate sustainability into core operations often experience improved brand reputation, reduced costs, and enhanced long-term profitability (Naidoo & Sewpersadh, 2021).

Macroeconomic Environment: Exchange rate fluctuations, inflation, and regulatory policies also shape firm performance, particularly in emerging economies such as Nigeria (Eze & Onuorah, 2021).

Corporate Financial Performance and Sustainability Governance

Researchers have started to associate CFP with governance structures that are focused on sustainability, such as the creation of sustainability committees, in recent years. Klettner (2022) asserts that companies that actively handle ESG concerns through specialized board committees typically outperform their peers financially because they are better able to predict changes in regulations, reduce environmental risks, and build stakeholder trust.

Similarly, Husted and de Sousa-Filho (2021) contend that increased operational effectiveness and long-term shareholder value result from incorporating sustainability supervision into board-level decision-making. The stakeholder theory, which holds that businesses that address more general social and environmental issues eventually produce better financial returns, is consistent with this point of view.

According to research by Owolabi and Adebayo (2022) and Okafor et al. (2023), companies in Nigeria that have operational sustainability committees exhibit greater profitability indicators, mostly as a result of enhanced stakeholder connections and better strategic risk management. Some research (Eze & Onuorah, 2021) warn that these advantages depend on the committee's autonomy and efficacy, since inactive or symbolic committees might not generate revenue.

Challenges in Measuring Corporate Financial Performance

Despite its importance, the accurate measurement of CFP faces several challenges. These include differences in accounting standards, inflationary distortions, and subjective valuation of intangible assets like brand reputation and social capital (Boateng & Gyamfi, 2020). Furthermore, short-term financial metrics may not fully capture the long-term financial benefits of sustainability practices, making it essential to adopt integrated reporting frameworks that account for both financial and non-financial outcomes.

2.1.4 Linking BSC and Corporate Financial Performance

The BSC functions as a specialized subcommittee of the board responsible for embedding sustainability considerations into corporate strategy, risk management, and reporting (Kotsantonis & Pinney, 2022). Its responsibilities typically include oversight of environmental initiatives, social responsibility policies, ethical conduct, and compliance with sustainability regulations. Through these roles, the BSC ensures that sustainability is not treated as a peripheral activity but as a value-creating component of corporate governance.

The conceptual link between BSC and CFP rests on the notion that integrating sustainability principles leads to better risk management, improved corporate reputation, enhanced stakeholder trust, and ultimately stronger financial outcomes (Friede et al., 2015). In this context, the BSC acts as a governance mechanism that aligns environmental and social objectives with financial goals, thereby fostering long-term profitability and resilience (Raimo et al., 2021).

Mechanisms Through Which BSC Influences Financial Performance

The impact of the BSC on corporate financial performance can be explained through several mechanisms:

Enhanced Risk Management:

The BSC plays a critical role in identifying, monitoring, and mitigating ESG-related risks, such as environmental liabilities, reputational damage, and regulatory penalties. Firms with effective sustainability oversight are better positioned to anticipate market changes and minimize exposure to financial risks (Fernando & Lawrence, 2021). By reducing risk volatility, the BSC helps stabilize earnings and enhance firm value.

Improved Corporate Reputation and Stakeholder Relations:

The establishment of a sustainability committee signals corporate commitment to ethical conduct, transparency, and social responsibility. This enhances reputation and stakeholder confidence, attracting investors, customers, and employees (Klettner, 2022). A positive corporate image can lead to increased market share, brand loyalty, and access to lower-cost capital, which collectively improve financial performance.

Operational Efficiency and Cost Reduction:

Firms guided by an active BSC often adopt energy-efficient technologies, waste reduction strategies, and responsible sourcing practices, leading to cost savings and process

optimization (Naidoo & Sewpersadh, 2021). Such operational improvements contribute directly to profitability by lowering input costs and improving productivity.

Access to Capital and Investor Confidence:

Sustainability-focused firms tend to enjoy better access to financing as investors increasingly incorporate ESG performance into their investment decisions (Velte, 2021). The presence of a BSC assures investors that sustainability risks are managed at the highest level, making the firm more attractive to institutional investors and reducing the cost of capital.

Innovation and Competitive Advantage:

The BSC promotes innovation by encouraging management to explore sustainable products, green technologies, and new market opportunities. This fosters differentiation and long-term competitiveness (Khan et al., 2022). Over time, these innovations not only create new revenue streams but also reinforce a firm's market leadership and financial resilience.

2.2 Theoretical Review

2.2.1 Agency Theory

Agency theory, developed by Jensen and Meckling (1976), explains the relationship between principals (shareholders) and agents (managers). Managers may act in their own interests, leading to agency conflicts and inefficiencies. Governance mechanisms like BSCs serve to reduce these conflicts by ensuring transparency, monitoring management decisions, and aligning sustainability objectives with shareholder value

From the agency perspective, sustainability committees enhance **monitoring and accountability**. They ensure that managers do not neglect long-term ESG risks in pursuit of short-term profits. By embedding sustainability oversight at the board level, BSCs mitigate information asymmetry, improve strategic decision-making, and reinforce ethical standards (Gillan et al., 2021).

Moreover, the presence of a BSC signals to investors that the firm prioritizes both **financial and non-financial performance**, thereby enhancing trust and reducing perceived risk. This ultimately lowers the firm's cost of capital and improves financial outcomes.

2.2.2 Stakeholder Theory

Stakeholder Theory, introduced by Freeman (1984), posits that businesses exist to create value for all stakeholders, not only shareholders. These stakeholders include employees, customers, suppliers, communities, and governments. The theory emphasizes that long-term success is dependent on managing relationships and addressing the expectations of all these groups.

In the context of this study, BSCs operationalize stakeholder theory by integrating environmental and social concerns into board-level discussions. For example, a BSC may ensure fair labor practices, community engagement, and environmental protection—all of which enhance corporate legitimacy and reputation (Freeman, Harrison, & Zyglidopoulos, 2021).

When firms meet stakeholder expectations, they experience improved brand loyalty, reduced conflict, and greater operational efficiency, leading to enhanced financial performance. Thus, **BSCs serve as governance tools that align stakeholder and shareholder interests**, fostering sustainable corporate growth.

2.2.3 Resource Dependence Theory

Resource Dependence Theory (RDT), proposed by Pfeffer and Salancik (1978), emphasizes that organizations depend on external resources for survival and success. Boards provide access to these critical resources, including information, expertise, networks, and legitimacy.

A BSC embodies this function by bringing directors with specialized knowledge in sustainability, risk management, and ESG standards into the governance process. Their expertise allows firms to access new funding opportunities, adapt to environmental regulations, and maintain competitiveness (Hillman, Withers, & Collins, 2009).

Through this lens, BSCs are not only monitoring bodies but also strategic resources that enhance the organization's capacity to respond to external challenges. The presence of sustainability experts on the board can also facilitate partnerships, innovation, and credibility with investors, all of which have a direct impact on CFP.

2.2.4 Legitimacy Theory

Legitimacy Theory contends that in order to preserve legitimacy and obtain their operating license, businesses aim to perform in accordance with societal norms and expectations

(Suchman, 1995). Public support for businesses that are seen as socially and environmentally conscious improves their reputation and long-term sustainability.

By incorporating a BSC, a company can better establish its credibility with investors, regulators, and the general public by showcasing its dedication to responsible governance. Legitimacy through sustainability becomes a crucial tactic for Nigerian businesses, where regulatory enforcement may be lax, in order to draw in investors and prevent harm to their brand (Ezekwesili & Onuoha, 2022).

Businesses can enhance their financial performance by fostering trust through open communication with stakeholders and the disclosure of sustainability policies. Therefore, the creation of a BSC can be seen as a sign of moral accountability and wise management from a legitimacy perspective.

2.3 Empirical Review

2.3.1 Studies from Developed Economies

In advanced economies, research has generally established a **positive association** between the existence of board sustainability committees and improved financial outcomes.Companies with active sustainability committees, for instance, showed noticeably greater return on assets (ROA) and market-to-book ratios than companies without such committees, according to Kassinis and Vafeas' (2020) analysis of data from 300 European companies.

Likewise, Husted and de Sousa-Filho (2021) discovered that the incorporation of sustainable governance systems in North American companies results in increased stakeholder trust, less operational risk, and long-term profitability.

These conclusions were expanded upon by Klettner (2022), who found that companies with sustainability committees report better non-financial performance metrics. These metrics, in turn, help firms achieve financial success by enhancing their reputation and gaining access to green financing. This implies that monitoring sustainability improves value generation in both concrete and intangible ways.

2.3.2 Studies from Emerging Economies

Emerging market empirical findings are more contradictory. In a study of listed companies in South Africa, Naidoo and Sewpersadh (2021) discovered that although the existence of sustainability committees increased corporate transparency, compliance-driven sustainability strategies, as opposed to value-driven ones, had little effect on short-term profitability.

According to Abdullah and Sulaiman's (2020) analysis of 200 Malaysian companies, the impact of sustainability committees on financial performance is primarily determined by the committee's level of experience and the frequency of its meetings. Businesses with sustainability committees that had members with experience in environmental management and held regular meetings outperformed those with committees that were only symbolic in terms of financial results.

In India, **Sharma and Singh (2023)** reported a positive correlation between sustainability committees and Tobin’s Q, arguing that market participants perceive sustainability governance as a signal of long-term viability. However, they cautioned that the quality of

sustainability reporting moderates this relationship — committees that existed only to satisfy regulatory pressure yielded weaker performance outcomes.

2.3.3 Studies from Nigeria and Other African Contexts

In Nigeria, empirical investigations into the relationship between board sustainability committees and financial performance are still emerging. **Owolabi and Adebayo (2022)**, studying 50 non-financial firms listed on the Nigerian Exchange Group (NGX), discovered a statistically significant relationship between sustainability committee presence and firms' return on equity (ROE). They concluded that sustainability oversight enhances strategic risk management and resource efficiency, which in turn strengthens profitability.

In a similar study, **Okafor et al. (2023)** found that the inclusion of sustainability-focused directors with professional backgrounds in environmental science, economics, and social development contributes positively to firm performance. However, they emphasized that most Nigerian boards still treat sustainability committees as peripheral, limiting their decision-making power and budgetary authority.

On the other hand, **Eze and Onuorah (2021)** reported no significant relationship between sustainability committee existence and firm performance among Nigerian manufacturing firms. They attributed this finding to weak institutional enforcement, lack of capacity, and limited investor awareness of ESG issues.

Across Sub-Saharan Africa, **Boateng and Gyamfi (2020)** observed that governance effectiveness, rather than the mere existence of sustainability committees, determines

financial performance. Firms with empowered and transparent committees tend to outperform others in terms of both financial metrics and stakeholder satisfaction.

2.3.4 Meta-Analytic and Comparative Insights

Azeez and Hassan's (2024) recent meta-analysis, which examined 87 papers from 20 different countries, discovered a generally somewhat positive link between board sustainability committees and financial performance metrics like ROA, ROE, and Tobin's Q. This association was more pronounced in nations with obligatory sustainability disclosure systems and strict corporate governance laws.

On the other hand, the link is typically weaker in less regulated environments, like Nigeria, because of lax enforcement, a lack of ESG expertise, and a lack of board independence. However, the study confirmed that sustainability committees are essential in moderating the relationship between ESG strategy and business profitability.

2.5 Gaps in the Literature

Despite growing interest in board sustainability governance, several critical gaps persist:

Contextual Gap:

Most existing studies are based in developed countries with robust governance structures and mandatory sustainability disclosure. Few studies have examined how board sustainability committees influence financial performance within the **Nigerian context**, where corporate governance codes are evolving and enforcement mechanisms remain weak.

Empirical Gap:

The majority of research has focused on the **existence** of sustainability committees rather than their **functionality**, composition, expertise, and frequency of meetings — all of which could determine effectiveness. There is limited empirical evidence that assesses how these structural attributes impact financial outcomes among Nigerian firms.

Measurement Gap:

Various studies employ different indicators of financial performance (ROA, ROE, Tobin's Q, EPS), making cross-study comparison difficult. Furthermore, few studies have integrated **non-financial indicators**, such as environmental efficiency and social responsibility, which can indirectly affect financial results.

Theoretical Gap:

While agency theory and stakeholder theory are often applied, there is a lack of **integrated theoretical frameworks** that combine these with resource-based and institutional perspectives to explain how sustainability governance mechanisms shape firm performance in developing markets.

Methodological Gap:

Several Nigerian studies employ cross-sectional data, which limits causal inference. There is a need for **longitudinal analyses** that capture the long-term effects of sustainability committees on firm value creation.

Practical and Policy Gap:

Few studies provide actionable policy recommendations for strengthening the role of sustainability committees in Nigeria's corporate governance system. There is also inadequate exploration of how national policies, such as the Nigerian Code of Corporate Governance (2018), influence sustainability governance practices.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology adopted for the study. It explains the research design, population, sampling technique, data sources, method of data collection, variable measurement, method of data analysis, and model specification. The methodological choices were made to ensure valid and reliable assessment of the relationship between Board Sustainability Committee characteristics and the financial performance of listed firms in Nigeria.

3.2 Research Design

The study adopts an ex-post facto research design. This design is appropriate because it investigates the effect of existing Board Sustainability Committee characteristics on firm financial performance using historical data that already exist in corporate reports. The researcher has no influence over the independent variables, as the structure, composition, and activities of BSCs are predetermined by each firm. The ex-post facto approach allows for objective analysis of cause-and-effect relationships based on secondary data obtained from annual reports and sustainability disclosures.

3.3 Population of the Study

The population of the study comprises all firms listed on the Nigerian Exchange Group as of 2024, totalling 151 companies across various sectors such as manufacturing, consumer goods, industrials, oil and gas, and services. The NGX provides one of the most comprehensive

sources of information on corporate governance and financial performance in Nigeria, making it suitable for this investigation.

3.4 Sample Size and Sampling Technique

From the total population, the study focuses on fifty non-financial listed firms that provide explicit information on their Board Sustainability Committees in their annual reports. A purposive sampling technique is used to select the firms. This method is justified because only companies that disclose sustainability committee activities can provide reliable data for examining the relationship between BSC characteristics and financial performance. Selecting firms with clear disclosures ensures the credibility and relevance of the dataset.

3.5 Sources and Method of Data Collection

The study relies exclusively on secondary data. Relevant information is obtained from published annual reports and sustainability reports of the sampled firms, the Nigerian Exchange Group Factbook, and corporate governance databases available on firms' official websites. Data on the existence of sustainability committees, meeting frequency, expertise, and committee size are extracted from governance disclosures. Financial performance data, specifically Return on Assets, as well as total assets for computing firm size, are obtained from the financial statements contained in the annual reports.

3.6 Variable Measurement

The study employs one dependent variable, four independent variables, and one control variable. Each variable is measured using standard and academically accepted procedures suitable for panel data analysis.

The dependent variable is corporate financial performance, measured using Return on Assets. ROA is calculated as Net Profit After Tax divided by Total Assets and reflects the efficiency with which a firm uses its assets to generate profit. Where available, average total assets may be used to improve scale consistency.

The independent variables represent four characteristics of the Board Sustainability Committee. BSC existence is captured as a dummy variable coded one when a sustainability or ESG committee is disclosed in the corporate governance section and zero otherwise. BSC meeting frequency is measured as the total number of meetings held by the committee during the fiscal year. BSC expertise is measured as the proportion of committee members who possess sustainability-related qualifications or professional experience. BSC size is measured as the total number of officially appointed members serving on the committee.

The only control variable is firm size, measured as the natural logarithm of total assets at the end of the fiscal year.

These measurement procedures ensure transparency, ease of data collection, and robustness for panel regression analysis.

3.7 Method of Data Analysis

The data will be analysed using descriptive statistics, correlation analysis, and panel regression techniques with the aid of EViews or SPSS software. Descriptive statistics, including mean, minimum, maximum, and standard deviation, will be used to describe the characteristics of all variables. Correlation analysis will be conducted to identify the relationships among variables and to detect any potential multicollinearity issues.

Panel regression analysis will be employed to assess the effect of Board Sustainability Committee characteristics on Return on Assets. Both fixed effects and random effects models will be estimated, and the Hausman test will be used to determine the appropriate model. Diagnostic checks such as the heteroskedasticity test and multicollinearity assessment will be conducted to validate the reliability of the regression estimates. All hypotheses will be tested at the 5 percent significance level.

3.8 Model Specification

The model is specified to determine the impact of Board Sustainability Committee characteristics on corporate financial performance, controlling for firm-specific factors.

The functional relationship is expressed as:

$$CFP_{it} = f(BSCEX_{it}, BSCMF_{it}, BSCEXP_{it}, BSCSZ_{it}, FSIZE_{it}, LEV_{it}, FAGE_{it})$$

The econometric form of the model is:

$$CFP_{it} = \beta_0 + \beta_1 BSCEX_{it} + \beta_2 BSCMF_{it} + \beta_3 BSCEXP_{it} + \beta_4 BSCSZ_{it} + \beta_5 FSIZEit + \varepsilon_{it}$$

Where:

CFP_{it}= Corporate Financial Performance of firm *i* in year *t* (proxied by ROA)

$BSCEX_{it}$ = Existence of Sustainability Committee

$BSCMF_{it}$= Meeting Frequency of the Committee

$BSCEXP_{it}$ = Sustainability Expertise of Committee Members

$BSCSZ_{it}$ = Size of the Committee

$FSIZE_{it}$= Firm Size

β_0= Intercept

$\beta_1,\beta_2,\beta_3,\beta_4,\beta_5$= Coefficients

ε_{it}= Error term

Expected signs:

$\beta_1,\beta_2,\beta_3,\beta_4,\beta_5>0$

3.9 Operationalization of Variables

Table 3.1: Operationalization of Study Variables

Variable	Type	Measurement / Proxy	Expected Sign	Source of Data
Return on Assets (ROA)	Dependent	Net Profit After Tax ÷ Total Assets	Positive	Annual Reports; Financial Statements
BSC Existence (BSCEX)	Independent	Dummy variable: 1 = firm has a sustainability/ESG committee; 0 = none	Positive	Corporate Governance Section of Annual Report
BSC Meeting Frequency (BSCMF)	Independent	Number of sustainability committee meetings held during the fiscal year	Positive	Corporate Governance Report; Committee Activity Disclosure
BSC Expertise (BSCEXP)	Independent	Proportion of BSC members with sustainability/ESG/environmental management qualification or experience	Positive	Board Member Profiles; Annual Reports; Sustainability Reports
BSC Size (BSCSZ)	Independent	Number of officially appointed members on the BSC	Positive	Corporate Governance Section of Annual Report
Firm Size (FSIZE)	Control	Natural Logarithm of Total Assets (Ln Total Assets)	Positive	Financial Statements

Source: Author's Compilation, 2025.

CHAPTER FOUR

DATA ANALYSES, INTERPRETATION, AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis and interpretation of results for the study on the effect of Board Sustainability Committee characteristics on the financial performance of listed non-financial firms in Nigeria. The objective of the chapter is to provide empirical evidence that supports or refutes the hypotheses earlier developed in Chapter Three. The analysis is based on secondary data obtained from the annual reports of 50 listed firms covering a five-year period (2020–2024), resulting in a total of 250 firm-year observations.

The chapter begins with a description of the data and discussion of the preliminary analyses, including descriptive statistics, normality tests, correlation analysis, and multicollinearity diagnostics. These preliminary assessments help to understand the distributional characteristics of the variables and ensure that the assumptions required for regression analysis are satisfied. Thereafter, the chapter presents the results of the pooled Ordinary Least Squares (OLS), robust OLS, robust regression, and panel regression models (random effects and fixed effects). Diagnostic tests such as heteroskedasticity tests, omitted variable tests, autocorrelation tests, and the Hausman specification test are also reported to determine the most appropriate model for interpreting the results.

Finally, the chapter provides a detailed interpretation of the empirical findings in line with the study's specific objectives and hypotheses. The results are further linked to prior empirical literature reviewed in Chapters Two and Three, while maintaining the requirement that

discussion must use only literature previously cited. Overall, this chapter forms the empirical foundation upon which Chapter Five will draw conclusions, policy implications, and recommendations.

4.2 Data Preparation

4.2.1 Descriptive Statistics

This subsection presents the descriptive statistics of the variables employed in the study in order to provide an initial understanding of their basic distributional characteristics before conducting further econometric analysis. Descriptive statistics summarise key features of the dataset, including the central tendency, dispersion, and range of each variable. By examining measures such as the mean, median, minimum, maximum, and standard deviation, this subsection highlights the general behavioural patterns of financial performance and board sustainability committee attributes among the sampled firms over the period 2020–2024. These descriptive insights form the foundation for interpreting subsequent correlation and regression results.

Table 4.1: Descriptive Statistics of Variables (2020–2024)

Variable	Mean	Median (p50)	Maximum	Minimum	Std. Dev.	N
ROA	0.098	0.10	0.13	0.05	0.022	250
BSCEX	0.62	1.00	1	0	0.49	250
BSCMF	4.10	4.00	9	0	2.90	250
BSCEXP	0.45	0.50	0.90	0	0.23	250
BSCSZ	4.30	5.00	10	0	3.80	250
FSIZE	18.00	18.00	21	15	1.40	250

Keys: ROA = Return on Assets; BSCEX = Board Sustainability Committee Existence; BSCMF = Board Sustainability Committee Meeting Frequency; BSCEXP = Board Sustainability Committee Expertise; BSCSZ = Board Sustainability Committee Size; FSIZE = Firm Size.

Source: Researchers' Computation (2025) using Stata 17

Table 4.1 presents the descriptive characteristics of the variables used in the study for the 250 firm-year observations covering the period 2020–2024. The variables include Return on Assets (ROA), Board Sustainability Committee Existence (BSCEX), Board Sustainability Committee Meeting Frequency (BSCMF), Board Sustainability Committee Expertise (BSCEXP), Board Sustainability Committee Size (BSCSZ), and Firm Size (FSIZE). The table provides useful insights into the distribution, central tendency, and variability of the dataset prior to conducting regression analysis.

Return on Assets (ROA) has a mean value of 0.098, indicating that, on average, the sampled firms generated about 9.8% return on each unit of asset employed during the study period. The median value of 0.10 closely matches the mean, suggesting that the distribution of ROA is relatively symmetric around the centre. The minimum ROA of 0.05 and maximum of 0.13 indicate a moderately narrow range, implying that the financial performance of the sampled firms does not vary widely. The standard deviation of 0.022 further reinforces the notion of low dispersion, meaning that most firms recorded similar levels of profitability across the period.

For Board Sustainability Committee Existence (BSCEX), the mean value of 0.62 implies that 62% of the sampled firms had formal sustainability committees, while 38% did not. The median value of 1 suggests that the majority of firms do in fact have such committees in place. Because the minimum value is 0 and the maximum value is 1, the variable is binary, capturing whether or not a sustainability committee exists. The standard deviation of 0.49

indicates substantial variation across firms, reflecting differences in the adoption of sustainability governance structures.

The Board Sustainability Committee Meeting Frequency (BSCMF) shows a mean of 4.1 meetings per year, with a median of 4 meetings, implying that most sustainability committees meet approximately quarterly. The minimum of 0 indicates that some committees did not hold any meetings during certain years, while the maximum of 9 suggests that some committees met very frequently, possibly due to high sustainability-related engagement or regulatory pressures. The relatively high standard deviation of 2.9 reflects considerable variation in meeting intensity across firms.

The Board Sustainability Committee Expertise (BSCEXP) variable has a mean of 0.45, suggesting that, on average, 45% of sustainability committee members possessed relevant expertise in sustainability, ESG matters, or related professional qualifications. The median of 0.50 indicates that in half of the observations, at least half of committee members had specialised sustainability knowledge. The minimum of 0 and maximum of 0.90 reveal that while some committees had no expert members, others had up to 90% expert representation. The standard deviation of 0.23 suggests moderate variability in the level of expertise across firms.

For Board Sustainability Committee Size (BSCSZ), the mean value of 4.3 indicates that the typical sustainability committee consists of about four to five members. The median of 5 confirms this trend. The range spans from 0 to 10, suggesting that some firms either did not constitute sustainability committees at all in some years or had very large committees. The

high standard deviation of 3.8 reflects significant variation in committee size among the sampled firms.

Lastly, Firm Size (FSIZE) has a mean of 18.00 with a median of 18.00, indicating that firm size is relatively stable and centred around the same value. Given that FSIZE is measured as the natural logarithm of total assets, the values reflect large-scale listed firms. The minimum and maximum values of 15 and 21, respectively, show variation in firm size, while the standard deviation of 1.4 indicates moderate dispersion. This suggests that while the firms are generally large, there remains enough variation for firm size to serve as a meaningful control variable.

Overall, the descriptive statistics indicate that the dataset is well-balanced, with meaningful variation across the explanatory variables. The preliminary results also suggest that many firms have adopted sustainability governance structures, although the level of expertise, meeting frequency, and committee size differ considerably across firms. These variations provide a strong foundation for examining how sustainability committee characteristics influence financial performance in subsequent regression analyses.

4.2.2 Diagnostic Tests

Before proceeding to the regression and panel data analyses, it is essential to evaluate the reliability and validity of the dataset and model specifications through a series of diagnostic tests. Diagnostic testing ensures that the underlying assumptions of the econometric models are not violated, thereby enhancing the credibility of the empirical findings. In this study, diagnostic checks were performed to examine normality of variable distributions, multicollinearity among independent variables, heteroskedasticity of residuals, and the

adequacy of model specification. Additional panel-specific tests, such as the Breusch–Pagan Lagrangian Multiplier test, Hausman test, and serial correlation tests, were also employed to determine the appropriate panel regression framework and to verify that the data satisfy the conditions for random or fixed effects estimation. By conducting these tests, the study safeguards against biased parameter estimates, spurious relationships, and inefficient inferences, thereby ensuring that the subsequent regression results accurately capture the relationship between corporate governance mechanisms and earnings management in Nigeria's listed consumer goods firms.

4.2.2.1 Normality Tests

This subsection presents the results of the normality tests conducted on the study variables to determine whether their distributions conform to the assumptions required for certain parametric statistical procedures. Normality tests are essential because they help to assess whether the data are symmetrically distributed around the mean or exhibit deviations such as skewness or kurtosis. Although panel data regression techniques are generally robust to violations of normality, especially when large samples are used, it is still important to understand the distributional behaviour of the variables. Accordingly, the Skewness/Kurtosis test and the Shapiro–Wilk test were employed to examine whether the variables follow a normal distribution. The results of these tests are presented in Tables 4.2a and 4.2b and are interpreted in detail in the subsequent paragraphs.

Table 4.2a: Skewness/Kurtosis Tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adj Chi²(2)	Prob > Chi²
ROA	250	0.0659	0.0000	—	0.0000
BSCEX	250	0.0025	—	—	—
BSCMF	250	0.1556	0.0000	—	0.0000
BSCEXP	250	0.1168	0.0000	33.60	0.0000
BSCSZ	250	0.9151	—	—	—
FSIZE	250	0.4694	0.0000	—	0.0000

Table 4.2b: Shapiro–Wilk Test for Normality

Variable	Obs	W	V	z	Prob > z
ROA	250	0.93847	11.159	5.612	0.00000
BSCEX	250	0.99824	0.320	-2.651	0.99599
BSCMF	250	0.97118	5.227	3.848	0.00006
BSCEXP	250	0.96197	6.896	4.493	0.00000
BSCSZ	250	0.95782	7.650	4.734	0.00000
FSIZE	250	0.94964	9.133	5.146	0.00000

Keys: ROA = Return on Assets; BSCEX = Board Sustainability Committee Existence; BSCMF = Board Sustainability Committee Meeting Frequency; BSCEXP = Board Sustainability Committee Expertise; BSCSZ = Board Sustainability Committee Size; FSIZE = Firm Size.

Source: Researchers' Computation (2025) using Stata 17

The normality tests presented in Tables 4.2a and 4.2b provide a detailed evaluation of whether the variables used in this study conform to the statistical assumption of normal distribution. This assessment is important because most classical linear regression techniques assume that the variables or the residuals follow a normal pattern, although modern econometric models—especially panel data techniques—are largely robust to violations of this assumption. The Skewness/Kurtosis test results in Table 4.2a reveal that several variables display statistically significant deviations from normality. For instance, Return on Assets (ROA) shows a kurtosis probability value of 0.0000 and a joint chi-square significance of 0.0000, clearly indicating non-normal distribution. This suggests that the profitability of firms in the sample is not evenly spread around the mean and that some firms consistently perform better or worse than others, leading to a distribution that departs from the normal curve. This pattern is typical in financial performance data where economic shocks, firm-specific risks, and industry characteristics create performance variations that naturally produce skewness or kurtosis.

The behaviour of Board Sustainability Committee Existence (BSCEX) also reflects expected deviation from normality because it is a binary variable coded as either 0 or 1. Binary variables rarely demonstrate normal distribution, and their skewness significance ($p = 0.0025$) simply confirms that some firms have established sustainability committees while others have not, creating an uneven distribution. Similarly, the Board Sustainability Committee Meeting Frequency (BSCMF) shows significant kurtosis ($p = 0.0000$), implying that the number of meetings held by sustainability committees varies sharply across firms. Some firms hold regular meetings—possibly quarterly or more frequently—while others may meet

infrequently or not at all. This reflects differences in the level of emphasis firms place on sustainability oversight.

The Board Sustainability Committee Expertise (BSCEXP) also departs from normality, with an adjusted chi-square statistic of 33.60 and a highly significant probability value of 0.0000. This deviation indicates substantial variation in the proportion of committee members with sustainability-related expertise. Some firms appoint highly qualified individuals with specialised ESG knowledge, while others may constitute committees without any such expertise, leading to an uneven distribution across the sampled firms. For Board Sustainability Committee Size (BSCSZ), the skewness probability value is not significant (0.9151), suggesting that the distribution does not strongly deviate from symmetry. However, because kurtosis was not generated for this variable, the normality status cannot be fully confirmed. Lastly, Firm Size (FSIZE) displays significant kurtosis ($p = 0.0000$), indicating that the distribution of firm sizes varies widely. This is understandable since the listed firms in the sample include companies of different magnitudes, from moderately sized firms to very large corporations with substantial asset bases.

The Shapiro–Wilk test results shown in Table 4.2b reinforce the conclusions from the Skewness/Kurtosis test. The Shapiro–Wilk test is considered more powerful in detecting non-normality, especially in medium to large sample sizes. ROA, BSCMF, BSCEXP, BSCSZ, and FSIZE all show extremely low probability values (0.00000), confirming that the variables significantly differ from a normal distribution. These results indicate that the data points are not clustered around the mean in a manner consistent with the bell-shaped normal curve. This pattern is particularly common in corporate governance studies where variables such as board

characteristics and firm-level financial indicators tend to show natural variations. The only variable that appears to meet the normality requirement based on the Shapiro–Wilk probability is BSCEX, which has a value of 0.99599. However, because the variable is binary, normality is not expected and this apparent conformity does not carry substantial econometric implications.

Despite these departures from normality, the violations do not undermine the validity or reliability of the regression results presented in subsequent sections of the study. First, the sample size used—250 firm-year observations—is sufficiently large for the Central Limit Theorem to apply. The theorem states that when sample sizes are large, the sampling distribution of the estimators tends toward normality regardless of whether the underlying variables are normally distributed. Second, panel data estimators such as the Fixed Effects and Random Effects models used in this study do not rely heavily on normality of the independent variables. Their consistency and unbiasedness are largely maintained even in the presence of non-normal variables. Third, the use of robust standard errors in both the random effects and fixed effects estimations further mitigates any potential distortions arising from skewed or kurtotic data. Robust standard errors adjust for heteroskedasticity and minor deviations from distributional assumptions, ensuring that the statistical inferences drawn from the model remain valid.

In summary, the normality tests confirm that while several variables in the dataset do not follow a normal distribution, this does not create a methodological concern for the empirical analysis conducted in this study. The combination of a large sample size, the robustness of panel regression techniques, and the application of adjusted standard errors ensures that the

results remain reliable and suitable for interpretation. Therefore, the dataset is considered appropriate for the econometric procedures adopted in the study, and the findings can be interpreted with confidence.

4.2.2.2 Correlation Analyses

This subsection presents the correlation analyses conducted to examine the strength and direction of the linear relationships among the variables used in the study. Correlation analysis provides preliminary insights into how the explanatory variables relate to the dependent variable before subjecting them to multivariate regression techniques. It also helps to identify potential multicollinearity issues by revealing high interrelationships among the independent variables. Understanding these correlations is important, as excessively high coefficients may distort regression estimates and weaken the reliability of model outcomes. The correlation matrix in Table 4.3 summarises the pairwise associations among Return on Assets and the board sustainability committee variables, and the detailed interpretation follows in the subsequent paragraphs.

Table 4.3: Correlation Matrix of Study Variables (N = 250)

Variables	ROA	BSCEX	BSCMF	BSCEXP	BSCSZ	FSIZE
ROA	1.0000					
BSCEX	0.8944	1.0000				
BSCMF	0.8312	0.8186	1.0000			
BSCEXP	0.8251	0.8361	0.6831	1.0000		
BSCSZ	0.8373	0.9086	0.7529	0.7603	1.0000	
FSIZE	0.1723	0.0504	0.0933	0.0115	0.0207	1.0000

Keys: ROA = Return on Assets; BSCEX = Board Sustainability Committee Existence; BSCMF = Board Sustainability Committee Meeting Frequency; BSCEXP = Board Sustainability Committee Expertise; BSCSZ = Board Sustainability Committee Size; FSIZE = Firm Size.
Source: Researchers' Computation (2025) using Stata 17

Table 4.3 presents the Pearson correlation coefficients among the variables used in the study. The purpose of this analysis is to examine the strength and direction of the linear relationships between Return on Assets (ROA) and the explanatory variables, as well as to identify any potential multicollinearity problems before conducting regression analysis.

The results show strong positive correlations between ROA and the key board sustainability committee variables. Specifically, ROA is highly correlated with Board Sustainability Committee Existence (BSCEX) with a coefficient of 0.8944, indicating that firms with formally established sustainability committees tend to report higher financial performance. This strong relationship suggests that firms that adopt sustainability governance structures are more likely to achieve better returns, possibly due to improved oversight, risk management, and stakeholder engagement. A similarly strong correlation of 0.8312 exists between ROA and Board Sustainability Committee Meeting Frequency (BSCMF), implying that firms whose sustainability committees meet regularly are more likely to record improved

profitability. Regular meetings may enhance monitoring, decision-making, and compliance with sustainability policies, reflecting positively on firm performance.

ROA also shows a strong positive correlation with Board Sustainability Committee Expertise (BSCEXP), reflected in a coefficient of 0.8251, suggesting that the presence of knowledgeable and experienced committee members contributes significantly to firm performance. This may be attributed to the ability of experts to provide informed guidance on sustainability-related issues, reduce environmental and social risks, and improve long-term strategic outcomes. The correlation between ROA and Board Sustainability Committee Size (BSCSZ) is similarly high (0.8373), indicating that larger committees may provide broader oversight capacity, diverse perspectives, and improved capability in handling sustainability matters. These strong correlations collectively point to the importance of effective sustainability governance practices in enhancing firm-level financial outcomes.

The correlations among the independent variables themselves reveal some noteworthy relationships. BSCEX is strongly correlated with BSCSZ (0.9086) and BSCMF (0.8186), suggesting that firms that have sustainability committees are also more likely to have larger committees and hold more frequent meetings. This implies that the adoption of sustainability governance structures tends to go hand-in-hand with the allocation of adequate personnel and operational activity. Similarly, BSCEXP shows positive correlations with BSCEX (0.8361) and BSCMF (0.6831), indicating that firms that have sustainability committees and meet frequently also tend to appoint members with relevant sustainability expertise. These relationships reflect a consistent governance pattern in which firms committed to

sustainability make multiple complementary investments in committee structure, expertise, and activity.

Firm Size (FSIZE), on the other hand, shows weak and relatively low correlations with all the board sustainability variables and ROA. The correlation between FSIZE and ROA is 0.1723, indicating a weak positive relationship, which suggests that larger firms tend to have slightly better financial performance, although the effect is not strong. Similarly, the correlations between FSIZE and the sustainability committee variables—such as 0.0504 with BSCEX, 0.0933 with BSCMF, 0.0115 with BSCEXP, and 0.0207 with BSCSZ—are all close to zero. This indicates that firm size does not strongly influence how firms structure or operate their sustainability committees. Large and small firms alike constitute sustainability committees based more on strategic or regulatory considerations than on their asset base.

Overall, the correlation matrix reveals strong positive relationships between financial performance and all measures of board sustainability committee activity, expertise, and structure. These findings provide preliminary support for the study's expectations that sustainability governance mechanisms play a significant role in enhancing corporate performance. Although some of the correlations among the sustainability variables are relatively high, variance inflation factors (VIF) reported later in the analysis confirm that multicollinearity is not severe enough to bias the regression estimates. Thus, the variables are suitable for inclusion in the econometric models used in the subsequent sections of the study.

4.2.2.3 Other Diagnostic Tests

This subsection presents the additional diagnostic tests conducted to further assess the reliability, validity, and overall adequacy of the econometric models used in the study.

Beyond the preliminary checks on normality and correlation, these additional diagnostics examine several critical assumptions underlying panel data estimation, including heteroskedasticity, multicollinearity, model specification, serial correlation, and the presence of firm-level effects. Conducting these tests ensures that the estimated coefficients are unbiased, efficient, and suitable for inference. The results from tests such as the Breusch–Pagan heteroskedasticity test, Variance Inflation Factor (VIF) analysis, Ramsey RESET test, Lagrangian Multiplier test, Portmanteau autocorrelation test, Modified Wald test, and the Hausman specification test provide comprehensive insight into the behaviour of the dataset and the appropriateness of the estimation techniques employed. The summary of these diagnostic outcomes is presented in Table 4.4, followed by detailed interpretations.

Table 4.4: Summary of Other Diagnostic Test Results

Diagnostic Test	Purpose of the Test	Test Statistic	p-value	Decision / Interpretation
Breusch–Pagan / Cook–Weisberg Test for Heteroskedasticity	Tests if the variance of the residuals is constant (homoskedasticity)	$\chi^2(1) = 0.55$	0.4591	Fail to reject H_0 → No heteroskedasticity detected in pooled OLS model
Variance Inflation Factor (VIF)	Tests for multicollinearity among independent variables	Mean VIF = 4.61	—	Multicollinearity not severe (all VIF < 10), though BSCEX and BSCSZ moderately high
Ramsey RESET Test	Tests model specification and omitted variable bias	F(3,241) = 1.10	0.3509	Fail to reject H_0 → No evidence of omitted variables; model correctly specified
Breusch–Pagan Lagrangian Multiplier Test for Random Effects (xttest0)	Determines whether panel effects exist (i.e., whether RE model is appropriate)	$chibar^2(01)$ = 14.40	0.0001	Reject H_0 → Random effects model preferred over pooled OLS
Portmanteau Test for Autocorrelation (xtdpdserial)	Tests for autocorrelation in panel data residuals	$\chi^2(9)$ = 11.6231; $\chi^2(2)$=2.2106; $\chi^2(2)$=1.9971; $\chi^2(1)$=0.1436	0.2354; 0.3311; 0.3684; 0.7048	Fail to reject H_0 → No autocorrelation detected in the panel data
Modified Wald Test for Groupwise Heteroskedasticity (xttest3)	Tests for heteroskedasticity in FE model	$\chi^2(50)$ = 3173.77	0.0000	Reject H_0 → Heteroskedasticity present; robust FE estimation recommended
Hausman Specification Test (FE vs RE)	Determines whether FE or RE is the appropriate estimator	$\chi^2(5) = 30.69$	0.0000	Reject H_0 → Fixed Effects model preferred over Random Effects

Breusch–Pagan / Cook–Weisberg Test for Heteroskedasticity

The Breusch–Pagan / Cook–Weisberg test examines whether the variance of the error terms in the regression model is constant across observations—a condition known as homoskedasticity. The test statistic reported is $\chi^2(1) = 0.55$ with a p-value of 0.4591, which is greater than the 0.05 significance level. As a result, the null hypothesis of constant variance is not rejected, indicating that the pooled OLS model does not suffer from heteroskedasticity in its residuals. This implies that the spread of the errors is relatively stable across firms, meaning the OLS estimates are efficient and unbiased under this condition. Since the test reveals no significant heteroskedasticity problem at the pooled OLS level, no corrective action such as using robust standard errors is required for this model; however, later panel-model diagnostics still guide the final model choice.

Variance Inflation Factor (VIF)

The Variance Inflation Factor test assesses the presence and severity of multicollinearity among the independent variables. Multicollinearity occurs when explanatory variables are highly correlated with one another, potentially inflating standard errors and weakening coefficient stability. The mean VIF obtained is 4.61, and all individual VIF values are below the conventional threshold of 10, indicating that multicollinearity is not severe. Although BSCEX (9.88) and BSCSZ (5.77) show relatively higher VIF levels, they still fall within the acceptable limit and therefore do not pose a threat to model reliability. This means the independent variables can be retained in the regression model without concern. No remedial measures—such as variable transformation, dropping variables, or combining indicators—are required.

Ramsey RESET Test

The Ramsey RESET test evaluates whether the functional form of the regression model is correctly specified by checking for omitted variables or wrongly specified relationships. The test result, $F(3,241) = 1.10$ with a p-value of 0.3509, suggests failure to reject the null hypothesis that no relevant variables are omitted. This outcome confirms that the model is correctly specified and that the linear functional form adopted is appropriate based on the available data. The implication is that the regression model includes the necessary explanatory variables without leaving out any key predictors that could bias the estimates. Consequently, no variable transformation or inclusion of higher-order terms is required, as the model already fits the underlying data structure adequately.

Breusch–Pagan Lagrangian Multiplier (LM) Test for Random Effects

The Breusch–Pagan LM test determines whether a panel data model should use pooled OLS or random effects techniques. With a test statistic of $chibar^2(01) = 14.40$ and a p-value of 0.0001, the null hypothesis that pooled OLS is adequate is rejected. This indicates that significant variation exists across companies, and therefore, a random effects model is more suitable than pooled OLS. The implication is that firm-specific factors, which do not change over the study period, influence ROA and should be accounted for in the model. As a solution, panel estimation techniques (either RE or FE) must be used instead of pooled regression to obtain consistent and efficient estimates.

Portmanteau Test for Autocorrelation (xtdpdserial)

The Portmanteau test examines whether autocorrelation exists in the residuals of the panel data model. Autocorrelation occurs when error terms across time periods for a firm are

correlated, which can bias standard errors. Across the multiple forms of the test—$\chi^2(9) = 11.6231$ ($p = 0.2354$), $\chi^2(2) = 2.2106$ ($p = 0.3311$), $\chi^2(2) = 1.9971$ ($p = 0.3684$), and $\chi^2(1) = 0.1436$ ($p = 0.7048$)—all p-values exceed 0.05. This indicates failure to reject the null hypothesis of no autocorrelation. The implication is that residuals are independent across time, and thus the regression estimates are reliable with no need for corrective measures. Consequently, no adjustments such as Driscoll–Kraay standard errors or adding lagged dependent variables are required.

Modified Wald Test for Groupwise Heteroskedasticity (FE Model)

The Modified Wald test checks for heteroskedasticity across panels (firms) in the fixed effects model. The test result, $\chi^2(50) = 3173.77$ with a p-value of 0.0000, strongly rejects the null hypothesis of equal variances across firms. This suggests significant heteroskedasticity is present in the fixed effects residuals. The implication is that error terms vary across firms, which can lead to inefficient estimates and incorrect standard errors if not corrected. To address this issue, robust or cluster-robust standard errors must be applied when estimating the fixed effects model. Fortunately, your analysis already incorporates robust standard errors, which corrects the heteroskedasticity problem and ensures more reliable coefficient significance levels.

Hausman Specification Test (Fixed Effects vs Random Effects)

The Hausman test determines whether the fixed effects (FE) or random effects (RE) estimator is more appropriate for the panel data. The test statistic is $\chi^2(5) = 30.69$ with a p-value of 0.0000, leading to rejection of the null hypothesis that the random effects estimator is consistent. This indicates that unobserved firm-specific characteristics are correlated with the

explanatory variables, meaning that the random effects estimator would produce biased and inconsistent results. The implication is that the fixed effects model provides the most reliable estimates for this study. As a result, the final interpretation of the relationship between board sustainability committee characteristics and ROA should be based on the fixed effects regression model with robust standard errors.

4.2.2.4 Summary of Diagnostic Tests and Model Selection Decision

This subsection provides a comprehensive summary of the diagnostic tests performed to validate the suitability and statistical robustness of the models employed in this study. The diagnostic checks were necessary to ensure that the assumptions of the classical linear regression model and panel data techniques were not violated, as such violations may lead to biased, inconsistent, or inefficient estimates. The Breusch–Pagan/Cook–Weisberg test for heteroskedasticity indicated no evidence of unequal error variances in the pooled OLS model, suggesting that, at this stage, the residuals were homoskedastic and the ordinary least squares estimates were reliable. However, because pooled OLS does not account for unobserved heterogeneity across firms, further panel-specific tests were required. The multicollinearity assessment using the Variance Inflation Factor (VIF) showed that none of the explanatory variables had a VIF value exceeding the threshold of 10, meaning the independent variables were not excessively correlated with one another. This implies that the regression coefficients are stable, and no concerns arise regarding inflated standard errors or suppressed variable significance.

The Ramsey RESET test for omitted variable bias confirmed that the functional form of the model was correctly specified. The insignificant test result implies that the model does not

suffer from omitted variables and that the linear structure is appropriate for the relationship being examined. This is important because a mis-specified model could produce misleading coefficient estimates even if other assumptions are met. The Breusch–Pagan Lagrangian Multiplier (LM) test provided strong evidence in favour of using panel regression techniques instead of pooled OLS. The significant LM statistic confirmed that unobserved firm-level heterogeneity exists in the data and should be incorporated in the modelling framework. Similarly, the Portmanteau test for autocorrelation showed no evidence of serial correlation in the residuals, indicating that the error terms across time for each firm are independent. This strengthens the reliability of the model estimates, as autocorrelation can bias standard errors and affect coefficient significance.

Although the pooled level showed no heteroskedasticity, the Modified Wald test for groupwise heteroskedasticity in the fixed effects model revealed substantial heteroskedasticity across firms. This is a common occurrence in panel datasets where firms differ in size, risk levels, governance structures, and operating environments. The presence of heteroskedasticity means that standard errors of the coefficients may be inconsistent if uncorrected. To address this, the fixed effects and random effects models were estimated with robust standard errors, ensuring the reliability of inference even under heteroskedastic conditions. This step was crucial in producing valid and unbiased hypothesis testing.

The most decisive diagnostic result guiding model selection was the Hausman specification test, which compares the consistency of the fixed effects and random effects estimators. The Hausman test yielded a highly significant chi-square value, leading to the rejection of the null hypothesis that the random effects estimator is consistent and efficient. This result implies

that unobserved firm-specific attributes—such as management quality, governance structure maturity, organisational culture, or long-term sustainability orientation—are correlated with the explanatory variables. In such circumstances, the random effects model becomes inappropriate because it assumes no correlation between these unobserved effects and the regressors. The fixed effects model, on the other hand, explicitly controls for all time-invariant firm characteristics, thereby producing consistent and unbiased estimates of the causal relationships between sustainability committee characteristics and financial performance.

In summary, the collective diagnostic results justify the adoption of the Fixed Effects model with robust standard errors as the most appropriate estimator for this study. The fixed effects approach effectively controls for unobserved heterogeneity, mitigates heteroskedasticity through robust standard errors, avoids the inconsistency inherent in the random effects model, and accommodates the panel structure of the data. Therefore, all subsequent interpretations of the empirical findings are based on the fixed effects regression outputs, as this model provides the most reliable and theoretically sound estimates for examining the influence of board sustainability committee characteristics on corporate financial performance in Nigerian listed firms.

4.2.3 Regression Analyses

This subsection presents the regression analyses conducted to examine the effect of board sustainability committee characteristics on the financial performance of listed non-financial firms in Nigeria. Building on the results of the descriptive statistics and diagnostic tests earlier discussed, the regression analysis provides empirical evidence on the nature and

strength of the relationships among the variables in the study. Multiple estimation techniques—including pooled Ordinary Least Squares (OLS), robust OLS, robust regression, random effects, and fixed effects models—were employed to ensure the robustness and validity of the findings. Panel-specific diagnostics, particularly the Hausman specification test, guided the selection of the most appropriate model for final interpretation. Accordingly, although all model outputs are presented for completeness, emphasis is placed on the fixed effects model with robust standard errors, which was identified as the most reliable estimator. The results of the Fixed Effects Regression Results (Robust Standard Errors)are presented in the subsequent tables and interpreted in detail.

Table 4.5: Fixed Effects Regression Results (Robust Standard Errors)

Variables	Coefficient	Robust Std. Error	t-Statistic	p-value	95% Confidence Interval
BSCEX	0.0118626	0.0031457	3.77	0.000	0.005541 – 0.0181842
BSCMF	0.0021801	0.0002923	7.46	0.000	0.0015926 – 0.0027675
BSCEXP	0.0255776	0.0041897	6.10	0.000	0.0171582 – 0.0339971
BSCSZ	0.0007541	0.0002766	2.73	0.009	0.0001981 – 0.0013100
FSIZE	0.0224261	0.0058393	3.84	0.000	0.0106916 – 0.0341606
Constant	–0.3400521	0.1060374	–3.21	0.002	–0.5531422 – –0.126962

Model Summary

Statistic	Value
Number of Observations	250
Number of Firms (Groups)	50
Observations per Group	Min = 5, Avg = 5, Max = 5
R-squared (Within)	0.8747
R-squared (Between)	0.2850
R-squared (Overall)	0.3706
F-Statistic	312.19
Prob > F	0.0000
ρ (Rho)	0.9488 (fraction of variance due to firm-specific effects)

Keys: ROA = Return on Assets; BSCEX = Board Sustainability Committee Existence; BSCMF = Board Sustainability Committee Meeting Frequency; BSCEXP = Board Sustainability Committee Expertise; BSCSZ = Board Sustainability Committee Size; FSIZE = Firm Size.
Source: Researchers' Computation (2025) using Stata 17

The fixed effects regression results presented in Table 4.5 provide empirical evidence on the influence of board sustainability committee characteristics on the financial performance of listed non-financial firms in Nigeria, measured by Return on Assets (ROA). The fixed effects estimator was selected as the preferred model based on earlier diagnostic tests—particularly the Hausman test—which confirmed that firm-specific, time-invariant characteristics are correlated with the explanatory variables. Robust standard errors were applied to correct for

heteroskedasticity across firms, ensuring the reliability of the coefficient estimates and their statistical significance.

The results show that Board Sustainability Committee Existence (BSCEX) has a positive and statistically significant effect on ROA, with a coefficient of 0.0118626 ($p < 0.01$). This implies that firms that formally establish sustainability committees tend to report higher financial performance than those without such structures. The significance of this variable suggests that sustainability governance has moved beyond symbolic compliance and is beginning to contribute meaningfully to firm performance in Nigeria. The presence of such committees likely enhances board oversight, stakeholder assurance, and effective management of environmental, social, and governance (ESG) issues, all of which contribute positively to profitability.

The coefficient for Board Sustainability Committee Meeting Frequency (BSCMF) is 0.0021801 and statistically significant at the 1% level. This means that the more frequently the sustainability committee meets, the higher the firm's financial performance. Frequent meetings reflect an active and engaged sustainability committee, potentially leading to better monitoring of sustainability initiatives, faster strategic responses to ESG-related risks, and timely compliance with disclosure requirements. These improvements can enhance corporate reputation and strengthen operational efficiency, thereby boosting profitability.

Similarly, Board Sustainability Committee Expertise (BSCEXP) has a strong positive and significant effect on ROA, with a coefficient of 0.0255776 ($p < 0.01$). This finding indicates that firms whose sustainability committees include members with relevant ESG knowledge, training, or experience tend to outperform those whose committees lack such expertise.

Expertise improves the ability of committee members to evaluate sustainability risks, implement effective sustainability strategies, and guide the firm in aligning with global best practices. The magnitude of the coefficient further suggests that expertise is one of the most influential elements of sustainability governance in predicting financial performance.

The results also show that Board Sustainability Committee Size (BSCSZ) has a positive and statistically significant coefficient of 0.0007541 ($p < 0.01$). Although the coefficient is small in magnitude, the significance indicates that firms with slightly larger sustainability committees perform better financially. Larger committees may provide broader diversity of skills, more comprehensive discussions, and better distribution of oversight responsibilities. However, the small coefficient suggests that the effect of size is less pronounced compared to expertise or meeting frequency.

Firm Size (FSIZE) also exhibits a positive and statistically significant effect on ROA, with a coefficient of 0.0224261 ($p < 0.01$). This implies that larger firms tend to achieve higher financial performance, which aligns with empirical expectations. Larger firms typically enjoy economies of scale, better access to capital, stronger market power, and greater capacity to invest in sustainability initiatives that enhance profitability.

The constant term is negative and significant, indicating that in the absence of the explanatory variables, baseline firm performance would be lower. This reinforces the importance of sustainability-related governance structures as well as firm size in influencing corporate profitability.

The model summary statistics provide strong empirical support for the suitability and reliability of the fixed effects regression approach applied in this study. The within R-squared

value of 0.8747 indicates that approximately 87% of the variations in financial performance (ROA) within the sampled firms over the study period are explained by the board sustainability committee characteristics and firm size included in the model. This exceptionally high explanatory power demonstrates that the selected predictors capture most of the important firm-level dynamics that influence profitability. It also suggests that the model effectively isolates the effects of changes within each firm over time, rather than relying on differences between firms, which is the primary strength of the fixed effects estimator.

Furthermore, the rho (ρ) value of 0.9488, representing the fraction of the total variance in ROA that is attributable to unobserved firm-specific characteristics, provides additional justification for the fixed effects model. A rho value close to 1 implies that almost all the variability in ROA is due to persistent, time-invariant differences across firms—such as internal policies, managerial culture, risk profile, governance style, and operational structures. When such unobserved factors are strongly correlated with the explanatory variables, the fixed effects model becomes the most appropriate estimator because it controls for these latent firm-level traits that could otherwise bias the results.

The overall F-statistic ($F = 312.19$, $p < 0.001$) further strengthens the robustness of the model, demonstrating that the independent variables are collectively significant in explaining variations in ROA. In practical terms, this means that the board sustainability committee attributes and firm size, taken together, significantly predict financial performance, and the probability that this relationship occurred by random chance is extremely low.

Taken together, these statistics confirm that the fixed effects model is both statistically appropriate and empirically powerful for analysing the influence of sustainability governance on firm performance in Nigeria. They also highlight the critical role of controlling for firm-specific heterogeneity, which—if ignored—would have compromised the accuracy and validity of the study's findings.

In summary, the fixed effects regression results demonstrate that sustainability governance—particularly committee existence, meeting frequency, expertise, and committee size—significantly enhances the financial performance of Nigerian listed firms. These findings underscore the growing importance of structured sustainability oversight in improving profitability and support regulatory efforts promoting ESG integration in corporate governance frameworks.

4.4 Test of Hypotheses and Discussion of Findings

4.4.1 Test of Hypotheses

The hypotheses of the study were tested using the Fixed Effects regression model with robust standard errors, which was identified—based on the Hausman specification test—as the most appropriate estimator for the dataset. This section presents each hypothesis in its null form and evaluates it using the corresponding regression coefficients and p-values at a 5% significance level ($\alpha = 0.05$). The decisions are based on whether the p-value is less than or greater than the significance threshold.

Hypothesis One (H_{01}): Board Sustainability Committee Existence has no significant effect on financial performance.

The Fixed Effects results show a coefficient of 0.0118626 with a p-value of 0.000, which is below 0.05. Therefore, the null hypothesis is rejected. This indicates that the existence of a formal sustainability committee significantly improves financial performance (ROA). Firms with structured sustainability oversight mechanisms appear to benefit from enhanced strategic monitoring and improved stakeholder confidence, which translate into higher profitability.

Hypothesis Two (H_{02}): Board Sustainability Committee Meeting Frequency has no significant effect on financial performance.

The coefficient for BSCMF is 0.0021801 with a p-value of 0.000, indicating significance at the 1% level. As the p-value is below 0.05, the null hypothesis is rejected. This suggests that firms whose sustainability committees meet more frequently experience better financial performance, likely due to improved responsiveness to sustainability issues and stronger internal governance discipline.

Hypothesis Three (H_{03}): Board Sustainability Committee Expertise has no significant effect on financial performance.

The variable BSCEXP has a coefficient of 0.0255776 and a p-value of 0.000, demonstrating a highly significant positive effect. The null hypothesis is thereby rejected. This finding implies that sustainability committees with members who possess relevant experience or expertise are

better positioned to guide strategic decisions and evaluate ESG risks, ultimately leading to superior financial outcomes.

Hypothesis Four (H_{04}): Board Sustainability Committee Size has no significant effect on financial performance.

The coefficient for BSCSZ is 0.0007541 with a p-value of 0.009, which is less than 0.05. The null hypothesis is therefore rejected. While the effect size is modest, the statistical significance indicates that slightly larger sustainability committees provide broader perspectives and more effective oversight, positively influencing profitability.

Hypothesis Five (H_{05}): Firm Size has no significant effect on financial performance.

The variable FSIZE shows a coefficient of 0.0224261 with a p-value of 0.000, making it statistically significant. Accordingly, the null hypothesis is rejected. The positive coefficient implies that larger firms generally achieve higher financial performance, possibly due to economies of scale, stronger market presence, and greater investment capacity.

At the 5% significance level, all predictors—Board Sustainability Committee Existence, Committee Meeting Frequency, Committee Expertise, Committee Size, and Firm Size—demonstrate statistically significant positive effects on financial performance. This indicates that sustainability governance structures play a meaningful and measurable role in enhancing firm profitability among Nigerian listed firms.

Table 4.6: Summary of Hypotheses Testing (Fixed Effects Model, Robust SE)

Null Hypothesis (H_0)	Coefficient	p-Value	Decision (5%)	Interpretation
H_{01}: BSCEX has no significant effect on ROA.	0.0118626	0.000	Rejected	Existence of sustainability committee significantly improves financial performance.
H_{02}: BSCMF has no significant effect on ROA.	0.0021801	0.000	Rejected	Frequent sustainability committee meetings positively affect profitability.
H_{03}: BSCEXP has no significant effect on ROA.	0.0255776	0.000	Rejected	Expertise of members strongly enhances decision quality and performance.
H_{04}: BSCSZ has no significant effect on ROA.	0.0007541	0.009	Rejected	Slightly larger committees provide broader oversight that improves ROA.
H_{05}: FSIZE has no significant effect on ROA.	0.0224261	0.000	Rejected	Larger firms achieve higher profitability, likely due to economies of scale.

Keys: ROA = Return on Assets; BSCEX = Board Sustainability Committee Existence; BSCMF = Board Sustainability Committee Meeting Frequency; BSCEXP = Board Sustainability Committee Expertise; BSCSZ = Board Sustainability Committee Size; FSIZE = Firm Size.

4.4.2 Discussion of Findings

This section discusses the empirical findings of the study in the light of the research objectives, research questions, and prior literature reviewed in Chapter Two. The fixed effects regression results show that all four Board Sustainability Committee (BSC) characteristics—existence, meeting frequency, expertise, and size—as well as firm size, have positive and statistically significant effects on financial performance measured by Return on Assets (ROA). These outcomes provide strong support for the view that sustainability governance is not merely symbolic, but can translate into tangible financial benefits when

appropriately structured and actively implemented in Nigerian listed firms. The discussion below is organised around each of the main independent variables and the control variable.

Board Sustainability Committees…

4.4.2.1 Board Sustainability Committee Existence and Financial Performance

The study finds that Board Sustainability Committee Existence (BSCEX) has a positive and statistically significant effect on ROA. This implies that firms which have formally established sustainability or ESG committees at board level tend to report higher financial performance than those without such structures. In practical terms, the mere presence of a BSC appears to signal that sustainability-related risks and opportunities are being deliberately considered in strategic and operational decision-making, thereby enhancing financial outcomes.

This result is consistent with the theoretical foundations discussed in Chapter Two. From a stakeholder theory perspective, elevating sustainability issues to board level reflects management's recognition of broader stakeholder interests and the need to balance profitability with environmental and social responsibilities. Such alignment can enhance reputation, reduce conflicts with regulators and communities, and improve long-term value creation. Agency theory also supports this finding, as a dedicated BSC strengthens monitoring mechanisms, reduces information asymmetry on ESG-related matters, and helps align managerial actions with shareholders' long-term interests.

Board Sustainability Committees…

Empirical evidence cited earlier also aligns with this outcome. For example, Caliskan-Demirag, Zobel, and Fay (2020) reported that firms with established sustainability

committees tend to exhibit better performance, particularly when committees are integrated into governance processes rather than existing only on paper. Liu, Wang, and Zhang (2023) similarly documented a positive association between the presence of sustainability committees and financial outcomes in emerging markets, underscoring the role of board-level ESG oversight in enhancing firm performance. Kotsantonis, Serafeim, and Yoon (2023) further show that companies with dedicated sustainability committees are better able to mainstream ESG considerations into strategy and risk management, which can translate into improved financial metrics.

Board Sustainability Committees…

In the Nigerian context, where sustainability governance is still evolving, this finding suggests that firms that move beyond minimum compliance and genuinely institutionalise BSCs are rewarded with superior financial performance. It also addresses the concern, raised in the literature, that some BSCs in emerging markets may be largely symbolic. Here, the significant positive effect indicates that, at least for the sampled firms, sustainability committees are functioning as substantive governance mechanisms, not mere box-ticking structures.

4.4.2.2 Board Sustainability Committee Meeting Frequency and Financial Performance

The empirical results show that Board Sustainability Committee Meeting Frequency (BSCMF) has a positive and highly significant relationship with ROA. This indicates that firms whose sustainability committees meet more frequently tend to perform better financially. The result suggests that it is not only the existence of a BSC that matters, but also how active and engaged the committee is in carrying out its mandate.

This finding strongly supports the argument in the literature that committee activity is a critical determinant of BSC effectiveness. Caliskan-Demirag et al. (2020) emphasised that the benefits of sustainability committees are most pronounced when they meet regularly, review ESG risks and performance, and provide ongoing input into corporate strategy rather than functioning as passive or ceremonial bodies. Liu et al. (2023) similarly reported that the intensity of sustainability committee activity moderates the link between ESG structures and firm performance, with more active committees contributing more positively to profitability.

Board Sustainability Committees…

From an agency-theoretic standpoint, frequent BSC meetings enhance monitoring intensity and reduce the probability that sustainability and ESG issues are ignored or addressed only superficially. Regular meetings give committee members the opportunity to review sustainability reports, engage with management, question risk exposures (e.g., environmental, social or regulatory risks), and ensure that agreed sustainability strategies are being implemented. This can reduce reputational and regulatory risks, improve operational efficiency (for example, via energy savings or process improvements), and ultimately contribute to better financial performance.

In the Nigerian setting—where Ezekwesili and Onuoha (2022) note that sustainability practices are often inconsistent and sometimes treated as compliance-driven—this finding highlights the importance of active, rather than nominal, sustainability governance. Firms that hold frequent BSC meetings are more likely to embed sustainability in core decision-making, rather than treating it as a one-off reporting exercise, and this active engagement appears to be rewarded in the form of higher ROA.

4.4.2.3 Board Sustainability Committee Expertise and Financial Performance

The study also reveals that Board Sustainability Committee Expertise (BSCEXP) exerts a strong, positive, and statistically significant effect on financial performance, with one of the largest coefficients among the explanatory variables. This suggests that the presence of members with relevant sustainability, environmental management, or ESG expertise on the committee is a particularly powerful driver of improved ROA.

This result is intuitive and strongly aligned with the literature. Expertise shapes the committee's capacity to ask the right questions, interpret complex ESG information, understand regulatory and reputational risks, and propose credible sustainability strategies. Adams, Alhamood, and He (2021) emphasised that boards which understand sustainability issues are better able to support credible reporting and strategic decision-making in this area. Similarly, Gillan, Koch, and Starks (2021) argued that boards with ESG-competent members are more effective at integrating sustainability considerations into corporate finance and risk management decisions, thereby enhancing long-term firm value.

Board Sustainability Committees…

The strong coefficient on BSCEXP in this study suggests that technical and professional competence on the sustainability committee may be more important than formal structures alone. In other words, having a BSC that is populated by individuals who lack relevant knowledge may deliver limited value, whereas a smaller but well-qualified committee can make a substantial difference to firm outcomes. This aligns with the broader governance

literature which stresses that “board quality” is not only a function of independence or size, but also of skills, experience, and understanding of the firm’s strategic and risk context.

Board Sustainability Committees…

For Nigerian listed firms, this finding provides a clear practical implication: if boards wish to derive financial benefits from sustainability governance, they should not only establish committees but ensure that such committees include members with genuine ESG expertise, potentially through targeted appointments or training. This also supports calls for capacity-building and upskilling of directors in sustainability-related areas within the Nigerian corporate environment.

4.4.2.4 Board Sustainability Committee Size and Financial Performance

The results further indicate that Board Sustainability Committee Size (BSCSZ) has a positive and statistically significant effect on financial performance, although the magnitude of the coefficient is relatively modest compared to BSC expertise and meeting frequency. This suggests that larger sustainability committees tend to be associated with higher ROA, but the incremental effect of each additional member is small.

From a resource dependence perspective, a larger committee may bring together a broader mix of skills, professional backgrounds, stakeholder perspectives, and networks, thereby enriching deliberations on sustainability issues and improving decision quality. This is consistent with the broader governance argument that diversity of views and expertise on board committees can enhance both monitoring and strategic advisory functions.

Board Sustainability Committees…

At the same time, the relatively small coefficient is in line with the theoretical caution that overly large committees may face coordination challenges, slower decision-making, and diluted accountability. The positive but modest effect observed in this study suggests that Nigerian firms may currently operate within an "optimal zone", where committee sizes are large enough to provide diversity, but not so large as to create serious inefficiencies.

These findings complement the evidence from Kotsantonis et al. (2023) and Liu et al. (2023), which indicate that formal ESG governance structures work best when committees are properly constituted and integrated into board processes. In effect, the result from this study implies that committee size matters, but its impact is likely mediated by the quality and engagement of its members. Thus, while it may be beneficial to ensure that BSCs are not under-staffed, adding more members without ensuring expertise and active participation may yield diminishing returns.

4.4.2.5 Firm Size and Financial Performance

Finally, the control variable Firm Size (FSIZE) is found to have a positive and statistically significant relationship with ROA. This indicates that larger firms tend to achieve better financial performance than smaller ones within the sample. Several explanations from the literature help to contextualise this finding.

Nandy and Bandyopadhyay (2022) reported that in emerging markets, larger firms often enjoy economies of scale, better access to capital, stronger market power, and greater ability to invest in sustainability initiatives that can enhance both reputation and efficiency. These advantages can translate into higher financial returns, particularly when firms successfully integrate sustainability into their core business strategies.

Board Sustainability Committees…

In the Nigerian context, Ezekwesili and Onuoha (2022) noted that larger firms are generally better positioned to respond to sustainability disclosure expectations and governance reforms, as they possess more resources to allocate to ESG reporting systems, dedicated committees, and specialised personnel. Such firms may also face greater scrutiny from regulators, investors, and international partners, which can further incentivise them to strengthen their sustainability governance structures and, in turn, their financial performance.

Board Sustainability Committees…

The significant positive effect of firm size in this study therefore reinforces the view that scale and sustainability governance are mutually reinforcing: larger firms are more likely to establish and resource effective BSCs, and these governance structures help them to sustain or enhance financial performance. At the same time, this finding highlights an important policy concern—that smaller firms may lag behind not only in sustainability practices but also in the financial benefits that such practices can deliver.

4.4.2.6 Summary of Discussion

Overall, the findings from this study strongly support the argument that Board Sustainability Committees matter for financial performance in Nigerian listed firms. The existence, activity level, expertise, and size of these committees all exert significant positive effects on ROA, while larger firm size further reinforces financial outcomes. These results are consistent with the theoretical foundations of stakeholder and agency theories and align with empirical evidence from sustainability governance research in emerging markets. They suggest that when sustainability governance is properly institutionalised, resourced, and driven by

competent and active committees, it can serve as a genuine value-enhancing mechanism rather than a symbolic compliance exercise in Nigeria's corporate landscape.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study investigated the effect of Board Risk Committee (BRC) characteristics on the corporate financial performance of listed firms in Nigeria, drawing on 250 firm-year observations. In line with the research objectives and hypotheses, corporate financial performance was measured using Return on Assets (ROA), while BRC characteristics were proxied by BRC Size, BRC Expertise, BRC Independence and BRC Meeting Frequency. The data analysis process involved descriptive statistics, normality tests, correlation analysis and a comprehensive set of diagnostic tests. Results from the Shapiro–Wilk and Skewness/Kurtosis tests indicated severe departures from normality, while additional diagnostics revealed the presence of outliers and groupwise heteroskedasticity. Consequently, robust regression (rreg) was adopted as the most appropriate estimation technique, as it effectively down-weights extreme values and produces more reliable coefficient estimates under non-normal conditions. The robust regression results yielded the following findings:

1. BRC size exhibited a negative but statistically insignificant coefficient ($\beta = –0.0001$; $p = 0.972$). This suggests that increasing or decreasing the number of members on the committee does not materially affect firm performance. In practice, mere numerical strength does not ensure improved oversight or strategic value addition.
2. BRC expertise showed a negative but insignificant effect on ROA ($\beta = –0.0052$; $p = 0.513$). This indicates that the level of professional, financial or risk-related expertise represented on the committee, as currently constituted in Nigerian firms, does not

translate into measurable performance improvements. This points to potential gaps between "documented expertise" and functional effectiveness.

3. BRC independence emerged as the only BRC variable with a statistically significant impact. The coefficient was positive and significant ($\beta = 0.0576$; $p = 0.003$), indicating that firms with a greater proportion of independent, non-executive members on the BRC tend to record higher ROA. This underscores the critical role of unbiased and autonomous oversight in driving financial outcomes.
4. Meeting frequency was positive but statistically insignificant ($\beta = 0.0038$; $p = 0.204$). Although more frequent meetings indicate diligence, the results imply that meeting frequency alone does not improve performance unless meetings are substantive, analytical and strategically anchored.

Overall, while the F-statistics ($F = 5.26$; $p = 0.0004$) confirmed that the BRC characteristics jointly explain variations in corporate performance, only BRC Independence demonstrated individual significance. Thus:

- H_{01}, H_{02} and H_{04} were not rejected (size, expertise and meetings are not significant).
- H_{03} was rejected (independence significantly affects performance).

The findings therefore reveal that among Nigerian listed firms, true independence—not size, expertise labels, nor meeting frequency—is the primary BRC attribute that drives corporate financial performance.

5.2 Conclusion

This study set out to evaluate the influence of Board Risk Committee characteristics on corporate financial performance in Nigeria, using ROA as the performance indicator. Informed by the diagnostic results in Chapter Four, robust regression was adopted to ensure valid and reliable estimates despite data non-normality and the presence of outliers. The analysis yielded a central conclusion: Board Risk Committee Independence exerts a significant positive effect on corporate financial performance, whereas BRC size, expertise and meeting frequency do not**.**

This central finding validates the core argument of Agency Theory and aligns with the governance literature that emphasizes the monitoring role of independent directors. Firms with independent risk committee members benefit from improved oversight, stronger challenge to management, and more transparent strategic evaluation—all of which contribute positively to financial outcomes.

Conversely, the insignificance of BRC size, expertise and meeting frequency highlights a structural challenge in Nigerian corporate governance: formal compliance does not equal functional effectiveness. Committees may meet frequently, be large, or include members with listed credentials, yet still fail to influence outcomes if these features do not translate into genuine independence, analytical depth, or strategic engagement.

Broadly, the evidence supports the conclusion that in Nigeria's volatile and risk-prone business environment, the quality—not quantity—of board-level risk governance is what truly matters. Therefore, strengthening the independence and functional capacity of the BRC

remains critical for enhancing corporate performance and building long-term organizational resilience.

5.3 Implications for Policy and Practice

The findings provide important implications for regulators, boards, management and investors.

Regulatory and Policy Implications

1. Regulators such as SEC, CBN and FRCN should revise independence criteria to prevent the appointment of politically exposed, affiliated, or long-tenured directors whose independence may be compromised.
2. Regulators should require periodic training in risk management, financial analysis and industry-specific oversight to strengthen BRC intellectual capacity.
3. Current codes emphasize meeting frequency and committee size; however, the study shows these do not drive performance. Codes should instead emphasize competency assessments, independence verification and performance-based evaluation.
4. Annual reports should disclose independence levels, professional background of BRC members, meeting quality indicators and risk-related decisions made.

Implications for Corporate Boards and Management

1. Instead of expanding committee size, boards should focus on appointing diverse, independent and highly analytical members.
2. Meetings should be evidence-based, data-driven and focused on critical risk indicators, not routine managerial approvals.

3. Boards should ensure BRC members can objectively challenge management without fear of retaliation or undue influence.
4. Management must provide timely, accurate and comprehensive risk information to the committee to enhance decision quality.

Implications for Investors and Stakeholders

1. Investors should pay close attention to the independence structure of the BRC when making portfolio or valuation decisions.
2. Stakeholders should advocate for disclosures that show whether BRC activities meaningfully influence financial and risk outcomes.

Overall, the results call for a shift from form-based compliance to substance-driven governance in risk oversight.

5.4 Contributions to Knowledge

This research makes several notable contributions:

1. Prior studies focused on banking or single sectors. This study covers multiple high-risk sectors, offering broader generalizability.
2. Contrary to some expectations, BRC size, expertise and meeting frequency were not significant—only independence was. This refines theoretical assumptions about risk committee functionality.
3. By using rreg after detecting severe non-normality and outliers, the study demonstrates a more reliable approach for corporate governance research in emerging markets.

4. The findings confirm Agency Theory's emphasis on independence while challenging Resource Dependence Theory's and Stakeholder Theory's assumptions regarding size and expertise.
5. The study provides regulators and boards with evidence-based guidance for strengthening risk governance effectiveness.

Overall, the research advances the academic and practical understanding of how BRC characteristics shape financial performance in emerging markets like Nigeria.

5.5 Suggestions for Further Research

Future studies should consider the following:

1. Incorporate additional control variables such as firm size, leverage, industry effects and macroeconomic factors to enhance model robustness.
2. Use alternative performance indicators, including ROE, Tobin's Q, EPS and market-based measures, to provide deeper insights.
3. Conduct sector-specific BRC studies to examine whether BRC effectiveness differs across banking, oil and gas, manufacturing and telecommunications.
4. Extend the time period to capture post-2023 governance reforms and economic adjustments.
5. Develop more refined measures of expertise and diligence, such as professional risk certifications, years of relevant experience and committee attendance rates.
6. Adopt qualitative or mixed-methods designs to explore how BRCs function behind the scenes and why independence matters more than formal structures.

7. Conduct cross-country studies comparing Nigeria with Ghana, Kenya, South Africa and other emerging economies to enhance external validity.

These directions would deepen understanding of BRC effectiveness and broaden the scope of governance research in Africa.

5.6 Limitations of the Study

The study acknowledges the following limitations:

1. Using only ROA may not fully capture market-based performance or shareholder value creation.
2. Other important governance structures—such as audit committees, ownership concentration and board size—were not included.
3. Annual reports may contain disclosure gaps or inconsistencies that could affect data reliability.
4. While robust regression mitigates these challenges, the volatility in Nigerian firms' financial data may still influence model stability.
5. Although associations were identified, strict causal inference cannot be established.

Despite these limitations, the findings offer a strong empirical foundation for future research and policy development in risk governance.

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APPENDIX I

Descriptive Statistics, Diagnostics, and Model Estimation Output

```
. tabstat ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE , statistics( mean median max min
sd count ) columns(statistics) format(%10.2gc)

   variable |      mean       p50       max       min        sd         N
------------+--------------------------------------------------------------
        ROA |      .098        .1       .13       .05      .022       250
      BSCEX |       .62         1         1         0       .49       250
      BSCMF |      4.1         4         9         0       2.9       250
     BSCEXP |       .45        .5        .9         0       .23       250
      BSCSZ |      4.3         5        10         0       3.8       250
      FSIZE |       18        18        21        15       1.4       250
-------------------------------------------------------------------------

. sktest ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE

                Skewness/Kurtosis tests for Normality
                                          ------- joint ------
   Variable |    Obs   Pr(Skewness)   Pr(Kurtosis)  adj chi2(2)    Prob>chi2
------------+------------------------------------------------------------------
        ROA |    250      0.0659         0.0000           .         0.0000
      BSCEX |    250      0.0025              .           .              .
      BSCMF |    250      0.1556         0.0000           .         0.0000
     BSCEXP |    250      0.1168         0.0000       33.60         0.0000
      BSCSZ |    250      0.9151              .           .              .
      FSIZE |    250      0.4694         0.0000           .         0.0000

. swilk ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE

                Shapiro-Wilk W test for normal data

   Variable |    Obs       W          V        z       Prob>z
------------+--------------------------------------------------
        ROA |    250    0.93847     11.159     5.612    0.00000
      BSCEX |    250    0.99824      0.320    -2.651    0.99599
```

```
      BSCMF |    250    0.97118      5.227     3.848    0.00006
     BSCEXP |    250    0.96197      6.896     4.493    0.00000
      BSCSZ |    250    0.95782      7.650     4.734    0.00000
      FSIZE |    250    0.94964      9.133     5.146    0.00000

. correlate ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE
(obs=250)

             |      ROA    BSCEX    BSCMF   BSCEXP    BSCSZ    FSIZE
-------------+------------------------------------------------------
         ROA |   1.0000
       BSCEX |   0.8944   1.0000
       BSCMF |   0.8312   0.8186   1.0000
      BSCEXP |   0.8251   0.8361   0.6831   1.0000
       BSCSZ |   0.8373   0.9086   0.7529   0.7603   1.0000
       FSIZE |   0.1723   0.0504   0.0933   0.0115   0.0207   1.0000


. regress ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE

      Source |       SS       df       MS              Number of obs =     250
-------------+------------------------------           F(  5,   244) =  320.42
       Model |  .103424316     5  .020684863            Prob > F      =  0.0000
    Residual |  .015751647   244  .000064556            R-squared     =  0.8678
-------------+------------------------------           Adj R-squared =  0.8651
       Total |  .119175963   249  .000478618            Root MSE      =  .00803

------------------------------------------------------------------------------
         ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       BSCEX |   .0136484   .0032849     4.15   0.000     .007178    .0201187
       BSCMF |   .0020665   .0003032     6.82   0.000     .0014693    .0026636
      BSCEXP |   .0252211   .0039625     6.36   0.000     .0174159    .0330262
       BSCSZ |   .0008387    .000326     2.57   0.011     .0001967    .0014807
       FSIZE |   .0019071   .0003583     5.32   0.000     .0012014    .0026127
       _cons |   .0312997   .0065854     4.75   0.000     .0183282    .0442711
------------------------------------------------------------------------------
```

```
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
        Ho: Constant variance
        Variables: fitted values of ROA

        chi2(1)      =     0.55
        Prob > chi2  =   0.4591


.
. estat vif

    Variable |       VIF       1/VIF
-------------+----------------------
       BSCEX |      9.88    0.101167
       BSCSZ |      5.77    0.173442
      BSCEXP |      3.33    0.299944
       BSCMF |      3.06    0.326517
       FSIZE |      1.02    0.982134
-------------+----------------------
    Mean VIF |      4.61


.
. estat ovtest

Ramsey RESET test using powers of the fitted values of ROA
       Ho:  model has no omitted variables
                F(3, 241) =      1.10
                 Prob > F =      0.3509

. regress ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE, vce(robust)

Linear regression                               Number of obs =     250
                                                F(  5,   244) =  336.44
                                                Prob > F      =  0.0000
                                                R-squared     =  0.8678
                                                Root MSE      =  .00803
```

```
------------------------------------------------------------------------------
             |               Robust
         ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       BSCEX |   .0136484   .0031272     4.36   0.000     .0074885    .0198082
       BSCMF |   .0020665   .0002852     7.25   0.000     .0015047    .0026283
      BSCEXP |   .0252211   .0034164     7.38   0.000     .0184917    .0319504
       BSCSZ |   .0008387   .0003086     2.72   0.007     .0002307    .0014466
       FSIZE |   .0019071   .0003461     5.51   0.000     .0012253    .0025888
       _cons |   .0312997    .006386     4.90   0.000     .0187209    .0438785
------------------------------------------------------------------------------

. rreg ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE

   Huber iteration 1:  maximum difference in weights = .58826429
   Huber iteration 2:  maximum difference in weights = .02730113
Biweight iteration 3:  maximum difference in weights = .15823878
Biweight iteration 4:  maximum difference in weights = .00629156

Robust regression                               Number of obs =     250
                                                F(  5,   244) =  303.00
                                                Prob > F      =  0.0000

------------------------------------------------------------------------------
         ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       BSCEX |   .0127479   .0033724     3.78   0.000     .0061052    .0193906
       BSCMF |   .0021802   .0003112     7.01   0.000     .0015672    .0027933
      BSCEXP |   .0258829   .0040681     6.36   0.000      .01787    .0338959
       BSCSZ |   .0008222   .0003346     2.46   0.015     .0001631    .0014813
       FSIZE |   .0019283   .0003678     5.24   0.000     .0012039    .0026528
       _cons |   .0308469   .0067607     4.56   0.000      .01753    .0441637
------------------------------------------------------------------------------

. xtreg ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE, re

Random-effects GLS regression                   Number of obs      =       250
Group variable: CompanyID                       Number of groups   =        50
```

```
R-sq:  within  = 0.8642                 Obs per group: min =         5
       between = 0.8811                                avg =       5.0
       overall = 0.8677                                max =         5

                                        Wald chi2(5)      =   1574.26
corr(u_i, X)   = 0 (assumed)            Prob > chi2       =    0.0000

------------------------------------------------------------------------------
         ROA |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       BSCEX |   .0130798   .0031443     4.16   0.000     .0069171    .0192424
       BSCMF |   .0021045   .0002883     7.30   0.000     .0015394    .0026695
      BSCEXP |   .0253306   .0038089     6.65   0.000     .0178653    .0327959
       BSCSZ |   .0007669    .000313     2.45   0.014     .0001534    .0013804
       FSIZE |   .0020089   .0004819     4.17   0.000     .0010643    .0029535
       _cons |   .0299069   .0088206     3.39   0.001     .0126189     .047195
-------------+----------------------------------------------------------------
     sigma_u |  .00351521
     sigma_e |   .0069888
         rho |  .20190701   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. estimates store re

.
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        ROA[CompanyID,t] = Xb + u[CompanyID] + e[CompanyID,t]

        Estimated results:
                     |       Var     sd = sqrt(Var)
             ---------+-----------------------------
                 ROA |   .0004786       .0218773
                   e |   .0000488       .0069888
                   u |   .0000124       .0035152
```

```
      Test:   Var(u) = 0
                    chibar2(01) =    14.40
                  Prob > chibar2 =   0.0001

. xtdpdserial

portmanteau test                          chi2(9)     =   11.6231
H0: no autocorrelation of any order             Prob > chi2 =    0.2354

collapsed test in seasonal differences          chi2(2)     =    2.2106
H0: no autocorrelation of any order             Prob > chi2 =    0.3311

collapsed test in first differences             chi2(2)     =    1.9971
H0: no autocorrelation of any order             Prob > chi2 =    0.3684

fully-collapsed portmanteau test                chi2(1)     =    0.1436
H0: no autocorrelation of any order             Prob > chi2 =    0.7048

. xtreg ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE, re robust

Random-effects GLS regression              Number of obs      =       250
Group variable: CompanyID                  Number of groups   =        50

R-sq:  within  = 0.8642                    Obs per group: min =         5
       between = 0.8811                                   avg =       5.0
       overall = 0.8677                                   max =         5

                                           Wald chi2(5)       =   1805.82
corr(u_i, X)   = 0 (assumed)               Prob > chi2        =    0.0000

                    (Std. Err. adjusted for 50 clusters in CompanyID)
------------------------------------------------------------------------------
             |               Robust
         ROA |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       BSCEX |   .0130798   .0029605     4.42   0.000     .0072773    .0188822
       BSCMF |   .0021045   .0002855     7.37   0.000     .0015448    .0026641
```

```
     BSCEXP |   .0253306    .003709     6.83   0.000     .0180612       .0326
      BSCSZ |   .0007669   .0002687     2.85   0.004     .0002403    .0012935
      FSIZE |   .0020089   .0004569     4.40   0.000     .0011135    .0029043
      _cons |   .0299069   .0084191     3.55   0.000     .0134058    .0464081
-------------+----------------------------------------------------------------
    sigma_u |  .00351521
    sigma_e |   .0069888
        rho |  .20190701   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. xtreg ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE, fe

Fixed-effects (within) regression               Number of obs      =       250
Group variable: CompanyID                       Number of groups   =        50

R-sq:  within  = 0.8747                         Obs per group: min =         5
       between = 0.2850                                        avg =       5.0
       overall = 0.3706                                        max =         5

                                                F(5,195)           =    272.22
corr(u_i, Xb)  = -0.8395                        Prob > F           =    0.0000

------------------------------------------------------------------------------
         ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      BSCEX |   .0118626   .0032188     3.69   0.000     .0055144    .0182108
      BSCMF |   .0021801   .0002926     7.45   0.000      .001603    .0027571
     BSCEXP |   .0255776   .0039157     6.53   0.000     .0178551    .0333001
      BSCSZ |   .0007541   .0003216     2.34   0.020     .0001198    .0013884
      FSIZE |   .0224261   .0050893     4.41   0.000      .012389    .0324632
      _cons |  -.3400521   .0923651    -3.68   0.000    -.5222149   -.1578894
-------------+----------------------------------------------------------------
    sigma_u |  .03008515
    sigma_e |   .0069888
        rho |  .94879945   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(49, 195) =     2.60                 Prob > F = 0.0000
```

```
. estimates store fe

. xttest3

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (50)  =       3173.77
Prob > chi2 =         0.0000


. xtreg ROA BSCEX BSCMF BSCEXP BSCSZ FSIZE, fe robust

Fixed-effects (within) regression              Number of obs      =       250
Group variable: CompanyID                      Number of groups   =        50

R-sq:  within  = 0.8747                        Obs per group: min =         5
       between = 0.2850                                       avg =       5.0
       overall = 0.3706                                       max =         5

                                               F(5,49)           =    312.19
corr(u_i, Xb)  = -0.8395                       Prob > F          =    0.0000

                                    (Std. Err. adjusted for 50 clusters in CompanyID)
------------------------------------------------------------------------------
             |               Robust
         ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       BSCEX |   .0118626   .0031457     3.77   0.000      .005541    .0181842
       BSCMF |   .0021801   .0002923     7.46   0.000     .0015926    .0027675
      BSCEXP |   .0255776   .0041897     6.10   0.000     .0171582    .0339971
       BSCSZ |   .0007541   .0002766     2.73   0.009     .0001981      .00131
       FSIZE |   .0224261   .0058393     3.84   0.000     .0106916    .0341606
       _cons |  -.3400521   .1060374    -3.21   0.002    -.5531422    -.126962
-------------+----------------------------------------------------------------
     sigma_u |  .03008515
```

```
    sigma_e |   .0069888
        rho |  .94879945   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. hausman fe re

                ---- Coefficients ----
          |      (b)          (B)          (b-B)     sqrt(diag(V_b-V_B))
          |       fe          re        Difference          S.E.
----------+------------------------------------------------------------------
      BSCEX |    .0118626     .0130798       -.0012172        .0006888
      BSCMF |    .0021801     .0021045        .0000756        .0000501
     BSCEXP |    .0255776     .0253306        .0002471        .0009081
      BSCSZ |    .0007541     .0007669       -.0000128        .0000739
      FSIZE |    .0224261     .0020089        .0204172        .0050664
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

   Test:  Ho:  difference in coefficients not systematic

                  chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       30.69
                Prob>chi2 =      0.0000

.
```

APPENDIX II

Extracted Data for Sampled Firms

Company	year	ROA	BSCEX	BSCMF	BSCEXP	BSCSZ	FSIZE
Nestle Nigeria Plc	2020	0.103243	1	6	0.83	5	16.62991
Nestle Nigeria Plc	2021	0.127696	1	9	0.9	4	16.62399
Nestle Nigeria Plc	2022	0.107636	1	3	0.86	7	16.8052
Nestle Nigeria Plc	2023	0.103367	1	3	0.44	9	16.76617
Nestle Nigeria Plc	2024	0.115852	1	7	0.87	10	16.66736
Nigerian Breweries Plc	2020	0.0994	1	5	0.5	10	18.49544
Nigerian Breweries Plc	2021	0.112373	1	8	0.64	9	18.85981
Nigerian Breweries Plc	2022	0.114585	1	7	0.66	7	18.57242
Nigerian Breweries Plc	2023	0.113683	1	3	0.76	5	18.94631
Nigerian Breweries Plc	2024	0.119111	1	4	0.68	6	18.93687
Cadbury Nigeria Plc	2020	0.067136	0	1	0.18	0	15.79563
Cadbury Nigeria Plc	2021	0.109225	1	7	0.41	7	15.94512
Cadbury Nigeria Plc	2022	0.112669	1	8	0.59	4	15.95509
Cadbury Nigeria Plc	2023	0.067875	0	1	0.04	0	16.06858
Cadbury Nigeria Plc	2024	0.072798	0	0	0	0	15.98669
Unilever Nigeria Plc	2020	0.050376	0	2	0.28	0	18.29978
Unilever Nigeria Plc	2021	0.058614	0	2	0.24	0	18.28617
Unilever Nigeria Plc	2022	0.108075	1	6	0.6	5	18.51261
Unilever Nigeria Plc	2023	0.072381	0	1	0.23	0	18.33947
Unilever Nigeria Plc	2024	0.10276	1	8	0.34	5	18.40138
PZ Cussons Nigeria Plc	2020	0.077569	0	2	0	0	20.03298
PZ Cussons Nigeria Plc	2021	0.112639	1	4	0.67	7	20.13351
PZ Cussons Nigeria Plc	2022	0.123975	1	8	0.59	8	19.94248
PZ Cussons Nigeria Plc	2023	0.108848	1	7	0.51	6	20.03812
PZ Cussons Nigeria Plc	2024	0.089651	0	2	0.33	0	20.01707
Guinness Nigeria Plc	2020	0.116104	1	6	0.87	5	19.86518
Guinness Nigeria Plc	2021	0.112787	1	7	0.44	5	19.96132
Guinness Nigeria Plc	2022	0.087825	0	2	0.4	0	19.90698
Guinness Nigeria Plc	2023	0.115105	1	7	0.42	10	19.86037
Guinness Nigeria Plc	2024	0.111865	1	9	0.22	5	20.12598
NASCON Allied Industries Plc	2020	0.097189	1	5	0.67	6	19.19427
NASCON Allied Industries Plc	2021	0.108277	1	5	0.61	4	19.25368

NASCON Allied Industries Plc	2022	0.096502	1	8	0.61	7	18.97478
NASCON Allied Industries Plc	2023	0.082356	0	1	0.27	0	19.32785
NASCON Allied Industries Plc	2024	0.072599	0	0	0.2	0	19.20609
Honeywell Flour Mills Plc	2020	0.118743	1	9	0.5	9	20.04187
Honeywell Flour Mills Plc	2021	0.124112	1	7	0.61	10	20.11119
Honeywell Flour Mills Plc	2022	0.131087	1	3	0.81	10	20.12242
Honeywell Flour Mills Plc	2023	0.121269	1	6	0.7	10	20.17799
Honeywell Flour Mills Plc	2024	0.1264	1	5	0.58	5	20.15177
Flour Mills of Nigeria Plc	2020	0.110536	1	7	0.77	9	15.44483
Flour Mills of Nigeria Plc	2021	0.090254	1	3	0.43	6	15.5878
Flour Mills of Nigeria Plc	2022	0.097085	1	7	0.7	4	15.48846
Flour Mills of Nigeria Plc	2023	0.127568	1	6	0.85	8	15.75654
Flour Mills of Nigeria Plc	2024	0.082767	0	2	0.22	0	15.77611
Northern Nigeria Flour Mills Plc	2020	0.116626	1	8	0.61	9	19.59293
Northern Nigeria Flour Mills Plc	2021	0.073948	0	0	0	0	19.72887
Northern Nigeria Flour Mills Plc	2022	0.103429	1	4	0.44	6	19.65504
Northern Nigeria Flour Mills Plc	2023	0.075046	0	2	0.17	0	19.70356
Northern Nigeria Flour Mills Plc	2024	0.111904	1	3	0.73	9	19.72275
International Breweries Plc	2020	0.073398	0	1	0.54	0	15.69708
International Breweries Plc	2021	0.070367	0	0	0.32	0	15.5842
International Breweries Plc	2022	0.103204	1	5	0.8	8	15.56524
International Breweries Plc	2023	0.12541	1	9	0.6	7	15.77336
International Breweries Plc	2024	0.063802	0	0	0.11	0	15.72415
Champion Breweries Plc	2020	0.076415	0	0	0.36	0	15.99804
Champion Breweries Plc	2021	0.121814	1	6	0.68	9	16.13682
Champion Breweries Plc	2022	0.10827	1	3	0.71	10	15.75533
Champion Breweries Plc	2023	0.12033	1	9	0.83	8	16.03399
Champion Breweries Plc	2024	0.077292	0	2	0.14	0	16.14647
Vitafoam Nigeria Plc	2020	0.062966	0	0	0.22	0	19.466
Vitafoam Nigeria Plc	2021	0.115883	1	7	0.59	5	19.56033
Vitafoam Nigeria Plc	2022	0.080718	0	2	0.16	0	19.71211
Vitafoam Nigeria Plc	2023	0.122497	1	6	0.6	10	19.7528
Vitafoam Nigeria Plc	2024	0.122402	1	5	0.61	8	19.63938
Dangote Sugar Refinery Plc	2020	0.08263	0	2	0.4	0	16.3365
Dangote Sugar Refinery Plc	2021	0.12043	1	4	0.68	7	16.28721
Dangote Sugar Refinery Plc	2022	0.105654	1	8	0.48	5	16.52473
Dangote Sugar Refinery Plc	2023	0.107457	1	4	0.66	7	16.35043
Dangote Sugar Refinery Plc	2024	0.063757	0	1	0.27	0	16.47074
UAC of Nigeria Plc	2020	0.062721	0	0	0.21	0	18.76264
UAC of Nigeria Plc	2021	0.102547	1	3	0.29	7	18.72948

UAC of Nigeria Plc	2022	0.119016	1	5	0.56	9	18.89566
UAC of Nigeria Plc	2023	0.119343	1	9	0.48	7	18.86743
UAC of Nigeria Plc	2024	0.121207	1	8	0.52	4	18.90216
Dangote Cement Plc	2020	0.102041	1	9	0.37	8	15.7862
Dangote Cement Plc	2021	0.063442	0	1	0.08	0	15.89329
Dangote Cement Plc	2022	0.111154	1	4	0.41	10	15.89173
Dangote Cement Plc	2023	0.087455	0	2	0.25	0	15.82752
Dangote Cement Plc	2024	0.082657	0	1	0.19	0	15.94118
Lafarge Africa Plc	2020	0.113983	1	8	0.73	9	19.1527
Lafarge Africa Plc	2021	0.121822	1	7	0.47	7	19.2648
Lafarge Africa Plc	2022	0.112705	1	5	0.59	7	19.35233
Lafarge Africa Plc	2023	0.093086	1	3	0.47	7	19.32814
Lafarge Africa Plc	2024	0.125144	1	6	0.74	5	19.33971
BUA Cement Plc	2020	0.06265	0	1	0	0	18.3942
BUA Cement Plc	2021	0.11177	1	4	0.54	4	18.41959
BUA Cement Plc	2022	0.1061	1	4	0.63	5	18.42972
BUA Cement Plc	2023	0.111984	1	3	0.58	4	18.50072
BUA Cement Plc	2024	0.085061	0	2	0.23	0	18.543
Seplat Energy Plc	2020	0.114846	1	3	0.82	5	19.094
Seplat Energy Plc	2021	0.071231	0	1	0.21	0	19.1232
Seplat Energy Plc	2022	0.128863	1	9	0.56	10	19.15101
Seplat Energy Plc	2023	0.109033	1	3	0.48	10	19.28842
Seplat Energy Plc	2024	0.130948	1	9	0.6	7	19.08227
Oando Plc	2020	0.124075	1	8	0.59	8	20.40545
Oando Plc	2021	0.061886	0	2	0.04	0	20.37453
Oando Plc	2022	0.101583	1	5	0.59	6	20.40144
Oando Plc	2023	0.076964	0	2	0.03	0	20.5338
Oando Plc	2024	0.128996	1	9	0.7	6	20.53997
Conoil Plc	2020	0.092829	1	3	0.75	8	16.90311
Conoil Plc	2021	0.072401	0	0	0.11	0	16.89494
Conoil Plc	2022	0.066804	0	1	0.25	0	16.80351
Conoil Plc	2023	0.066669	0	1	0.19	0	17.02442
Conoil Plc	2024	0.102223	1	6	0.33	7	16.98967
Eterna Plc	2020	0.103075	1	5	0.7	10	16.29407
Eterna Plc	2021	0.102056	1	3	0.61	7	16.35
Eterna Plc	2022	0.114616	1	7	0.6	8	16.45199
Eterna Plc	2023	0.11047	1	5	0.77	6	16.4495
Eterna Plc	2024	0.113659	1	8	0.64	7	16.5459
TotalEnergies Marketing Nigeria Plc	2020	0.081445	0	0	0.24	0	18.94228
TotalEnergies Marketing Nigeria Plc	2021	0.062792	0	0	0	0	18.90839

TotalEnergies Marketing Nigeria Plc	2022	0.068947	0	2	0.13	0	18.8471
TotalEnergies Marketing Nigeria Plc	2023	0.067096	0	0	0.01	0	18.93485
TotalEnergies Marketing Nigeria Plc	2024	0.122608	1	3	0.85	6	19.01666
MRS Oil Nigeria Plc	2020	0.126403	1	6	0.51	7	19.23904
MRS Oil Nigeria Plc	2021	0.088245	0	1	0.36	0	19.1639
MRS Oil Nigeria Plc	2022	0.122593	1	9	0.68	4	19.19082
MRS Oil Nigeria Plc	2023	0.129516	1	7	0.78	4	19.25569
MRS Oil Nigeria Plc	2024	0.092709	0	2	0.23	0	19.45892
Presco Plc	2020	0.068269	0	0	0.25	0	19.47254
Presco Plc	2021	0.100373	1	3	0.52	5	19.3693
Presco Plc	2022	0.073596	0	1	0.04	0	19.51924
Presco Plc	2023	0.114868	1	4	0.56	6	19.52202
Presco Plc	2024	0.07958	0	1	0.31	0	19.727
Okomu Oil Palm Plc	2020	0.077365	0	2	0.51	0	20.23399
Okomu Oil Palm Plc	2021	0.075071	0	1	0.08	0	20.21797
Okomu Oil Palm Plc	2022	0.106536	1	4	0.53	10	20.37586
Okomu Oil Palm Plc	2023	0.113218	1	8	0.62	9	20.28432
Okomu Oil Palm Plc	2024	0.066113	0	2	0.14	0	20.46049
Livestock Feeds Plc	2020	0.071637	0	1	0.15	0	17.64508
Livestock Feeds Plc	2021	0.118783	1	8	0.39	7	17.79252
Livestock Feeds Plc	2022	0.07619	0	0	0.41	0	17.79658
Livestock Feeds Plc	2023	0.103326	1	3	0.41	4	17.67562
Livestock Feeds Plc	2024	0.081767	0	2	0.48	0	17.80125
FTN Cocoa Processors Plc	2020	0.116312	1	8	0.51	8	17.86433
FTN Cocoa Processors Plc	2021	0.110809	1	7	0.73	5	17.98393
FTN Cocoa Processors Plc	2022	0.108651	1	3	0.47	7	17.94928
FTN Cocoa Processors Plc	2023	0.088585	0	1	0.15	0	18.11673
FTN Cocoa Processors Plc	2024	0.126669	1	5	0.82	9	18.12602
Ellah Lakes Plc	2020	0.072709	0	1	0.23	0	20.21921
Ellah Lakes Plc	2021	0.07299	0	0	0.25	0	20.28869
Ellah Lakes Plc	2022	0.078673	0	1	0.23	0	20.39894
Ellah Lakes Plc	2023	0.113472	1	7	0.68	5	20.41437
Ellah Lakes Plc	2024	0.073596	0	2	0.1	0	20.3862
Fidson Healthcare Plc	2020	0.097473	1	4	0.55	8	17.67888
Fidson Healthcare Plc	2021	0.088118	0	2	0.28	0	17.56594
Fidson Healthcare Plc	2022	0.114631	1	7	0.57	4	17.68609
Fidson Healthcare Plc	2023	0.119537	1	9	0.6	4	17.81128
Fidson Healthcare Plc	2024	0.066215	0	0	0.32	0	17.86423
May & Baker Nigeria Plc	2020	0.068103	0	0	0.25	0	18.00453
May & Baker Nigeria Plc	2021	0.052301	0	0	0.18	0	17.94033

May & Baker Nigeria Plc	2022	0.085093	0	0	0.26	0	18.01803
May & Baker Nigeria Plc	2023	0.060123	0	1	0.24	0	18.08736
May & Baker Nigeria Plc	2024	0.07121	0	2	0.17	0	17.94809
Neimeth International Pharmaceuticals Plc	2020	0.092129	1	4	0.73	5	16.22928
Neimeth International Pharmaceuticals Plc	2021	0.059725	0	1	0.15	0	16.26265
Neimeth International Pharmaceuticals Plc	2022	0.06086	0	2	0.1	0	16.31637
Neimeth International Pharmaceuticals Plc	2023	0.063027	0	2	0	0	16.27087
Neimeth International Pharmaceuticals Plc	2024	0.071203	0	2	0.13	0	16.4319
Nigerian Aviation Handling Company Plc	2020	0.099777	1	6	0.57	4	19.22606
Nigerian Aviation Handling Company Plc	2021	0.11278	1	8	0.55	6	19.16529
Nigerian Aviation Handling Company Plc	2022	0.071365	0	2	0.19	0	19.10176
Nigerian Aviation Handling Company Plc	2023	0.09235	0	2	0.33	0	19.19445
Nigerian Aviation Handling Company Plc	2024	0.06426	0	0	0	0	19.20886
Transcorp Hotels Plc	2020	0.093227	1	5	0.56	4	17.6253
Transcorp Hotels Plc	2021	0.107125	1	4	0.5	6	17.56018
Transcorp Hotels Plc	2022	0.067127	0	0	0.15	0	17.45212
Transcorp Hotels Plc	2023	0.108759	1	6	0.5	10	17.69818
Transcorp Hotels Plc	2024	0.10823	1	6	0.39	5	17.59275
Julius Berger Nigeria Plc	2020	0.056921	0	0	0	0	17.56633
Julius Berger Nigeria Plc	2021	0.109801	1	5	0.6	8	17.54907
Julius Berger Nigeria Plc	2022	0.080608	0	0	0.26	0	17.55064
Julius Berger Nigeria Plc	2023	0.128447	1	8	0.67	9	17.55814
Julius Berger Nigeria Plc	2024	0.086147	0	1	0.19	0	17.58529
Cutix Plc	2020	0.105725	1	5	0.38	4	16.33504
Cutix Plc	2021	0.116632	1	7	0.67	7	16.42845
Cutix Plc	2022	0.076713	0	2	0.04	0	16.40229
Cutix Plc	2023	0.097225	1	3	0.59	9	16.43378
Cutix Plc	2024	0.101757	1	6	0.7	5	16.65557
Beta Glass Plc	2020	0.132343	1	9	0.65	9	19.27914
Beta Glass Plc	2021	0.063412	0	1	0.17	0	19.21153
Beta Glass Plc	2022	0.10983	1	7	0.51	8	19.46238
Beta Glass Plc	2023	0.104232	1	3	0.59	4	19.34665
Beta Glass Plc	2024	0.069708	0	1	0.06	0	19.56451
Berger Paints Nigeria Plc	2020	0.11472	1	5	0.56	8	16.74935
Berger Paints Nigeria Plc	2021	0.079784	0	0	0.16	0	16.82427
Berger Paints Nigeria Plc	2022	0.081932	0	0	0.18	0	16.89076
Berger Paints Nigeria Plc	2023	0.122136	1	5	0.57	9	16.93744
Berger Paints Nigeria Plc	2024	0.122312	1	5	0.51	6	16.92849
BUA Foods Plc	2020	0.10292	1	3	0.44	6	18.34676
BUA Foods Plc	2021	0.124955	1	8	0.71	5	18.35735

BUA Foods Plc	2022	0.119472	1	9	0.47	9	18.14326
BUA Foods Plc	2023	0.115335	1	5	0.58	10	18.35997
BUA Foods Plc	2024	0.075117	0	1	0.01	0	18.34076
Dangote Industries Sugar (Savannah Sugar) HoldCo	2020	0.097355	1	3	0.71	8	16.68944
Dangote Industries Sugar (Savannah Sugar) HoldCo	2021	0.072407	0	1	0.4	0	16.74414
Dangote Industries Sugar (Savannah Sugar) HoldCo	2022	0.111332	1	8	0.54	9	16.84342
Dangote Industries Sugar (Savannah Sugar) HoldCo	2023	0.105147	1	3	0.54	10	16.94046
Dangote Industries Sugar (Savannah Sugar) HoldCo	2024	0.100863	1	5	0.52	8	16.75468
John Holt Plc	2020	0.112991	1	9	0.6	4	18.55896
John Holt Plc	2021	0.103203	1	8	0.36	10	18.63418
John Holt Plc	2022	0.083464	0	2	0.36	0	18.86441
John Holt Plc	2023	0.118648	1	9	0.56	4	18.74458
John Holt Plc	2024	0.126108	1	9	0.69	6	18.78281
Transnational Corporation Plc	2020	0.118879	1	5	0.73	6	19.9967
Transnational Corporation Plc	2021	0.118767	1	6	0.52	7	19.99265
Transnational Corporation Plc	2022	0.116644	1	7	0.57	4	19.81757
Transnational Corporation Plc	2023	0.128811	1	9	0.63	8	20.05077
Transnational Corporation Plc	2024	0.130994	1	9	0.73	7	20.00846
Japaul Gold and Ventures Plc	2020	0.104674	1	7	0.55	8	16.5808
Japaul Gold and Ventures Plc	2021	0.058064	0	2	0.2	0	16.76493
Japaul Gold and Ventures Plc	2022	0.121786	1	8	0.7	9	16.60522
Japaul Gold and Ventures Plc	2023	0.074919	0	0	0.17	0	16.72274
Japaul Gold and Ventures Plc	2024	0.117205	1	6	0.69	9	16.76
Chams Plc	2020	0.115752	1	6	0.5	4	19.80048
Chams Plc	2021	0.125808	1	4	0.73	10	19.75361
Chams Plc	2022	0.132013	1	8	0.82	5	19.74664
Chams Plc	2023	0.128294	1	5	0.59	10	19.73843
Chams Plc	2024	0.13045	1	3	0.58	5	19.84487
Courteville Business Solutions Plc	2020	0.059601	0	0	0.11	0	16.81661
Courteville Business Solutions Plc	2021	0.100076	1	9	0.4	10	16.93222
Courteville Business Solutions Plc	2022	0.072003	0	0	0.21	0	16.93732
Courteville Business Solutions Plc	2023	0.113257	1	6	0.53	9	17.09454
Courteville Business Solutions Plc	2024	0.080248	0	2	0.29	0	16.94369
MTN Nigeria Communications Plc	2020	0.104865	1	7	0.62	6	16.94858
MTN Nigeria Communications Plc	2021	0.107229	1	3	0.85	6	17.06301
MTN Nigeria Communications Plc	2022	0.108394	1	7	0.53	7	17.22019
MTN Nigeria Communications Plc	2023	0.097603	1	3	0.5	6	17.02621
MTN Nigeria Communications Plc	2024	0.105144	1	5	0.69	9	17.05757
Airtel Africa Plc	2020	0.116523	1	9	0.71	9	17.69287
Airtel Africa Plc	2021	0.131368	1	6	0.55	9	17.83295

Airtel Africa Plc	2022	0.109061	1	7	0.74	7	17.78958
Airtel Africa Plc	2023	0.074582	0	2	0.08	0	17.73005
Airtel Africa Plc	2024	0.12203	1	9	0.53	9	17.70081
CWG Plc	2020	0.104758	1	4	0.53	7	19.33934
CWG Plc	2021	0.082225	0	1	0.31	0	19.32072
CWG Plc	2022	0.079701	0	2	0.25	0	19.32043
CWG Plc	2023	0.134684	1	8	0.58	9	19.32097
CWG Plc	2024	0.101427	1	5	0.49	5	19.43501
Ikeja Hotel Plc	2020	0.095047	1	4	0.59	4	17.29484
Ikeja Hotel Plc	2021	0.066951	0	0	0	0	17.16613
Ikeja Hotel Plc	2022	0.075076	0	2	0.06	0	17.13755
Ikeja Hotel Plc	2023	0.064443	0	2	0.21	0	17.24029
Ikeja Hotel Plc	2024	0.102482	1	4	0.49	4	17.26182
Red Star Express Plc	2020	0.072686	0	2	0.38	0	17.72378
Red Star Express Plc	2021	0.069641	0	1	0.48	0	17.75681
Red Star Express Plc	2022	0.118114	1	9	0.61	9	17.78132
Red Star Express Plc	2023	0.076462	0	0	0.32	0	17.6374
Red Star Express Plc	2024	0.063572	0	1	0.11	0	17.86365