

The Effects of Governance Quality and Policy Framework on Sustainable Business Performance in Nigeria

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Abstract

This study investigates the effects of governance quality and regulatory quality on sustainable business performance among publicly listed firms in Nigeria. Grounded in Institutional Theory, Stakeholder Theory, and the Triple Bottom Line (TBL) framework, the study examines how institutional quality influences firms' economic, environmental, and social sustainability performance. A quantitative longitudinal panel design was employed using a balanced panel of 50 Nigerian listed firms observed annually from 2015 to 2025, yielding 550 firm-year observations. Governance quality and regulatory quality were measured using data from the World Bank's Worldwide Governance Indicators (WGI), while sustainable business performance was measured through a manually constructed Triple Bottom Line disclosure index derived from audited annual, integrated, and sustainability reports. The data were analysed using descriptive statistics, Pearson correlation analysis, multicollinearity diagnostics, and Random Effects panel regression with heteroskedasticity-robust standard errors. The findings reveal that both governance quality and regulatory quality exert positive and statistically significant effects on sustainable business performance, with governance quality emerging as the stronger predictor. These results suggest that improvements in institutional effectiveness, regulatory consistency, and public governance create an enabling environment that encourages firms to adopt sustainable business practices and achieve superior long-term performance. The study contributes to the growing literature on institutional quality and corporate sustainability in emerging economies by providing firm-level empirical evidence from Nigeria and demonstrating the complementary roles of governance quality and regulatory quality in promoting sustainable business performance. The findings have important implications for policymakers, regulators, and corporate managers seeking to strengthen institutional effectiveness and advance sustainable enterprise development. Although the study relies on secondary panel data and therefore establishes associations rather than definitive causal relationships, it provides a robust foundation for future research employing dynamic panel methods, quasi-experimental designs, or mixed method approaches to further examine the institutional drivers of corporate sustainability.

Keywords: Governance Quality; Regulatory Quality; Sustainable Business Performance; Institutional Quality; Triple Bottom Line; Nigeria.

I. Introduction

Sustainable business performance has become a central objective of governments, policymakers, and businesses because of its contribution to long-term economic growth, environmental protection, and social well-being. Beyond generating financial returns, contemporary businesses are increasingly expected to operate responsibly by integrating environmental, social, and governance (ESG) principles into their strategies and operations (Hao & Albitar, 2023; Zhang, Luo, & Liu, 2022). Achieving these objectives depends not only on firm-level capabilities but also on the quality of the institutional environment in which businesses operate. In particular, governance quality and regulatory quality influence the ability of firms to adopt sustainable practices by providing stable, transparent, and predictable policy environments that encourage responsible investment, innovation, and long-term competitiveness.

Governance quality refers to the effectiveness, transparency, accountability, and efficiency of public institutions in designing and implementing policies, while regulatory quality reflects the government's ability to formulate and enforce regulations that promote private-sector development and market efficiency. Together, these institutional characteristics constitute an important component of

the broader policy framework within which businesses operate. Countries with effective governance systems and high regulatory quality generally create conditions that encourage compliance with environmental standards, strengthen corporate accountability, attract investment, and promote sustainable business practices. Conversely, weak governance, policy inconsistency, bureaucratic inefficiencies, and poor regulatory enforcement increase uncertainty, discourage investment, and undermine firms' ability to pursue long-term sustainability objectives.

These challenges are particularly evident in Nigeria. Despite its abundant natural resources, large domestic market, and significant entrepreneurial potential, Nigeria continues to face persistent governance and regulatory challenges that constrain sustainable business development. Frequent policy reversals, weak institutional enforcement, regulatory uncertainty, corruption, and administrative inefficiencies have created a business environment in which firms often struggle to implement sustainable business practices effectively. Although successive governments have introduced policies relating to environmental protection, corporate governance, industrial development, and sustainable economic growth, implementation has frequently been inconsistent, limiting their effectiveness (Ufua, Olujobi, & Al-Faryan, 2023). Consequently, Nigeria continues to perform relatively poorly on several international governance indicators, including regulatory quality, rule of law, and control of corruption, raising important questions about the extent to which governance quality influences sustainable business performance.

Existing studies have examined various aspects of corporate governance, environmental sustainability, ESG practices, and business performance in developing economies. However, much of the available literature focuses either on firm-level governance mechanisms or on descriptive analyses of regulatory challenges. Limited empirical evidence exists on the combined influence of governance quality and regulatory quality on sustainable business performance using national governance indicators within the Nigerian context. Moreover, previous studies have rarely integrated broader institutional governance indicators with measures of corporate sustainability, leaving an important gap in understanding how public governance affects sustainable enterprise development in emerging economies.

Guided by Stakeholder Theory, Institutional Theory, and Resource-Based Theory, this study examines the relationship between governance quality, regulatory quality, and sustainable business performance in Nigeria. Specifically, it investigates whether improvements in governance quality and regulatory quality contribute to firms' economic, environmental, and social sustainability performance. By providing empirical evidence from Nigeria, the study contributes to the growing literature on governance and sustainability in emerging economies while offering policy-relevant insights for strengthening institutional quality, improving regulatory effectiveness, and creating an enabling environment for sustainable business development.

II. Literature Review

A. Concept of Sustainable Business Performance

Sustainable business performance refers to an organisation's ability to achieve long-term economic success while simultaneously creating positive environmental and social outcomes. Unlike the traditional concept of business performance, which primarily emphasises profitability and shareholder return, sustainable business performance adopts a broader perspective by integrating financial, environmental, and social objectives into organisational decision-making. This multidimensional approach recognises that long-term competitiveness depends not only on economic efficiency but also on responsible environmental stewardship, ethical governance, and meaningful stakeholder engagement.

The concept of sustainable business performance is closely associated with the principles of sustainable development and the Environmental, Social, and Governance (ESG) framework. Environmental performance reflects an organisation's ability to minimise its ecological footprint through efficient resource utilisation, pollution control, waste reduction, and climate change mitigation. Social performance focuses on an organisation's relationships with employees, customers,

suppliers, communities, and other stakeholders through responsible labour practices, community development, customer protection, and corporate social responsibility. Economic performance, which remains the foundation of business sustainability, encompasses profitability, operational efficiency, innovation, market competitiveness, and long-term value creation.

Existing literature consistently demonstrates that organisations integrating sustainability into their strategic and operational activities achieve stronger long-term performance than firms focusing solely on short-term financial outcomes. Environmentally responsible practices improve operational efficiency through reduced resource consumption and waste, while socially responsible initiatives strengthen corporate reputation, employee commitment, customer loyalty, and stakeholder trust, thereby enhancing organisational resilience (Valentinov, 2023; Ye & Dela, 2023). Similarly, effective governance structures promote accountability, transparency, sound decision-making, and efficient resource allocation, thereby supporting sustainable value creation (de Villiers & Dimes, 2021; Velte, 2023).

Nevertheless, the relationship between sustainability practices and business performance is neither linear nor universal. While numerous studies report positive associations between sustainability initiatives and organisational performance, the magnitude of these effects varies across industries, institutional environments, and national contexts. In developing economies, institutional quality, regulatory enforcement, and policy stability often determine whether firms can successfully implement sustainability strategies and translate them into improved business outcomes. Consequently, sustainable business performance should be viewed not merely as a function of firm-level managerial decisions but also as an outcome shaped by the broader governance and regulatory environment within which businesses operate.

Accordingly, this study conceptualises sustainable business performance as the combined achievement of economic viability, environmental responsibility, and social accountability. These three dimensions provide the basis for assessing how governance quality and regulatory quality influence the sustainability performance of businesses operating within the Nigerian institutional environment.

B. Governance Quality and Sustainable Business Performance

Governance quality has emerged as one of the most important institutional determinants of sustainable business performance, particularly in developing and emerging economies where the effectiveness of public institutions significantly influences private sector development. Governance quality refers to the effectiveness, transparency, accountability, and responsiveness of public institutions in formulating and implementing policies, enforcing the rule of law, controlling corruption, and creating an enabling environment for economic and social development. The Worldwide Governance Indicators (WGI) conceptualise governance quality through six dimensions: government effectiveness, regulatory quality, rule of law, control of corruption, political stability and absence of violence, and voice and accountability. Collectively, these dimensions shape the institutional environment within which businesses operate and make strategic decisions.

From a theoretical perspective, Institutional Theory argues that organisations are strongly influenced by the institutional environment surrounding them. Effective governance provides stable legal frameworks, credible institutions, and predictable policy implementation that encourage firms to adopt sustainable business practices. In contrast, weak governance increases uncertainty, weakens regulatory compliance, raises transaction costs, and discourages long-term investments in sustainability. Similarly, Stakeholder Theory suggests that governments play an important role in protecting the interests of multiple stakeholders by enforcing environmental regulations, labour standards, and corporate accountability mechanisms that encourage responsible business behaviour. Resource-Based Theory further argues that stable governance systems constitute valuable external institutional resources that enable firms to develop long-term competitive advantages through innovation, responsible resource utilisation, and sustainable organisational capabilities.

Empirical evidence generally supports the proposition that improvements in governance quality enhance sustainable business performance, although the magnitude of this relationship varies across institutional contexts. Studies consistently show that effective governance promotes transparency, reduces corruption, strengthens investor confidence, and improves policy implementation, thereby creating favourable conditions for business growth and sustainability (Hao & Albitar, 2023). Strong governance systems also reduce information asymmetry and agency problems, enabling organisations to allocate resources more efficiently and pursue long-term sustainability objectives (de Villiers & Dimes, 2021). Furthermore, organisations operating within well-governed institutional environments often experience lower financing costs, improved access to capital markets, and stronger stakeholder confidence, all of which contribute to sustainable business performance (Huo et al., 2021).

Nevertheless, the governance–performance relationship is not uniform across countries. Institutional capacity, legal traditions, political stability, and enforcement effectiveness influence the extent to which governance quality translates into sustainable business outcomes. Empirical studies suggest that firms operating in countries with stronger legal institutions and investor protection generally derive greater benefits from good governance than those operating in weaker institutional environments (Ghabri, 2022). Likewise, variations in cultural and institutional settings explain why governance reforms produce different outcomes across countries and industries (Baatour & Ben Saada, 2022; Kabir et al., 2023; Handoyo, 2023; Handoyo et al., 2023). These findings indicate that governance quality should be viewed as a contextual factor whose effectiveness depends on the broader institutional environment.

The Nigerian context illustrates many of these institutional challenges. Although successive governments have introduced reforms aimed at improving transparency, accountability, environmental protection, and private sector development, persistent problems such as policy inconsistency, bureaucratic inefficiencies, corruption, and weak institutional enforcement continue to constrain sustainable enterprise development. These governance deficiencies increase compliance costs, discourage long-term investment, and reduce firms' incentives to adopt sustainable business practices. Consequently, improvements in governance quality are expected to strengthen institutional credibility, enhance regulatory compliance, encourage responsible corporate behaviour, and ultimately improve sustainable business performance. This study therefore posits that governance quality constitutes a significant institutional driver of sustainable business performance in Nigeria.

C. Regulatory Quality and Sustainable Business Performance

Regulatory quality is widely recognised as a critical determinant of sustainable business performance because it shapes the legal, institutional, and policy environment within which firms operate. According to the World Bank's Worldwide Governance Indicators (WGI), regulatory quality refers to the government's ability to formulate and implement sound policies and regulations that promote private sector development. Effective regulatory systems provide businesses with policy certainty, transparent enforcement mechanisms, and predictable operating conditions that encourage investment, innovation, and long-term strategic planning. Conversely, weak regulatory quality creates uncertainty, increases compliance costs, discourages investment, and constrains firms' ability to pursue sustainable business practices.

Institutional Theory provides a useful framework for understanding this relationship by suggesting that organisations respond to formal rules, regulations, and institutional pressures imposed by governments and regulatory agencies. Well-designed and consistently enforced regulations encourage firms to adopt environmentally responsible production methods, improve labour standards, strengthen corporate accountability, and invest in sustainable technologies. In contrast, inconsistent regulations, weak enforcement, and frequent policy reversals reduce organisational commitment to sustainability because firms face uncertainty regarding future compliance requirements. Stakeholder Theory similarly argues that regulatory institutions protect the interests of multiple stakeholders by establishing standards that promote environmental protection, consumer welfare, employee rights, and

corporate transparency. Resource-Based Theory further suggests that predictable regulatory environments enable firms to develop valuable organisational capabilities, improve operational efficiency, and build sustainable competitive advantages through long-term investments.

Empirical evidence generally indicates that high regulatory quality contributes positively to sustainable business performance. Countries characterised by transparent regulatory systems and efficient public administration tend to experience higher levels of private investment, innovation, and corporate sustainability because businesses operate within stable institutional environments that reduce uncertainty and transaction costs (Hao & Albitar, 2023). Effective regulatory frameworks also facilitate compliance with environmental standards, improve resource efficiency, and encourage firms to integrate sustainability into their corporate strategies. Consequently, organisations operating under high-quality regulatory systems are more likely to achieve stronger financial performance while simultaneously improving their environmental and social outcomes.

However, existing studies also demonstrate that the effectiveness of regulatory quality depends largely on implementation and enforcement rather than the existence of regulations alone. Regulatory reforms often produce limited results where enforcement institutions lack adequate capacity, transparency, or accountability. Differences in institutional development, administrative efficiency, and political commitment therefore explain why similar regulatory policies generate varying sustainability outcomes across countries and industries. This suggests that regulatory quality should be assessed not only by the existence of legal frameworks but also by the government's ability to implement and enforce them consistently.

These institutional challenges are particularly relevant in Nigeria. Although successive governments have introduced numerous policies to improve the business environment, promote environmental sustainability, and strengthen corporate governance, implementation has often been undermined by bureaucratic inefficiencies, overlapping regulatory responsibilities, weak monitoring mechanisms, and inconsistent policy enforcement (Ufua, Olujobi, & Al-Faryan, 2023). Such institutional weaknesses create uncertainty for investors, increase the cost of regulatory compliance, and discourage firms from making long-term sustainability investments. Consequently, improving regulatory quality is expected to enhance policy credibility, strengthen institutional effectiveness, and create an enabling environment that supports sustainable business performance across Nigerian industries. Accordingly, this study proposes that regulatory quality exerts a positive influence on sustainable business performance in Nigeria.

D. Empirical Review

The relationship between governance quality, regulatory quality, and sustainable business performance has received increasing scholarly attention over the past decade as governments and businesses seek to balance economic growth with environmental sustainability and social responsibility. Empirical evidence generally supports the proposition that strong governance systems and effective regulatory frameworks create institutional conditions that enable firms to achieve superior sustainability outcomes. Nevertheless, the strength and direction of these relationships vary considerably across countries because of differences in institutional quality, regulatory enforcement, economic development, and political stability.

Studies conducted in developed economies consistently report positive relationships between governance quality and sustainable business performance. Effective governance institutions improve policy implementation, strengthen legal enforcement, reduce corruption, and enhance investor confidence, thereby creating stable business environments that encourage firms to adopt sustainable business practices (Hao & Albitar, 2023). Similarly, organisations operating within countries characterised by transparent governance systems generally demonstrate stronger environmental performance, greater corporate accountability, and improved long-term financial performance because institutional stability reduces uncertainty and encourages strategic investments in sustainability (de Villiers & Dimes, 2021; Huo et al., 2021).

Evidence regarding regulatory quality also suggests that well-designed and consistently enforced regulations encourage firms to improve their environmental, social, and economic performance. Effective regulatory systems reduce transaction costs, provide policy certainty, and promote compliance with environmental and labour standards, thereby enabling businesses to integrate sustainability into their operational strategies. However, empirical studies indicate that regulatory reforms alone are insufficient to improve business sustainability where institutional capacity and enforcement mechanisms remain weak. Consequently, implementation quality often determines whether regulatory reforms translate into measurable improvements in sustainable business performance (Ufua, Olujobi, & Al-Faryan, 2023).

Although the positive relationship between governance and sustainability is widely reported, empirical findings remain context dependent. Several studies demonstrate that institutional factors such as legal effectiveness, administrative capacity, political stability, and corruption control significantly moderate the relationship between governance quality and business performance (Ghabri, 2022; Baatour & Ben Saada, 2022; Kabir et al., 2023). These findings suggest that governance reforms produce stronger sustainability outcomes in countries with effective public institutions than in countries where governance structures are characterised by weak enforcement and policy inconsistency. Such variations indicate that the governance–performance relationship cannot be generalised across all institutional settings.

Evidence from Sub-Saharan Africa presents a more complex picture. While governance reforms have contributed to improvements in private sector development and corporate sustainability in several African countries, persistent institutional weaknesses continue to constrain sustainable enterprise development. Common challenges include regulatory uncertainty, corruption, weak policy implementation, inadequate institutional coordination, and inconsistent enforcement of environmental and corporate governance regulations. These institutional deficiencies reduce investor confidence, increase compliance costs, and discourage firms from making long-term sustainability investments. Consequently, businesses operating in many African economies face greater obstacles in translating governance reforms into sustainable business outcomes than firms operating in stronger institutional environments.

The Nigerian experience reflects many of these broader institutional challenges. Nigeria has implemented several reforms aimed at improving governance, attracting investment, strengthening environmental protection, and promoting responsible corporate practices. However, frequent policy changes, bureaucratic inefficiencies, weak institutional capacity, inconsistent regulatory enforcement, and governance challenges continue to limit the effectiveness of these reforms (Ufua, Olujobi, & Al-Faryan, 2023). Although existing Nigerian studies have examined corporate governance, corporate social responsibility, environmental sustainability, and business performance independently, relatively few have investigated how national governance quality and regulatory quality jointly influence sustainable business performance using internationally recognised governance indicators. As a result, important questions remain regarding the extent to which improvements in governance quality and regulatory quality contribute to sustainable enterprise development within Nigeria's institutional environment.

Overall, the empirical literature indicates that governance quality and regulatory quality are important institutional determinants of sustainable business performance. However, existing evidence remains fragmented, with much of the literature focusing either on firm-level corporate governance mechanisms or on individual dimensions of sustainability. Furthermore, empirical evidence from developing economies, particularly Nigeria, remains limited. This study addresses this gap by examining the combined effects of governance quality and regulatory quality on sustainable business performance in Nigeria using nationally recognised governance indicators and quantitative empirical analysis.

E. Hypotheses Development

The theoretical and empirical literature reviewed suggests that governance quality and regulatory quality are important institutional determinants of sustainable business performance. Institutional Theory posits that effective public institutions establish the formal rules and enforcement mechanisms that shape organisational behaviour, while Stakeholder Theory argues that governments create institutional conditions that encourage firms to respond to the expectations of diverse stakeholders through responsible business practices. Similarly, Resource-Based Theory suggests that stable institutional environments provide firms with valuable external resources that facilitate long-term strategic planning, innovation, and sustainable competitive advantage.

Governance quality, characterised by effective public administration, accountability, transparency, and the rule of law, is expected to improve sustainable business performance by reducing institutional uncertainty, strengthening investor confidence, improving regulatory compliance, and encouraging responsible corporate behaviour. Previous empirical studies generally report that countries with stronger governance institutions create business environments that promote sustainable investment, innovation, and long-term organisational performance (Hao & Albitar, 2023; de Villiers & Dimes, 2021; Huo et al., 2021). Given Nigeria's continuing governance challenges, improvements in governance quality are expected to provide firms with a more stable and predictable institutional environment that supports sustainable business development.

(a) Hypothesis One (H₁): Governance quality has a significant positive effect on sustainable business performance in Nigeria.

Similarly, regulatory quality plays a critical role in determining the effectiveness of public policies that influence business operations. High-quality regulations reduce uncertainty, improve policy consistency, facilitate compliance, and encourage firms to invest in environmentally responsible and socially sustainable business practices. Conversely, weak regulatory systems increase transaction costs, discourage investment, and reduce firms' incentives to pursue long-term sustainability initiatives. Empirical evidence indicates that effective regulatory frameworks contribute significantly to sustainable business performance, particularly where regulations are consistently implemented and supported by strong institutional capacity (Ufua, Olujobi, & Al-Faryan, 2023; Hao & Albitar, 2023). Given the persistent regulatory and institutional challenges confronting Nigerian businesses, improvements in regulatory quality are expected to enhance firms' ability to achieve sustainable business outcomes.

(b) Hypothesis Two (H₂): Regulatory quality has a significant positive effect on sustainable business performance in Nigeria.

The conceptual relationship between governance quality, regulatory quality, and sustainable business performance is illustrated in Figure 1. The framework proposes that governance quality and regulatory quality, as independent institutional variables, influence sustainable business performance, which is operationalised through its economic, environmental, and social dimensions.

F. Theoretical Framework

This study is anchored on Institutional Theory, Stakeholder Theory, and the Triple Bottom Line (TBL) Framework. Collectively, these perspectives provide a comprehensive explanation of how governance quality and regulatory quality influence sustainable business performance in Nigeria. Institutional Theory explains how the external institutional environment shapes organisational behaviour; Stakeholder Theory highlights the role of governance in balancing the interests of multiple stakeholders; while the Triple Bottom Line Framework provides the basis for evaluating sustainable business performance through its economic, environmental, and social dimensions.

(a) Institutional Theory

Institutional Theory, developed by North (1990) and further advanced by Scott (2001), argues that organisational behaviour is shaped by the formal and informal institutions that govern economic and social interactions. These institutions include laws, regulations, governance structures, enforcement mechanisms, and societal norms that influence how organisations operate. According to

the theory, organisations adapt their behaviour to conform to institutional expectations because compliance enhances legitimacy, reduces uncertainty, and improves long-term survival. Within the context of this study, governance quality and regulatory quality represent important institutional characteristics that shape firms' operating environments. Effective governance institutions provide policy stability, transparent public administration, efficient regulatory enforcement, and stronger protection of property rights. These institutional conditions reduce transaction costs, improve investor confidence, and encourage firms to adopt long-term sustainability strategies. Conversely, weak governance characterised by corruption, bureaucratic inefficiency, inconsistent policy implementation, and weak enforcement discourages investment in sustainable business practices because firms operate under conditions of uncertainty and institutional risk.

The Nigerian business environment illustrates the relevance of Institutional Theory. Although various reforms have been introduced to strengthen governance and improve the regulatory environment, persistent implementation challenges continue to affect corporate sustainability. Institutional Theory therefore provides the primary explanation for why improvements in governance quality and regulatory quality are expected to enhance sustainable business performance in Nigeria.

(b) Stakeholder Theory

Stakeholder Theory, proposed by Freeman (1984), argues that organisations are responsible not only to shareholders but also to a broad range of stakeholders, including employees, customers, suppliers, governments, investors, local communities, and the natural environment. Sustainable business performance is therefore achieved when organisations balance the interests of these diverse stakeholder groups rather than focusing exclusively on short-term financial returns.

Governance quality and regulatory quality play important roles in protecting stakeholder interests by establishing standards for transparency, accountability, environmental protection, labour practices, consumer welfare, and corporate responsibility. Strong governance institutions encourage businesses to comply with these standards, thereby strengthening stakeholder trust and improving organisational legitimacy. Where governance systems are weak, firms may prioritise short-term profits at the expense of environmental sustainability, employee welfare, and ethical business conduct.

In Nigeria, regulatory agencies and public institutions are expected to safeguard stakeholder interests through effective policy implementation and regulatory enforcement. Consequently, Stakeholder Theory explains how improvements in governance quality and regulatory quality encourage firms to adopt responsible business practices that enhance their economic, environmental, and social performance.

(c) Triple Bottom Line Framework

The Triple Bottom Line (TBL) Framework, introduced by Elkington (1997), provides a multidimensional approach for assessing organisational sustainability. Unlike traditional measures of organisational performance that focus primarily on financial outcomes, the TBL framework argues that truly sustainable organisations must achieve balanced performance across three interrelated dimensions: economic prosperity (profit), environmental stewardship (planet), and social responsibility (people).

Within this study, the TBL framework serves as the conceptual basis for measuring sustainable business performance. Governance quality and regulatory quality are expected to influence each of these dimensions by creating institutional conditions that encourage responsible resource management, ethical corporate behaviour, environmental compliance, innovation, and long-term value creation. Consequently, sustainable business performance is conceptualised not merely as financial success but as the simultaneous achievement of economic viability, environmental responsibility, and social accountability.

(d) Integration of the Theoretical Framework

The three perspectives complement one another in explaining the relationship between governance quality, regulatory quality, and sustainable business performance. Institutional Theory explains how public institutions and regulatory systems shape organisational behaviour through formal rules and enforcement mechanisms. Stakeholder Theory explains why organisations respond to

governance and regulatory pressures by addressing the expectations of multiple stakeholder groups. The Triple Bottom Line Framework provides a multidimensional basis for evaluating whether these institutional and stakeholder influences translate into sustainable business performance.

Accordingly, this study proposes that improvements in governance quality and regulatory quality strengthen Nigeria's institutional environment, encourage responsible corporate behaviour, and ultimately enhance sustainable business performance across its economic, environmental, and social dimensions. Figure 1 illustrates the conceptual framework underpinning these relationships.

G. Conceptual Framework

The conceptual framework for this study was developed from the integration of Institutional Theory, Stakeholder Theory, and the Triple Bottom Line (TBL) Framework. It illustrates the proposed relationships between the independent variables' governance quality and regulatory quality and the dependent variable, sustainable business performance, within the Nigerian context.

The framework assumes that governance quality and regulatory quality constitute the institutional environment within which businesses operate. Drawing on Institutional Theory, improvements in governance quality and regulatory quality are expected to strengthen institutional effectiveness, reduce uncertainty, improve regulatory compliance, and create conditions that encourage firms to adopt sustainable business practices. Stakeholder Theory further explains that effective governance and regulatory institutions encourage organisations to respond more effectively to the expectations of shareholders, employees, customers, communities, regulators, and other stakeholders through socially responsible and environmentally sustainable business practices.

The dependent variable, sustainable business performance is conceptualised using the Triple Bottom Line framework, which evaluates organisational performance across three complementary dimensions: economic sustainability, environmental sustainability, and social sustainability. The framework therefore proposes that improvements in governance quality and regulatory quality contribute positively to these three dimensions of organisational performance.

Accordingly, Figure 1 presents the conceptual model guiding this study and illustrates the hypothesised relationships among the study variables.

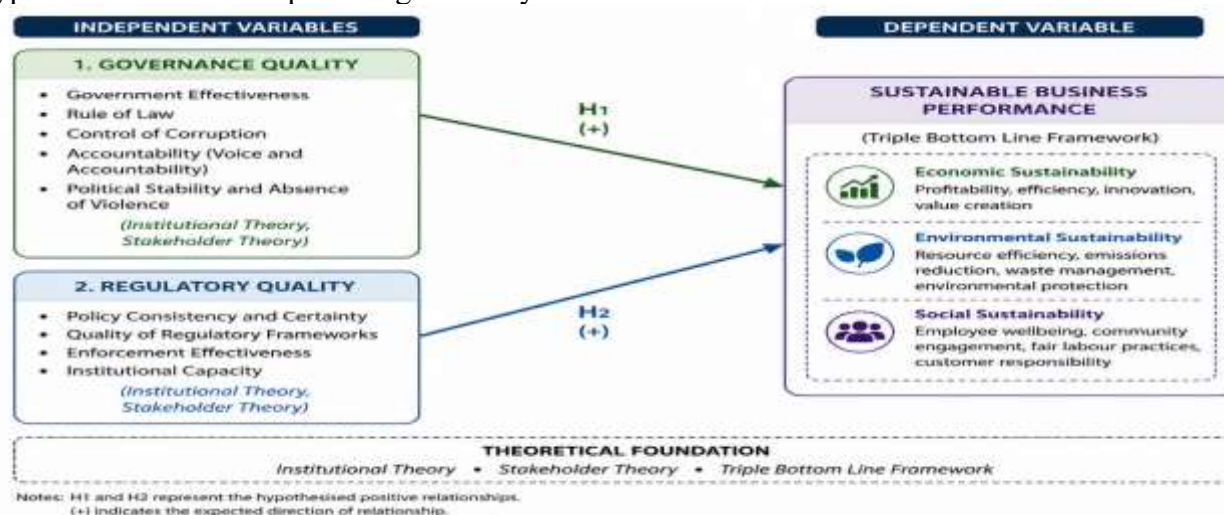


Figure 1: Conceptual Framework showing the relationship between Governance Quality, Regulatory Quality, and Sustainable Business Performance

III. Methodology

A. Research Design

This study employed a quantitative longitudinal panel design to investigate the influence of governance quality and regulatory quality on sustainable business performance among publicly listed firms in Nigeria. A panel-data approach was adopted because it combines cross-sectional and time-series observations, enabling the analysis of institutional changes over time while controlling for

unobserved firm-specific heterogeneity. The unit of analysis was the firm-year. The dataset comprised a balanced panel of 50 Nigerian listed companies observed annually between 2015 and 2025, producing 550 firm-year observations. Although governance quality and regulatory quality vary at the national level, combining these annual institutional indicators with firm-level sustainability observations provides an appropriate framework for examining whether changes in Nigeria's institutional environment are associated with variations in corporate sustainability performance after controlling for observable firm characteristics.

B. Data and Sample

The empirical analysis focused on companies listed on the Nigerian Exchange Group (NGX). A purposive sampling strategy was employed to identify firms with complete reporting histories throughout the study period. The final sample comprised 50 firms drawn from the financial services, oil and gas, industrial goods, and manufacturing sectors. Only firms with publicly available audited annual reports, integrated reports or sustainability reports for the entire study period were retained. Governance indicators were obtained from the World Bank Worldwide Governance Indicators (WGI), while financial and sustainability information was extracted from audited corporate reports and NGX records. Manual content analysis was preferred to commercial ESG ratings because of the limited coverage of Nigerian firms in international ESG databases.

C. Variable Measurement

Sustainable business performance (SBP) constituted the dependent variable and was measured through a manually constructed Triple Bottom Line disclosure index comprising economic, environmental and social dimensions. A structured checklist based on relevant Global Reporting Initiative themes was used to code each applicable disclosure item using a binary scoring procedure (1 = disclosed; 0 = not disclosed). Dimension-specific indices were computed and aggregated using equal weights before being expressed on a 0–100 scale.

Governance quality (GQ) was measured as the arithmetic mean of Government Effectiveness, Rule of Law and Control of Corruption obtained from the World Bank WGI database. Regulatory quality (RQ) was measured using the annual WGI Regulatory Quality estimate. Firm size, profitability, leverage, firm age and sector dummies were included as control variables to minimise omitted-variable bias.

$$GQ_t = (GE_t + RL_t + CC_t) / 3$$

$$SBP_{it} = (ECON_{it} + ENV_{it} + SOC_{it}) / 3$$

Table 1. Operationalisation of Variables

Variable	Symbol	Measurement	Source	Role
Sustainable Business Performance	SBP	Composite TBL disclosure index (0–100)	Corporate reports	Dependent
Governance Quality	GQ	Mean of GE, RL and CC	World Bank WGI	Independent
Regulatory Quality	RQ	Annual WGI Regulatory Quality	World Bank WGI	Independent
Firm Size	SIZE	Natural log of total assets	Annual reports	Control
Profitability	ROA	Profit after tax / Total assets	Annual reports	Control
Leverage	LEV	Total liabilities / Total assets	Annual reports	Control
Firm Age	AGE	Years since incorporation/listing	Corporate records	Control
Sector	SECTOR	Industry dummy variables	NGX	Control

D. Measurement Procedure

Corporate reports were coded using a predefined coding manual that specified disclosure indicators, coding rules and documentary evidence required for assigning disclosure scores. To improve reliability, a subset of reports was independently coded by two coders, and coding consistency

was evaluated using percentage agreement and Cohen's kappa. Disagreements were resolved through reference to the coding protocol before completion of the dataset.

E. Empirical Specification

$$SBP_{it} = \beta_0 + \beta_1 GQ_t + \beta_2 RQ_t + \Sigma \gamma_k \text{Control}_{kit} + \mu_i + \varepsilon_{it}$$

The model estimates the effects of governance quality and regulatory quality on sustainable business performance while controlling for firm size, profitability, leverage, firm age and sector. The specification captures both temporal changes in institutional quality and firm-level variation in sustainability performance.

F. Estimation Procedure

Data analysis was undertaken using Stata. Descriptive statistics summarised the characteristics of the variables, followed by Pearson correlation analysis and multicollinearity diagnostics using Variance Inflation Factors (VIF) and tolerance statistics. Pooled ordinary least squares, fixed-effects and random-effects models were initially estimated. The Hausman specification test supported the random-effects estimator, which was subsequently estimated using heteroskedasticity-robust standard errors. Coefficients were interpreted because of their sign, magnitude and statistical significance.

G. Methodological Considerations

The study relied on publicly available institutional and corporate data, thereby reducing respondent bias and improving transparency. Potential reporting bias associated with sustainability disclosures was mitigated through structured coding procedures and the use of objective disclosure criteria. Although panel estimation controls unobserved time-invariant firm characteristics, the findings are interpreted as conditional associations rather than definitive causal relationships. Accordingly, the results should be understood within the context of publicly listed Nigerian firms operating under evolving institutional conditions.

IV. Results and Discussion

This section presents the empirical findings on the effects of governance quality and regulatory quality on sustainable business performance among publicly listed firms in Nigeria. The analysis follows a logical sequence comprising descriptive statistics, correlation analysis, multicollinearity diagnostics, random-effects panel regression estimation, hypothesis testing, and discussion of findings. The findings are interpreted within the perspectives of Institutional Theory, Stakeholder Theory and the Triple Bottom Line (TBL) framework. Collectively, the analyses provide evidence regarding whether improvements in institutional quality create conditions that encourage firms to pursue superior economic, environmental and social performance.

A. Descriptive Statistics

Table 1 summarises the distribution of the principal variables. The descriptive statistics provide an overview of the institutional environment and the level of sustainability performance observed during the study period.

Table 1: Distribution of the principal variables

Variable	Mean	Std. Dev.	Minimum	Maximum
Regulatory Quality	-0.73	0.12	-0.95	-0.55
Governance Quality	-0.86	0.10	-1.02	-0.70
Sustainable Business Performance	55.40	8.60	41.20	68.90

The mean values indicate that governance quality and regulatory quality remained below the global average throughout the study period, reflecting persistent institutional weaknesses. Nevertheless, sustainable business performance averaged 55.40, indicating that many firms continued to implement sustainability initiatives despite operating within a relatively challenging institutional environment. The variation observed in sustainability performance further suggests that organisational

capabilities, governance practices, stakeholder engagement and strategic orientation may enable firms to partially offset institutional deficiencies.

B. Correlation Analysis

Pearson correlation coefficients were estimated to examine the preliminary relationships among the variables prior to regression analysis.

Variable	RQ	GQ	SBP
RQ	1.000	0.701	0.743
GQ	0.701	1.000	0.791
SBP	0.743	0.791	1.000

The correlation matrix reveals positive associations among all principal variables. Governance quality exhibits the strongest relationship with sustainable business performance ($r = 0.791$), followed by regulatory quality ($r = 0.743$). These results provide preliminary support for the study hypotheses and indicate that improvements in institutional quality are associated with better sustainability outcomes. The inter-correlation between governance quality and regulatory quality ($r = 0.701$) is theoretically expected because both variables describe complementary aspects of institutional quality, yet the magnitude remains below commonly accepted thresholds for severe multicollinearity.

C. Multicollinearity Diagnostics

Predictor	Tolerance	VIF
Regulatory Quality	0.509	1.966
Governance Quality	0.509	1.966
Firm Size	0.889	1.125
Profitability	0.931	1.074
Leverage	0.966	1.035
Firm Age	0.830	1.205

The multicollinearity statistics confirm that the explanatory variables are sufficiently independent for reliable estimation. All VIF values are substantially below the conservative threshold of 5.0, while tolerance values exceed the recommended minimum of 0.20. Accordingly, there is no statistical evidence that multicollinearity threatens the validity of the estimated regression coefficients.

D. Random-Effects Panel Regression Results

Given the longitudinal structure of the dataset (50 firms observed over eleven years), panel-data estimation was adopted. The Hausman specification test supported the random-effects estimator; consequently, robust random-effects regression was estimated to account for heteroskedasticity while preserving both within- and between-firm variation.

Variable	Coefficient	Robust SE	Z	p-value
Regulatory Quality	30.931	5.593	5.530	<0.001
Governance Quality	10.142	4.952	2.048	0.040
Firm Size	1.133	0.660	1.716	0.086
Profitability	25.703	5.813	4.421	<0.001
Leverage	-2.691	2.429	-1.108	0.268
Firm Age	0.040	0.039	1.035	0.301
Industrial Goods	-0.966	1.540	-0.627	0.531
Manufacturing	-2.103	1.300	-1.617	0.106
Oil and Gas	-4.849	1.396	-3.473	<0.001

The regression results demonstrate that regulatory quality exerts a strong positive and statistically significant influence on sustainable business performance. This finding implies that improvements in policy consistency, regulatory effectiveness and institutional predictability encourage firms to invest in long-term sustainability initiatives. Governance quality likewise exerts a positive and statistically significant effect, suggesting that improvements in government effectiveness, rule of law

and corruption control enhance the institutional environment required for responsible corporate behaviour.

Among the control variables, profitability emerges as the only consistently significant determinant, indicating that financially stronger firms possess greater capacity to implement sustainability initiatives. Firm size exhibits a weak positive effect but falls short of conventional significance levels, while leverage and firm age do not significantly explain sustainability performance. The significant negative coefficient for the oil and gas sector reflects the comparatively greater environmental and regulatory challenges faced by firms operating within extractive industries.

E. Hypothesis Testing

Hypothesis	Evidence	Decision	Conclusion
H1	$\beta=10.142$; $p=0.040$	Supported	Governance quality positively influences SBP.
H2	$\beta=30.931$; $p<0.001$	Supported	Regulatory quality positively influences SBP.

Statistical evidence supports both hypotheses. The findings demonstrate that stronger governance institutions and more effective regulatory systems contribute significantly to sustainable business performance among Nigerian listed firms. Collectively, these results reinforce the proposition that institutional quality represents an important external driver of corporate sustainability and complements firm-specific capabilities in achieving long-term competitive advantage.

V. Discussion of Findings

The findings demonstrate that governance quality and regulatory quality exert positive and statistically significant effects on sustainable business performance among publicly listed firms in Nigeria. These results indicate that improvements in institutional quality create an enabling environment that encourages firms to pursue long-term economic, environmental, and social objectives. The findings reinforce the proposition that sustainable business performance depends not only on firm-specific resources and managerial capabilities but also on the effectiveness of the institutional environment within which firms operate. The positive effect of governance quality provides strong support for Institutional Theory, which argues that organisations adapt their structures and practices to formal institutional rules and governance systems that enhance legitimacy and reduce uncertainty. Effective governance institutions improve public sector efficiency, strengthen the rule of law, enhance transparency, and reduce corruption, thereby lowering transaction costs and encouraging firms to invest in sustainable business practices. The findings are consistent with Almaqtari et al. (2024), who reported that stronger country-level governance significantly improves firms' sustainability performance by creating institutional conditions that facilitate progress towards the Sustainable Development Goals (SDGs). Similarly, Achim et al. (2023) found that high-quality governance enhances sustainable development by strengthening institutional effectiveness and corporate accountability, while Datta et al. (2015) demonstrated that sustainable governance practices contribute significantly to improved organisational performance across global firms.

The findings also corroborate the corporate governance literature, which argues that effective governance structures strengthen organisational commitment to sustainability. For example, Manning et al. (2019) reported that board monitoring effectiveness and stakeholder engagement significantly improve both corporate sustainability performance and sustainability disclosure decisions. Likewise, Adu (2022) found that strong corporate governance mechanisms enhance the relationship between environmental disclosure and financial performance in the banking sector. Although the present study focuses on national governance quality rather than firm-level governance mechanisms, both streams of evidence suggest that governance effectiveness—whether exercised through public institutions or corporate structures—creates conditions that encourage responsible business conduct and long-term sustainability.

The positive and statistically significant effect of regulatory quality similarly supports Institutional Theory by demonstrating that stable, transparent, and consistently enforced regulations encourage firms to adopt sustainable business practices. Effective regulatory systems reduce

compliance uncertainty, improve policy credibility, and provide firms with greater confidence to undertake long-term investments in environmental and social initiatives. These findings are consistent with Zaman et al. (2026), who provided international evidence that regulatory quality enhances sustainability performance by strengthening institutional effectiveness and improving firms' responsiveness to sustainability challenges. Likewise, Rakhmawati et al. (2020) found that supportive government regulation significantly improves the sustainability and performance of medium-sized enterprises by creating a favourable business environment for responsible business practices.

The results further align with the growing literature emphasising the complementary role of governance and regulation in corporate sustainability. Handoyo and Anas (2024) reported that country-level regulatory quality and government effectiveness strengthen the relationship between environmental, social, and governance (ESG) practices and firm performance in ASEAN countries, suggesting that institutional quality amplifies the benefits of corporate sustainability initiatives. Similarly, Alahdal et al. (2025) found that regulatory quality positively moderates the relationship between ESG performance and Sustainable Development Goals (SDGs) disclosure among OECD firms, indicating that high-quality regulatory environments enable firms to translate sustainability initiatives into stronger organisational outcomes. Collectively, these studies reinforce the present finding that regulatory quality functions not merely as a compliance mechanism but as an institutional enabler of sustainable business performance.

The findings also provide empirical support for Stakeholder Theory, which argues that organisations achieve sustainable success by responding to the expectations of multiple stakeholder groups. Strong governance and regulatory institutions strengthen environmental compliance, labour standards, corporate accountability, and consumer protection, thereby encouraging firms to adopt stakeholder-oriented strategies that improve sustainability performance. This interpretation is consistent with Akankunda et al. (2024), who found that stakeholder orientation, regulatory governance, human capital, and management control systems jointly enhance sustainable performance among Ugandan power companies. Similarly, Haque and Ntim (2018) demonstrated that environmental policy and governance mechanisms significantly improve environmental performance by encouraging organisations to adopt responsible governance practices that balance economic, environmental, and social objectives.

The findings equally reinforce the Triple Bottom Line (TBL) framework, which conceptualises sustainable business performance as the simultaneous achievement of economic prosperity, environmental stewardship, and social responsibility. Improvements in governance quality reduce institutional uncertainty, strengthen investor confidence, and enhance policy implementation, thereby supporting firms' economic sustainability. At the same time, effective regulatory systems encourage compliance with environmental standards, improve resource efficiency, and strengthen social accountability through enhanced labour practices, consumer protection, and community engagement. The combined influence of governance quality and regulatory quality therefore demonstrates that institutional quality contributes to all three dimensions of sustainable business performance rather than influencing financial outcomes alone. Although governance quality and regulatory quality significantly explain variations in sustainable business performance, the findings also indicate that institutional factors alone are insufficient to account for corporate sustainability outcomes. The significance of profitability and the remaining unexplained variation suggest that firm-specific capabilities—including leadership quality, innovation, corporate governance, organisational culture, stakeholder engagement, and strategic resource allocation continue to influence sustainability performance. Consequently, institutional quality should be viewed as an enabling context within which organisational capabilities determine the extent to which firms successfully translate favourable governance conditions into sustainable competitive advantage.

An important implication of the findings is that, despite Nigeria's relatively weak institutional indicators, considerable variation exists in sustainability performance across firms. This suggests that some organisations have developed internal governance systems and strategic capabilities that partially compensate for broader institutional weaknesses. Rather than acting as the sole determinant of

sustainable business performance, governance quality and regulatory quality establish the institutional conditions within which firms develop resilience, innovation, and stakeholder-oriented business practices. Overall, the consistency between the positive correlation analysis and the Random Effects regression results strengthens confidence in the robustness of the empirical evidence and underscores the importance of institutional reforms for promoting sustainable enterprise development in Nigeria.

VI. Conclusion

This study examined the effects of governance quality and regulatory quality on sustainable business performance among publicly listed firms in Nigeria using Institutional Theory, Stakeholder Theory, and the Triple Bottom Line framework. The findings demonstrate that both governance quality and regulatory quality exert positive and statistically significant effects on sustainable business performance, with governance quality emerging as the stronger predictor. These results highlight the critical role of effective public institutions in promoting corporate sustainability and long-term business resilience. The study further demonstrates that while institutional quality provides an enabling environment for sustainable business practices, corporate sustainability also depends on firm-level capabilities such as leadership, innovation, corporate governance, and stakeholder engagement. Sustainable business performance should therefore be understood as the outcome of the interaction between supportive institutional conditions and organisational capabilities.

The study contributes to the growing literature on sustainability in emerging economies by integrating governance quality and regulatory quality within a unified analytical framework and demonstrating their complementary influence on corporate sustainability. From a policy perspective, the findings suggest that strengthening institutional effectiveness, regulatory consistency, and governance mechanisms can significantly improve sustainability outcomes among Nigerian firms. Although the study provides robust empirical evidence, its findings should be interpreted within the context of its reliance on secondary panel data and observational analysis. Consequently, the reported relationships represent statistically significant associations rather than definitive causal effects. Future research may extend this work by employing longer panel datasets, dynamic panel estimators, quasi-experimental designs, or mixed-method approaches to further examine the mechanisms linking institutional quality and sustainable business performance

VII. Recommendations

The findings of this study demonstrate that governance quality and regulatory quality play a significant role in enhancing sustainable business performance among publicly listed firms in Nigeria. Based on these findings, the following recommendations are proposed.

Strengthen governance institutions. Policymakers should prioritise institutional reforms that improve government effectiveness, strengthen the rule of law, enhance public accountability, and intensify anti-corruption efforts. Improving institutional quality will reduce business uncertainty, increase investor confidence, and create a stable environment that encourages firms to pursue long-term sustainability objectives.

Enhance regulatory quality and policy consistency. Regulatory agencies should develop transparent, predictable, and consistently enforced regulatory frameworks that minimise unnecessary bureaucratic barriers while promoting responsible business practices. Greater regulatory certainty will encourage firms to make long-term investments in environmental, social, and governance (ESG) initiatives and reduce compliance-related risks.

Promote stronger corporate governance practices. Firms should strengthen internal governance systems by enhancing board independence, ethical leadership, enterprise risk management, and sustainability oversight. Integrating sustainability into strategic decision-making and corporate governance structures will improve organisational resilience and enable firms to respond more effectively to institutional and market changes.

Introduce sustainability-oriented policy incentives. Government should complement regulatory reforms with targeted incentives that encourage sustainable business practices. Measures such as green

financing schemes, tax incentives for sustainability investments, preferential procurement policies, and grants for environmental innovation can accelerate corporate adoption of sustainable technologies and responsible business practices.

Strengthen public–private collaboration. Effective sustainability governance requires closer collaboration between government institutions, regulatory agencies, industry associations, investors, and the private sector. Institutionalised stakeholder engagement can improve policy design, facilitate knowledge sharing, strengthen regulatory compliance, and promote the diffusion of sustainability best practices across industries.

Improve regulatory monitoring and enforcement. Regulatory effectiveness depends not only on sound policies but also on consistent implementation. Regulatory authorities should strengthen institutional capacity through digital monitoring systems, risk-based inspections, and transparent enforcement mechanisms to improve compliance with environmental, labour, and corporate governance standards.

Build firm-level sustainability capabilities. Since institutional quality alone does not fully explain sustainable business performance, firms should continue investing in organisational capabilities that enhance long-term competitiveness. Priority areas include leadership development, innovation, digital transformation, sustainability reporting, employee capacity building, and stakeholder engagement. Strengthening these capabilities will enable organisations to sustain superior performance even under relatively challenging institutional conditions.

VIII. Suggestions for Future Research

This study opens several avenues for future investigation.

First, future studies should examine whether the relationships identified in this study differ across industries, ownership structures, or geographical regions within Nigeria. Sectoral and regional analyses may reveal important institutional differences that are not captured in national-level studies.

Second, researchers should employ longer longitudinal datasets to investigate how changes in governance reforms and regulatory policies influence sustainable business performance over time. Such analyses would provide stronger evidence regarding temporal relationships and institutional dynamics.

Third, future studies should incorporate additional firm-level variables—including corporate governance characteristics, board diversity, ownership concentration, innovation capability, digital transformation, access to finance, organisational culture, and leadership quality—to improve model specification and explain the remaining variation in sustainability performance.

Fourth, comparative cross-country studies involving Nigeria and other emerging African economies such as Ghana, Rwanda, Kenya, or South Africa would provide valuable insights into how differences in institutional quality influence corporate sustainability across varying governance contexts.

Finally, future research should employ mixed method approaches that combine quantitative analysis with qualitative interviews involving policymakers, regulators, investors, and corporate executives. Such studies would provide richer insights into the mechanisms through which governance quality and regulatory quality influence sustainable business performance and help explain how firms successfully navigate institutional constraints.

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