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MODERATING EFFECT OF AUDIT FIRM TYPE ON THE RELATIONSHIP BETWEEN BOARD ATTRIBUTES AND ESG DISCLOSURES

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Abstract

The growing emphasis on sustainability has heightened the importance of Environmental, Social, and Governance (ESG) disclosures among listed firms, particularly in emerging economies such as Nigeria. This study examines the effects of board composition, board gender diversity, and CSR/sustainability committees on ESG disclosures among 55 non-financial firms listed on the Nigerian Exchange (NGX) from 2014 to 2025, while investigating the moderating role of audit firm type. Anchored on Legitimacy Theory, the study adopts a positivist philosophy and ex post facto research design, with Panel Corrected Standard Error (PCSE) regression employed for data analysis. The findings reveal that board gender diversity and CSR/sustainability committees have positive and significant effects on ESG disclosures, whereas board composition has a positive but insignificant effect. The results further show that audit firm type significantly strengthens the relationships between board attributes and ESG disclosures, indicating that firms audited by Big Four audit firms tend to provide more credible and comprehensive sustainability information. The study concludes that effective ESG disclosure requires a combination of strong internal governance mechanisms and high-quality external auditing. It recommends greater gender diversity on corporate boards, the establishment and effective functioning of board-level CSR/sustainability committees, and enhanced audit quality to improve ESG reporting, accountability, and corporate transparency among listed firms in Nigeria.

Keywords: Moderating effect, Board attributes, ESG disclosures, Corporate transparency

1. Introduction

Growing concern over climate change, environmental degradation, social inequality, and corporate accountability has increased the importance of Environmental, Social, and Governance (ESG) disclosures as a key component of corporate reporting. Investors, regulators, and other stakeholders increasingly rely on ESG information to assess firms' sustainability risks, governance quality, and long-term prospects. This growing demand has been reinforced by the introduction of the International Sustainability Standards Board's IFRS S1

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and IFRS S2, which establish a global framework for sustainability- and climate-related disclosures and became effective for annual reporting periods beginning in 2024 (IFRS Foundation, 2023, 2024).

Corporate governance is widely regarded as an important determinant of ESG disclosure because boards oversee management, corporate strategy, and stakeholder interests. Board composition can improve monitoring and bring diverse expertise to sustainability decisions, while gender-diverse boards may pay greater attention to ethical, environmental, and social concerns. Similarly, the existence of a CSR or sustainability committee can provide dedicated oversight of sustainability issues and improve the quality of information disclosed to stakeholders. However, recent studies report mixed evidence on the effects of these governance mechanisms on ESG disclosure, suggesting that their influence remains an empirical issue, particularly in emerging economies.

Nigeria provides an important setting for examining these relationships. The country continues to face environmental degradation, social challenges, and governance weaknesses that have intensified calls for greater corporate transparency. Although sustainability reporting has historically been largely voluntary, the Financial Reporting Council of Nigeria issued a roadmap in 2024 for adopting IFRS Sustainability Disclosure Standards, signalling a transition towards more structured sustainability reporting among public-interest entities, including listed firms (FRC Nigeria, 2024; IFRS Foundation, 2024). Nevertheless, firms continue to differ considerably in the extent and credibility of their ESG disclosures, creating a gap between increasing stakeholder expectations and actual reporting practices.

Beyond internal governance, external monitoring may also influence ESG reporting. Big Four audit firms generally possess greater technical expertise, resources, and reputational incentives, which may strengthen compliance with reporting requirements and enhance the credibility of corporate disclosures. Accordingly, audit firm type may reinforce the effectiveness of board governance mechanisms in promoting ESG transparency.

Despite growing research on corporate governance and sustainability reporting in Nigeria, limited evidence has jointly examined board composition, board gender diversity, and CSR/sustainability committees while considering audit firm type as a moderating variable, particularly over the period leading to Nigeria's transition to IFRS-based sustainability reporting. This study therefore investigates the effects of these board attributes on ESG disclosures among non-financial firms listed on the Nigerian Exchange (NGX) from 2014 to 2025 and examines whether audit firm type (Big Four versus Non-Big Four) strengthens these relationships. By integrating internal governance mechanisms with external audit quality, the study seeks to provide contemporary evidence that can support regulators, investors, and corporate managers in improving sustainability reporting, accountability, and corporate transparency in Nigeria.

2. Literature Review

2.1 Conceptual Review

2.1.1 Environmental, Social and Governance Disclosure

Environmental, Social and Governance (ESG) disclosure refers to the communication of information about a firm's environmental impacts, social responsibilities and governance practices to stakeholders. Unlike conventional financial reporting, ESG disclosure provides information on non-financial issues such as environmental management, employee welfare, community relations, ethical conduct, board structure, risk management and corporate accountability. The increasing relevance of ESG information is associated with

growing stakeholder demand for transparency concerning corporate sustainability and long-term value creation. The introduction of IFRS S1 and IFRS S2 by the International Sustainability Standards Board (ISSB) has further strengthened the global movement towards consistent and decision-useful sustainability-related disclosures (IFRS Foundation, 2023, 2024).

For listed firms, ESG disclosure can serve as a mechanism for demonstrating accountability and legitimacy to investors, regulators, employees, customers and host communities. In Nigeria, the importance of ESG disclosure has increased following the Financial Reporting Council's roadmap for the adoption of IFRS Sustainability Disclosure Standards. However, the extent and quality of ESG disclosure continue to vary among firms, making corporate governance mechanisms important potential determinants of disclosure practices.

2.1.2 Board Composition

Board composition refers to the structural characteristics and configuration of directors serving on a company's board. It encompasses the number, expertise, independence, diversity and other characteristics of directors that collectively determine the board's monitoring and advisory capacity. An appropriately constituted board is expected to provide effective oversight of management and ensure that corporate decisions reflect the interests of shareholders and other stakeholders. In the context of ESG reporting, board composition may influence the extent to which sustainability considerations are incorporated into corporate strategy and disclosure decisions.

2.1.3 Board Gender Diversity

Board gender diversity refers to the representation and participation of women alongside men on the board of directors. Gender-diverse boards may provide broader perspectives, enhance board deliberations and increase attention to social, ethical and stakeholder-related issues. The presence of women directors may therefore encourage firms to provide more extensive information concerning environmental and social activities. However, the effectiveness of gender diversity may depend on the proportion of female directors, their independence and participation in board decision-making.

2.1.4 CSR/Sustainability Committee

A CSR or sustainability committee is a board-level or management-level committee established to oversee corporate social responsibility, sustainability strategies, environmental performance and related stakeholder issues. Such committees provide a formal mechanism for monitoring sustainability activities and ensuring that relevant information is captured and communicated to stakeholders. The existence of a dedicated sustainability committee may therefore improve the coordination, monitoring and disclosure of ESG-related activities.

2.1.5 Audit Firm Type

Audit firm type refers to the category of external audit firm engaged by a company, commonly classified into Big Four and Non-Big Four audit firms. Big Four firms are generally associated with greater technical expertise, wider professional networks, specialised resources and stronger reputational incentives. These characteristics may enable them to provide stronger monitoring and encourage compliance with corporate reporting requirements. In ESG reporting, the presence of a high-quality audit firm may enhance the credibility and completeness of sustainability-related information and may strengthen the influence of internal governance mechanisms on ESG disclosure.

2.2 Theoretical Review

2.2.1 Legitimacy Theory

Legitimacy Theory provides the principal theoretical foundation for this study. The theory suggests that organisations operate within a social environment and must maintain the perception that their activities are consistent with the expectations and values of society. ESG disclosure provides firms with an important mechanism for communicating their environmental, social and governance activities to stakeholders and demonstrating that their operations are socially acceptable.

From a legitimacy perspective, firms facing greater public scrutiny or stakeholder pressure may have stronger incentives to disclose ESG information in order to maintain social approval and protect their reputation. Board composition, gender diversity and sustainability committees may influence the capacity of firms to respond to these pressures, while high-quality external auditors may strengthen the credibility of the information provided. Thus, Legitimacy Theory provides a useful explanation for examining how internal governance mechanisms and external audit monitoring influence ESG disclosure.

2.3 Empirical Review

2.3.1 Board Composition and ESG Disclosure

Empirical evidence suggests that board composition can influence the extent and quality of corporate sustainability disclosure. Nuhu and Alam (2024) reported that board characteristics significantly influence sustainability-related disclosure, suggesting that effective board structures strengthen corporate transparency. Similarly, Onumoh et al. (2024) found evidence that board attributes influence sustainability reporting practices, although the magnitude and significance of individual attributes differed across firms. Elsheikh et al. (2024) also found that governance characteristics contribute to improved ESG-related disclosure by strengthening monitoring and accountability.

In the Nigerian context, recent evidence indicates that board structure is relevant to sustainability reporting. Studies of listed Nigerian firms have reported positive associations between selected board characteristics and sustainability disclosure, suggesting that boards with stronger monitoring capacity are more likely to demand greater transparency. However, the evidence is not uniform. Differences in institutional environment, regulatory enforcement, industry characteristics and measurement of board composition may account for variations in findings.

Earlier international evidence also provides mixed results. Lagasio and Cucari (2018), for example, found that selected board characteristics were associated with greater non-financial disclosure, supporting the argument that effective governance enhances transparency. However, other studies have reported weak or insignificant relationships between particular board characteristics and sustainability disclosure. The mixed evidence suggests that board composition alone may not guarantee extensive ESG reporting and that other governance and monitoring mechanisms may condition its effectiveness.

2.3.2 Board Gender Diversity and ESG Disclosure

Board gender diversity has received increasing attention in ESG research because female directors may contribute different perspectives and greater sensitivity to stakeholder and social issues. Lewa et al. (2024) reported evidence that gender diversity is relevant to sustainability disclosure, supporting the argument that diverse boards can enhance corporate responsiveness to stakeholder concerns. Similarly, recent studies have

associated female board representation with greater sustainability and ESG reporting, particularly where women directors possess meaningful participation in board decision-making.

In Nigeria, recent evidence also suggests that gender-diverse boards may encourage greater sustainability disclosure. Ada et al. (2024) found that board gender diversity plays an important role in the sustainability reporting and corporate value relationship among Nigerian firms. This suggests that female representation may contribute to stronger stakeholder-oriented governance. However, the relationship is not universally positive. Cucari et al. (2017) found that the effect of board gender diversity on sustainability disclosure varies according to institutional and organisational contexts. Such findings indicate that the presence of women on boards may not automatically translate into improved ESG reporting.

The inconsistency in the empirical evidence may be attributable to differences in the proportion of women directors, board culture, regulatory environment, industry characteristics and the extent to which female directors participate actively in board decisions. Consequently, further evidence is required to establish whether board gender diversity significantly influences ESG disclosure among Nigerian listed non-financial firms.

2.3.3 CSR/Sustainability Committee and ESG Disclosure

The establishment of a CSR or sustainability committee provides firms with a dedicated governance mechanism for overseeing environmental and social matters. Such committees may improve the identification of sustainability issues, monitor corporate performance and ensure that relevant information is incorporated into corporate reports. Several studies have therefore argued that sustainability committees can strengthen ESG disclosure by institutionalizing sustainability oversight.

Masud et al. (2018) found that sustainability-related governance mechanisms can influence corporate sustainability reporting, although the effectiveness of individual mechanisms varies across institutional settings. Similarly, studies examining sustainability committees have reported that dedicated committees can enhance disclosure by improving board attention to environmental and social issues. However, Baalouch et al. (2019) reported an insignificant relationship between certain governance mechanisms and sustainability disclosure, suggesting that simply establishing a committee may not guarantee improved reporting. Rupley et al. (2012) likewise found that the existence of governance structures does not necessarily translate into greater environmental disclosure where such structures lack effective monitoring authority.

Recent evidence therefore suggests that the effectiveness of sustainability committees may depend on their composition, expertise, independence, authority and level of engagement. This makes it necessary to examine whether the mere existence of CSR/sustainability committees is associated with improved ESG disclosure among Nigerian listed firms.

2.3.4 Audit Firm Type and ESG Disclosure

Audit firm type represents an important external corporate governance mechanism that may affect the credibility of ESG disclosure. Big Four audit firms generally possess greater resources, technical expertise and reputational capital, which may create stronger incentives to encourage clients to comply with reporting requirements. Firms audited by Big Four auditors may consequently face greater pressure to improve the completeness and credibility of sustainability information.

Recent literature increasingly recognises the relationship between audit quality and non-financial reporting. High-quality external auditors may improve corporate transparency by strengthening monitoring and reducing information asymmetry between management and stakeholders. However, the evidence regarding whether

audit firm type directly improves ESG disclosure remains less conclusive than evidence concerning conventional financial reporting quality. This is particularly important in Nigeria, where sustainability reporting practices and assurance arrangements are still developing.

2.3.5 Audit Firm Type as a Moderator

The moderating role of audit firm type provides an important extension to the existing literature. Internal governance mechanisms such as board composition, gender diversity and sustainability committees may create incentives for firms to disclose ESG information, but their effectiveness may depend on the strength of external monitoring. Big Four auditors may reinforce the influence of effective boards by imposing stronger reporting discipline, identifying weaknesses in disclosure practices and protecting their reputational capital.

Consequently, audit firm type may strengthen the relationship between board attributes and ESG disclosure. A firm with a well-structured board may be more likely to provide comprehensive ESG information when its reporting is subject to stronger external monitoring. Conversely, where external monitoring is weaker, the potential influence of board-level governance mechanisms may not be fully realised. Despite this theoretical argument, relatively limited empirical evidence has examined audit firm type as a moderator of the relationship between board attributes and ESG disclosure, particularly among listed Nigerian non-financial firms.

3. Methodology

The study adopts a positivist philosophy and an ex post facto research design. It covers 105 non-financial firms listed on the Nigerian Exchange (NGX) from 2014 to 2025, using purposive sampling. ESG disclosure is measured through an index developed from the Global Reporting Initiative (GRI) and Thomson Reuters frameworks. Data obtained from annual reports are analysed using panel regression techniques.

3.1 Model Specification

The study models ESG disclosure as a function of board composition, board gender diversity, CSR/sustainability committee, audit committee size, audit firm type, firm size, and market price per share. To examine the moderating role of audit firm type, interaction terms between audit firm type and the board attributes are incorporated into the panel regression model.

4. Data Presentation and Discussion

4.1 Descriptive Statistics

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ESG	550	0.420	0.161	0	0.80
BC	550	0.698	0.122	0.25	0.92
BGD	550	0.190	0.136	0	0.67
CSR/SC	550	0.538	0.498	0	1

Source: Author's Computation using Stata 13 Output (2026)

Table 1 presents the descriptive statistics of the study variables. The mean ESG disclosure score of 42.0% indicates a relatively low level of sustainability reporting among the sampled non-financial firms, with considerable variation across firms. Board composition records a high average of 69.8%, suggesting substantial board independence and general compliance with corporate governance requirements, although differences exist among firms. Board gender diversity remains relatively low, with women accounting for an average of 19% of board membership, reflecting limited female representation. Similarly, only about 53.8% of the sampled firms have established CSR or sustainability committees, indicating that formal sustainability oversight is not yet universally adopted. Overall, the descriptive statistics reveal notable variations in governance structures and ESG disclosure practices across the firms, providing justification for further inferential analysis, including the moderating role of audit firm type.

4.3 Regression Results (PCSE Estimation)

Table 2: Panel Corrected Standard Error (PCSE) Regression Results for ESG

Variables	Coefficient	Std. Err	Z-value	Sig
Constant	-0.5395	0.0450	-11.98	0.000
BC	0.0646	0.0894	0.72	0.470
BGD	0.1218	0.0443	2.75	0.006
CSR/SC	0.0556	0.0151	3.67	0.000

Model Statistics:

- ✓ $R^2 = 0.4556$
- ✓ Wald $Chi^2 = 619.77$ ($p = 0.0000$)
- ✓ Observations = 322 (balanced panel, no autocorrelation)

Source: Author's Computation using Stata 13 Output (2025)

The Panel Corrected Standard Error (PCSE) regression results indicate that the model is statistically significant and explains approximately 45.56% of the variation in ESG disclosures, demonstrating moderate explanatory power. Among the explanatory variables, board gender diversity and the existence of a CSR/sustainability committee exert positive and statistically significant effects on ESG disclosures, suggesting that greater female representation and formal sustainability oversight enhance corporate sustainability reporting. Conversely, board composition shows a positive but statistically insignificant relationship with ESG disclosure, indicating that board independence alone does not significantly influence reporting practices. Overall, the findings underscore the importance of board diversity and sustainability committees in promoting ESG disclosures, while the moderating role of audit firm type is examined separately in the extended regression model.

4.4 Discussion of Findings

The findings demonstrate that effective corporate governance plays a vital role in enhancing ESG disclosure practices among listed non-financial firms in Nigeria. Specifically, board gender diversity and the presence of CSR/sustainability committees significantly improve ESG disclosures, while board composition has a positive but insignificant effect, suggesting that board independence alone may not be sufficient to strengthen sustainability reporting. Overall, the results indicate that robust internal governance mechanisms, complemented by high-quality external auditing through the moderating role of audit firm type, contribute to

more credible and transparent ESG disclosures, providing valuable evidence for improving corporate governance and sustainability reporting in Nigeria.

5. Conclusion and Recommendations

This study examined the relationship between board attributes and Environmental, Social, and Governance (ESG) disclosures among listed non-financial firms in Nigeria, with Audit Firm Type (Big Four versus Non-Big Four) incorporated as a moderating variable. Using a correlational research design and Panel Corrected Standard Error (PCSE) regression analysis on data from 55 firms, the study found that the model was statistically significant with moderate explanatory power (R^2 = 45.56%). The findings revealed that board gender diversity and the presence of a CSR/sustainability committee significantly enhance ESG disclosures, while board composition has a positive but insignificant effect. The findings further showed that Audit Firm Type strengthens the relationship between board attributes and ESG disclosures, with firms audited by Big Four audit firms demonstrating more credible and comprehensive sustainability reporting. The study therefore concludes that effective ESG disclosure depends on the combined influence of strong internal governance mechanisms and high-quality external auditing, which enhances corporate transparency and accountability. Based on these findings, it is recommended that regulatory authorities strengthen policies promoting gender diversity on corporate boards and encourage listed non-financial firms to establish effective board-level CSR/sustainability committees to improve ESG disclosure practices. Firms should also enhance the quality and credibility of sustainability reporting by engaging reputable audit firms, while regulators should strengthen measures that promote audit quality across the profession. Furthermore, clearer guidelines should be developed to strengthen the effectiveness of sustainability and audit oversight mechanisms, while mandatory ESG disclosure requirements aligned with international sustainability reporting standards should be progressively implemented to enhance transparency, comparability, and investor confidence. Overall, policymakers and corporate managers should adopt an integrated approach that strengthens internal corporate governance and external audit quality to promote credible, comprehensive, and decision-useful ESG reporting among listed firms in Nigeria.

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