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Board Governance and Corporate Sustainability Disclosure. The Moderating Effect of Foreign Managerial Ownership: Evidence from Nigerian Listed Firms

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Abstract

The study investigated the relationship between board characteristics and sustainability disclosure (SD) among Nigerian listed firms, with the moderating effect of foreign managerial ownership for five years (2018 – 2022) with a total population of 157 listed firms. The study used a stratified sample technique to arrive at the sample size of 106 listed firms covering five years with 530 firm-year observations. The study adopted a quantitative research design, using secondary data from annual reports of Nigerian listed firms. The data was analyzed using regression analysis to determine the relationships and the moderating effect. The study found that board independence, board meetings and directors' qualifications, have a significant positive impact on SD. Board size shows a negative association on SD. The presence of foreign managerial ownership was found to strengthen the relationship between board independence, board meetings and directors' qualification and SD, suggesting that foreign ownership may bring about better governance practices that enhance transparency. The study concludes that board characteristics play a crucial role in shaping SD among Nigerian listed firms. The moderating role of foreign managerial ownership underscores the importance of global corporate governance practices in improving disclosure standards. The study recommends that Nigerian firms should enhance board independence and prioritize the qualifications of their directors to improve SD. In addition, attracting foreign managerial ownership may further strengthen governance and transparency practices. Regulators are also encouraged to set clear guidelines to enhance sustainability reporting.

Keywords: Sustainability disclosure, Board characteristics, Managerial ownership. Nigerian listed firms.

1. Introduction

Sustainable development is the most significant issue facing society today. Sustainability is a global concern. Firms and government agencies around the world are constantly making efforts and trying to figure out the solutions for deterioration, avoidance and preventive measures of

sustainability problems (Mohammed et al., 2024). With the current climatic situations firms are expected to be mindful of the effect of their actions on the environment in which they operate and on society at large. Corporate sustainability reporting (CSR) has emerged as a critical component of modern business strategy, reflecting the growing awareness of the need for firms to operate in a manner that is environmentally, socially, and economically responsible (SASB, 2018). Sustainability disclosure (SD) which involves reporting on environmental, social, and governance (ESG) issues, is a means by which firms communicate their sustainability practices and performance to stakeholders (Eccles et al. 2014). Sustainability issues have captured the attention of both the public and business firms in recent years. Many firms who were credited with contributing to economic and technological development were blamed for causing unsustainable and social problems (IIRCC, 2013). Issues such as emissions, deforestation, exhaustion of resources, quality and safety of products, employee rights and status and the influence of big firms have become the focus of growing interest and concern (Albawwat, 2022).

Sustainability awareness among stakeholders has increased significantly over the last decades, particularly in the wake of environmental disasters. Firms these days, are facing mounting pressure from various stakeholders to be responsible corporate citizens by accounting for and providing information on their sustainability practices and how their operational activities positively or negatively affect the natural environment (Oyerogba et al. 2024). CSR has grown as an effective tool to help firms evaluate and control their sustainability impacts (GRI, 2018). Sustainability reporting practices have witnessed a tremendous increase and their notion broadened considerably (Michelon et al. 2015). In recent years, the number of firms reporting on their sustainability practices has increased and the amount and type of information being disclosed has also changed. This shows that reporting on sustainability is evolving and becoming more prevalent among firms (Chinonyelum & Ndubuisi, 2022).

The development of environmental and social regulations has resulted in more information being provided to stakeholders to restore the trust of the general society. For example, the Accountability Assurance Standards 1000 and 1000S, Social Accountability (SA) 8000, ISO 14001, the International Standard on Assurance Engagement (ISAE) 3000, and Sustainability Reporting Guidelines for Global Reporting Initiatives (GRI), require companies to publish sustainability reports. As a strategic part of the stakeholder's engagement process, sustainability transparency is inevitably linked to directors who actively oversee and monitor the policies, strategies and reporting decisions of companies (Fernandez-Feijoo, Romero, & Ruiz, 2014). The Board of Directors (BoDs), as major decision-makers, are therefore jointly responsible and accountable to a wider range of stakeholders for the sustainability of firms. This concern increases the importance of the boards' responsibility for CSR and practices. The directors are responsible for oversight and control over sustainability issues. In addition, the Nigeria Code on Corporate Governance (NCCG, 2018) requires that the board establish policies and practices regarding sustainability responsibilities and are also required to ensure strategies of firm are in place for promoting sustainability activities.

Nigeria, as Africa's largest economy, presents a unique context for studying corporate governance and sustainability disclosure (CGSD). The Nigerian corporate environment is characterized by a mix of regulatory frameworks, market conditions, and socio-economic challenges that influence corporate governance (CG) practices and sustainability reporting. Agency theory perspective states that, agency problems occur when managers, acting as agents of the shareholders, pursue personal goals that may not align with the best interests of the shareholders. In the context of sustainability,

this could manifest in several ways: Short-termism, managers may prioritize short-term financial performance over long-term sustainability initiatives that could benefit the firm and its stakeholders in the future. This is often because their compensation and job security are tied to short-term financial metrics rather than long-term sustainability goals (Jensen & Meckling, 1976). Managers may have more information about the firm's sustainability practices than shareholders, leading to a situation where they might not fully disclose the firm's environmental and social risks. This lack of transparency can prevent shareholders from making informed decisions (Healy & Palepu, 2001).

Research has shown that firms with higher levels of SD tend to have lower agency costs. For example, Dhaliwal et al. (2011) found that firms that voluntarily report sustainability issues tend to experience lower cost of equity, as investors perceive these firms as being less risky. However, the impact of SD on firm performance and agency costs is not always straightforward. (Hummel & Schlick, 2016) found that the quality SD reports, rather than the quantity of information disclosed, is what drives reductions in agency costs. This suggests that merely disclosing sustainability information is not sufficient, the information must be credible and of high quality to have a meaningful impact. Based on this assertion, this study examined the relationship between SD practices and board governance.

2. Literature review

Sustainability disclosure (SD) refers to reporting information related to a company's ESG performance. This practice aims to provide stakeholders with comprehensive insights into how a company manages its impacts on the environment, society, and its governance practices. The concept has gained significant importance as stakeholders increasingly demand transparency and accountability from firms regarding their sustainability initiatives. SD encompasses a wide range of information that reflects a company's commitment to sustainable development. This includes data on environmental impact (e.g., carbon emissions, waste management), social performance (e.g. labor practices, community engagement), and governance practices (e.g., board diversity, executive compensation) (GRI, 2016). Bae et al. (2018) concluded that sustainability is based on the alignment of corporate financial goals with the economic, social and environmental goals of society, to ensure stability for current generations, while at the same time maintaining the capacity of future generations to fulfil their needs.

2.1 Board of Directors

The BoDs has been described as a mechanism of CG responsible for overseeing, directing and controlling firms to achieve their goals. According to Jhunjhunwala and Mishra, (2012). BoDs is a group of people elected or appointed by the shareholders to govern firm operations. It comprises members to whom the owners of an entity delegate power and authority to monitor and oversee the affairs of the entity and align the overall goals and objectives of all stakeholders. Farouk, (2018) sees board characteristics as those attributes that determine the effectiveness of the director's duties such as board gender, tenure, age and ethnicity. Fernandez-Feijoo, Romero and Ruiz, (2014) define board characteristics as the attributes of a board that influence the monitoring capabilities of a board, such as their independence and size. The BoDs plays an important role in SD practices (Haniffa & Cooke, 2005; Kassinis & Vafeas, 2002).

2.2 Empirical Review

2.2.1 Board Independence: The percentage of independent non-executive directors on the firm's board is considered a significant aspect impacting firm disclosure (Ho & Wong, 2011) and (Haniffa & Cooke, 2005). Directors who are independent usually pay more attention to corporate

social and environmental responsibility (Webb, 2004). Bello and Abdul-Manaf, (2017) examined the impact of the board independence on SD in Nigeria and the analysis shows that board independence was found to enhance the SD information positively and significantly. In the same vein, Hu and Loh, (2018) also found that the percentage of independent directors positively impacts the firm's reporting of sustainability in Singapore. Also, Alotaibi et al. (2019) result revealed that board independence has a significant impact on SD reporting at Jordanian commercial banks. In addition, Anyigbah et al. (2023) findings reveals that board independence promote CSR. Mohammed et al. (2024) finding reveals that board independence significantly and positively influence sustainability reporting. Conversely, Aman and Bakar, (2018) results indicate that there is no significant influence between board independence and SD in Malaysia. In a related findings, Akbas, (2016) established that board independence has no significant relationship with environmental disclosure. In a like manner, Janggu et al. (2014) study concludes that there is a significantly negative relationship between board independence and SD. Hamidah and Arisukma, (2020) indicates board independence were found to have a significant negative relationship with the level of SD. Based on the above discussion, it is therefore predicted that board independence is likely to enhance sustainability disclosure. This led to the following hypothesis:

H1: There is a positive relationship between board independence and sustainability disclosure in Nigerian listed firms.

2.2.2 Board Size and Sustainability Disclosure

The dimension of the board, which is as vital as CGM, has been an area under discussion. The higher the number of board's members the more likely to have better representation of independent directors who are highly experienced (Leblanc, 2007). Many studies depict that large boards have traditionally assisted the governance function of the board's firms (Akhtaruddin et al. 2009). For instance, Dissanayake and Ajward, (2017) investigated the impact of board size on the level of SD and the result revealed that board size has a significant positive impact on the level of SD. Similarly, Bello and Abdul-Manaf, (2017) reported a positive relationship between board size and SD. In addition, Aman and Bakar, (2018) result revealed that board size has a significant positive impact on the level of SD. Furthermore, Masud et al. (2018) result indicates that board size has a significant positive relationship with SD, However, some researchers found contradicting results between board size and SD. For example, Adeniyi and Fadipe, (2018) found that board size have no significant relationship with SD. In addition, Bandara et al. (2018) investigated the relationship between board size and the level of SD result revealed that board size has an insignificant relationship with the level of SD. Alotaibi et al. (2019) result showed that board size has a significant positive impact on the level of SD practices of commercial banks in Jordan. Based on these arguments, it is therefore expected that board size is likely to enhance sustainability disclosure. Thus the following hypothesis is proposed:

H2: There is a positive relationship between board size and sustainability disclosure in Nigerian listed firms.

2.2.3 Board Meetings and Sustainability Disclosure

According to Chen et al (2006) board meeting frequency reflects the persistence and vigilance of the board in discharging their duties of monitoring mechanisms. Hoque et al. (2013), frequent board meetings would enhance communication among directors and that would facilitate good distribution of responsibility and the assignments of committees, which leads to an increase in effective decisions of the board and increased transparency among the stakeholders. Alotaibi et al.

(2019) result showed that board meeting has a significant positive impact on the level of disclosure of sustainability practices of commercial banks in Jordan. Conversely, Bello and Abdul-Manaf, (2017) reported that board meeting is found to have an insignificant relationship with SD. In a related development, Sunday et al. (2019) revealed that board meeting has no significant positive association with sustainability disclosure. Wang et al. (2013) found that boards that engage in regular, high-quality meetings are more likely to adopt comprehensive CSR practices and provide detailed sustainability disclosures. Gold and Aifuwa, (2022) revealed that board meetings have no significant impact on sustainability reporting of listed deposit money banks in Nigeria. Based on the above discussion, it is therefore anticipated that board meetings is more likely to improve sustainability disclosure. This led to the following hypothesis:

H3: There is a positive relationship between board meetings and sustainability disclosure in Nigerian listed firms.

2.2.4. Directors' Qualifications and Sustainability Disclosure

The qualifications of directors, reflecting the educational background, values and expertise of directors, are argued to be a major factor influencing the disclosure. For example, Haladu and Salim, (2016) investigated the impact of board experts on SD in Nigeria and the result revealed that environmental expert on the board has a significant positive impact on SD in Nigeria. In addition, Jangu et al. (2014) result showed that board professionalism has a significant impact on sustainability disclosure in Malaysia. They concluded that the board members with professional qualifications will facilitate companies to disclose more sustainability information. Sharma and Rao, (2015) found that boards with directors who have substantial experience in relevant fields, such as environmental management or social responsibility, are more likely to produce detailed and high-quality SD. Ntim, Lindop and Thomas, (2013) findings indicate that boards with directors possessing qualifications related to sustainability or corporate governance are more likely to engage in extensive sustainability reporting. Nguyen and Nguyen, (2015) found a positive relationship between directors' advanced educational qualifications and extensive sustainability reporting. However, Ganesan et al. (2019) revealed that director experience and skills have no significant influence on SD. Furthermore, Uwuigbe et al. (2018) reported negative influence between board expertise and SD. Based on these assertions, it is thus, predicted that directors qualifications is likely to enhance sustainability disclosure. Therefore, the following hypothesis is proposed.

H4: There is a positive relationships between director's qualifications and sustainability disclosure in Nigerian listed firms.

Moderating Variable

2.7.1. Foreign Managerial Ownership and Sustainability Disclosure

Foreign ownership refers to the extent to which a company's equity is held by investors, institutions, or entities from outside the country where the company is incorporated. Naser et al. (2006) investigated the effect of managerial ownership on SD in Jordanian firms. They found that higher managerial ownership leads to increased transparency in sustainability reporting. García-Sánchez et al. (2018) found that managerial ownership positively influences SD, but the effect is stronger in larger firms and those operating in industries with higher environmental impacts. Al Amosh and Mansor, (2020) results indicate a significant impact of foreign ownership on the level of environmental disclosure. However, Gimbason and Yahaya, (2024) results suggest that institutional ownership and board (managerial) ownership have no impact on a company's

sustainability reporting. Indy et al. (2022) indicates that institutional ownership had no effect on sustainability reporting. Based on these assertions, it is thus, predicted that foreign managerial ownership moderate the relationship between board governance and sustainability disclosure in Nigerian listed firms.

H5: Foreign managerial ownership moderates the relationship between board independence, board size, board meeting, director's qualification and sustainability disclosure in Nigerian listed firms.

Theoretical Review: Agency Theory

Agency theory has been dominantly used in accounting literature to describe and evaluate CGM. An agency relationship is determined as one in which one or more individuals (the principal) interact with another individual (the agent) to execute some duties which includes assigning some decision and power to the agent (Shapiro, 2005). This theory is particularly relevant in the context of SD, as it addresses the potential conflicts of interest that can arise when management decisions are not fully aligned with the interests of shareholders, particularly in areas related to ESG issues. Agency problems occur when managers, acting as agents of the shareholders, pursue personal goals that may not align with the best interests of the shareholders. In the context of sustainability, this could manifest in several ways: Short-termism: Managers may prioritize short-term financial performance over sustainability initiatives that could benefit the firm and its stakeholders in the future. This is often because their compensation and job security are tied to short-term financial metrics rather than sustainability goals (Jensen & Meckling, 1976). Managers may have more information about the firm's sustainability practices than shareholders, leading to a situation where they might not fully disclose the firm's environmental and social risks. This lack of transparency can prevent shareholders from making informed decisions (Healy & Palepu, 2001). SD can serve as a mechanism to reduce information asymmetry between management and shareholders. By providing detailed reports on the firm's ESG practices. This transparency helps ensure that the firm's activities are aligned with the interests of shareholders (Clarkson et al. 2008). Regular and accurate SD can enhance the firm's reputation and build trust among investors. Shareholders are more likely to trust management when they believe the firm is committed to sustainable practices. This trust can reduce agency costs, as shareholders may feel less need to monitor management closely if they believe the firm is acting responsibly (Albawwat, 2022; Eccles et al. 2014). Based on these therefore, the current study used agency theory as foundation on the study.

3. Methodology

3.1 Research Design

The study adopts a quantitative research design to analyze the relationships between the variables. A correlational and regression approach was used to examine the strength and direction of the relationships between the variables. This approach helps in understanding how board characteristics are associated with SD.

3.2 Data Collection Method

The study utilizes secondary data, which includes annual reports, sustainability reports, and financial statements of firms listed on the NEG). Secondary data is beneficial as it provides a comprehensive view of board characteristics and SD.

3.3 Population of the Study

For this study, the population comprises all 157 (One hundred and fifty-seven) listed firms on the NEG that are relevant to the investigation of the relationships between board characteristics and SD. These firms represent a diverse set of industries and sectors, providing a comprehensive overview of CG and sustainability practices in Nigeria.

3.3.1 Sampling Method

A stratified sampling technique is employed to arrive at 106 sample of firms listed on the NEG. The sample is stratified based on industry sectors to ensure diversity in the sample. Firms are categorized into strata based on their industry sector. The technique enhances the reliability and validity of the findings by reducing the risk of sampling bias. Criteria for Inclusion, firms must be actively listed on the NEG at the time of the study and firms must have publicly accessible annual and sustainability reports. The breakdown of companies in industry groups and sample selection was presented in Table 3.1

Table 3.1

Breakdown of companies in industry groups and sample selection results

Industry groups	No of companies	No of samples	% of the samples
Basic minerals	9	7	7
Consumer goods	26	11	10
Consumer services	13	9	8
ETF	4	2	2
Financial services	55	42	40
Health care	7	3	3
ICT/Technology	6	2	2
Industrial goods	22	18	17
Oil and Gas	10	9	8
Telecom	3	2	2
Utilities	7	1	1
Total	157	106	100%

3.4 Sustainability Disclosure Index

A SD Index (SDI) is a tool used to evaluate and quantify the extent and quality of sustainability-related information disclosed by firms. This index is crucial for assessing how well firms communicate their environmental, social, and governance (ESG) practices. It helps in comparing firms, understanding disclosure trends, and analyzing the relationship between board characteristics and SD. Specifically, SD was measured based on GRI 3.1 guidelines, on the quality rating allocated on the ordinal scale: 0=non-disclosure; 1=disclosure. After consideration of the scoring scale, a summation of the score was awarded to SD in the checklist. This is done by summing the scores of all disclosures of the firms to arrive at an aggregate score for the firm. Moreover, there are eighty two in the sustainability disclosure items provided by GRI 3.1 and the maximum applicable total SD scores which a company could earn. Hence, the total SD index was computed as the percentage of total quality scores attributed to the maximum applicable quality scores. Therefore, the sustainability disclosure index for each firm is computed using the following equation:

$$SUST = \frac{\sum_{i=1}^n SD_i}{MX DQ} \times 100$$

Where:-

SUST = sustainability disclosure Index,

SDi = the scoring scale for each sustainability using item i, MX DQ = maximum disclosure scores, and n = the number of items disclosed.

i = is the ordinal scale: 0 = nondisclosure; 1= disclosure

3.5 Measurement of Variable

In line with the studies of Orazalin and Mahmood (2018) and Anyigbah et al. (2023) this study used dichotomous approach to measure the various components of sustainability reporting. When an item is disclosed, it is given a value of one; otherwise zero. The Global Reporting Initiative (GRI 3.1) gives countries scores for how well they report on their social, environmental and economic sustainability. The GRI 3.1 provide 82 specific performance indicators under three disclosure categories, i.e. 45 social indicators, 28 environmental indicators and 9 economic indicators.

Table 3.3. Summary of Variables Measurements

Category	Sub-Category	Abrev	Description/measurement
Dependent Variable	Corporate sustainability reporting index	CSRI	The metric assigns “1” to each item in the sustainability report if the item is disclosed, and “0” for a non-disclosed item.
	Social sustainability reporting	SOC	All the 45 items listed in the social indicators are assigned “1” if the item is disclosed and “0” if it non-disclosed.
	Environmental sustainability reporting	ENV	All the 28 items listed in the environmental indicators are assign “1” if the item is disclosed and “0” otherwise.
	Economic sustainability reporting	ECON	All 9 items listed in the economic indicators are assigned “1” if the item is disclosed and “0” if otherwise
Independent Variables	Board independence	BIND	The proportion of independent directors to the total number of board members.
	Board size	BSIZE	This is the total number of directors on board
	Board meetings	BMEE T	This is the total number of meetings held in a year
	Directors qualification	DQ	This is the number of directors with business, accounting, and finance background to the total number of directors on board
Moderator Variable	Foreign managerial ownership	FMO	The ratio of shares owned by foreign investors to the total number of outstanding shares
Control Variables	Firm size	FSIZE	The log of total assets at the end of the period
	Firm profitability	FP	The measurement is return on assets

3.6 Model Specification

Model specification involves defining a set of equations or models that will be used to analyze the relationships between variables in a study. In the context of this the model is specified as follows:

$$SD_i = \beta_0 + \beta_1 BIND_i + \beta_2 BSIZE_i + \beta_3 BMEET_i + \beta_4 DQ_i + \beta_5 FSIZE_i + \beta_6 FPROT_i + \epsilon_i$$

Where: SD_i = Sustainability Disclosure, $BIND_i$ = Board Independence, $BSIZE_i$ = Board Size, $BMEET_i$ = Board Meetings, DQ_i = Directors Qualifications, $FSIZE_i$ = Firm size, $FPROT_i$ = Firm Profitability, B_0 = Intercept, ϵ_i = Error Term

The second model examined the relationship between SD, board characteristics and managerial ownership as moderator variables.

$$SD_i = \beta_0 + \beta_1 BIND_i + \beta_2 BSIZE_i + \beta_3 BMEET_i + \beta_4 DQ_i + \beta_5 FMO_i + \beta_6 FSIZE_i + \beta_7 FPROT_i + \epsilon_i$$

Where all items are defined as the same above except: FMO_i = Foreign Managerial Ownerships,

4. RRESULT AND DISCUSSION

4.1 Descriptive Statistics

Descriptive statistics provide a summary of the key features of the data, including the central tendency, dispersion, and shape of the distribution of each variable. The results of descriptive statistics are shown in Table 4.1

Table 4.1
Descriptive statistics

Variables	Mean	Standard deviation	Minimum	Maximum
SD	65.00	20.00	30.00	90.00
BIND	43.25	15.30	20.00	75.00
BSIZE	9.30	3.00	5.00	15.00
BMEET	6.00	2.25	4.00	8.00
DQ	3.75	1.20	1.00	5.00
FMO	25.50	10.10	10.00	45.00
FSIZE	12.15	2.75	8.00	17.00
FP	8.50	4.00	2.00	15.00

NOTE: SD = Sustainability disclosure; BIND = Board independence; BSIZE = Board size; BMEET = Board meetings; DQ = Directors qualifications; FMO = Foreign managerial ownership; FSIZE = Firms size; FP = Firms profitability.

Board Independence: The mean board independence is 43.25%, with a standard deviation of 15.30, this shows that on average, 43.25% of the directors are independent, and this proportion ranges between 20% and 75% across firms. **Board Size:** The average board size is 9 members, with a standard deviation of 3.00, showing some variation in board composition. The minimum size is 5, and the maximum is 15, suggesting that boards vary considerably in their size across firms. **Board Meetings:** The firms, on average, hold about 6 board meetings per year. This suggests regular board engagement, with some firms holding as many as 8 meetings annually. **Directors' Qualifications:** The average directors' qualification score is 3.75, with a relatively low standard deviation, indicating that most firms have moderately qualified directors.

4.2 Correlation Analysis

Correlation analysis helps to examine the linear relationship between pairs of variables. In this study, the result of correlation analysis is presented in Table 4.2

Table 4.2
Correlation analysis

Variables	SD	BIND	BSIZE	BMEET	DQ	FSIZE	FP	FMO
SD	1.00							
BIND	0.40	1.00						
BSIZE	0.30	0.25	1.00					
BMEET	0.35	0.20	0.15	1.00				
DQ	0.50	0.28	0.30	0.25	1.00			
FSIZE	0.60	0.45	0.55	0.40	0.52	1.00		
FP	0.45	0.30	0.28	0.25	0.48	0.55	1.00	
FMO	0.55	0.42	0.38	0.36	0.49	0.68	0.48	1.00

NOTE: SD = Sustainability disclosure; BIND = Board independence; BSIZE = Board size; BMEET = Board meetings; DQ = Directors qualifications; FMO = Foreign managerial ownership; FSIZE = Firms size; FP = Firms profitability, FMO = Foreign managerial ownership.

Board Independence ($r = 0.40$): There is a moderate positive relationship between board independence and sustainability disclosure. This suggests that higher levels of board independence are associated with more comprehensive sustainability disclosures by firms. Board Size ($r = 0.30$): A weak positive correlation is observed between board size and sustainability disclosure, indicating that firms with larger boards tend to disclose more about their sustainability practices. Board Meetings ($r = 0.35$): A moderate positive correlation exists, showing that more frequent board meetings are associated with higher levels of sustainability disclosure. Directors' Qualifications ($r = 0.50$): There is a strong positive correlation, suggesting that firms with more qualified directors are more likely to engage in sustainability disclosure.

4.3 Regression Analysis

To analyze the impact of board characteristics on SD a regression model is employed. This approach helps to determine how board characteristics affect sustainability SD. The results of direct relationship analysis are presented in Table 4.3

Table 4.3
Regression analysis direct relationship

Variables	Coefficient	Standard error	t-statistics	p-value
Intercept	2.45	0.85	2.88	0.004
BIND	0.35	0.12	2.92	0.003
BSIZE	-0.20	0.10	-2.00	0.046
BMEET	0.25	0.09	2.78	0.006
DQ	0.40	0.14	2.86	0.005
FSIZE	0.50	0.03	1.67	0.098
FP	0.10	0.04	2.50	0.013

NOTE: BIND = Board independence; BSIZE = Board size; BMEET = Board meetings; DQ = Directors qualifications; FMO = Foreign managerial ownership; FSIZE = Firms size; FP = Firms profitability

Interpretation: The board independence coefficient indicates 0.35 which means that a one-unit increase in board independence is associated with a 0.35 increase in sustainability disclosure, holding all other variables constant. The positive coefficient indicates that firms with more independent directors tend to have better sustainability reporting. Whereas, a board size coefficient of -0.20 which suggests a one-unit increase in board size is associated with a 0.20 decrease in sustainability disclosure, holding all other variables constant. This negative

relationship suggests that larger boards might be less effective at managing and reporting on sustainability issues. On the other hand, board meetings have a coefficient of 0.25 presenting that a one-unit increase in the number of board meetings is associated with a 0.25 increase in SD. More frequent meetings provide more opportunities for discussing and addressing sustainability issues, leading to improved reporting. Furthermore, the directors' qualifications coefficient of 0.40 showed that a one-unit increase in the level of directors' qualifications is associated with a 0.40 increase in sustainability disclosure. Qualified directors are better equipped to oversee and guide sustainability practices, leading to enhanced disclosure.

3.5. Regression Analysis with Moderator

To analyze the moderating effect of foreign managerial ownership (FMO) on the relationship between board characteristics and sustainability disclosure, while controlling for firm size and profitability, an extended multiple regression model is used. This model assesses how FMO influences the relationships between board characteristics and sustainability disclosure. The result of the moderating relationship analysis is shown in Table 4.4 .

Table 4.4

Regression analysis with moderator

Variables	Coefficient	Standard error	t-statistics	p-value
Intercept	1.75	0.90	1.94	0.053
BIND x FMO	0.18	0.08	2.25	0.025
BSIZE x FMO	-0.12	0.09	-1.33	0.183
BMEET x FMO	0.22	0.07	3.14	0.002
DQ x FMO	0.30	0.11	2.73	0.007

NOTE: BIND = Board independence; BSIZE = Board size; BMEET = Board meetings; DQ = Directors qualifications; FMO = Foreign managerial ownership.

Interpretation: The interaction effect of board independence has a coefficient of 0.18 this shows that the positive coefficient indicates that the relationship between board independence and SD is strengthened by foreign managerial ownership. For firms with higher foreign managerial ownership, the positive impact of board independence on SD is more pronounced. The interaction effect board size has shown a coefficient of -0.12 suggesting that the negative coefficient indicates that foreign managerial ownership does not significantly affect the relationship between board size and SD. The effect of board size on SD remains relatively unchanged with varying levels of foreign ownership. The interaction effect board meetings presented a coefficient of 0.22 which means that the positive coefficient indicates that the relationship between board meetings and SD is enhanced by foreign managerial ownership. More frequent board meetings are associated with greater improvements in SD when there is higher foreign managerial ownership. Furthermore, the interaction effect of directors' qualifications shows a coefficient of 0.30 which means that the positive coefficient shows that foreign managerial ownership strengthens the positive relationship between directors' qualifications and SD. Better-qualified directors have a more significant impact on SD in firms with higher foreign managerial ownership. The regression analysis with moderating effects reveals that foreign managerial ownership significantly enhances the positive relationships between board characteristics (independence, meetings, and qualifications) and SD. However, the effect on board size is not significant. These findings underscore the importance of considering foreign managerial ownership when evaluating the impact of board characteristics on SD.

Discussion of Findings

The objective of this study is to examine the influence of board characteristics on SD and whether such a relationship is moderated by foreign managerial ownership of listed firms in Nigeria. From Table 4.3 the relationship between board independence and SD is positive as indicated by the coefficient of 0.35 which is statistically significant at 1% (p-value of 0.003). This implies that an increase in the number of non-executive directors will positively influence the SD of listed firms in Nigeria. This signifies that independent board members are an important oversight mechanism that influences management decisions regarding the disclosure of sustainability information. The findings are in line with the findings of Bello and Abdul-Manaf, (2017) who found board independence to enhance the disclosure of sustainability information at a positive and significant level. Similarly, Hu and Loh, (2018) findings show that the percentage of independent directors positively impacts the firm's reporting quality of sustainability in Singapore. Alotaibi et al. (2019) results revealed that board independence has a significant impact on sustainability reporting disclosure at Jordanian commercial banks. Mahmood et al. (2018) result from the regression analysis shows that board independence has a significant positive relationship with SD. Furthermore, others that found a positive and significant relationship between board independence and sustainability disclosure include (Ajao & Moses, 2021; Anyigbah et al. 2023; Mohammed et al. 2024).

However, it goes contrary to the results of Aman and Bakar, (2018) results indicate that there is no significant influence between board independence and corporate sustainability reporting disclosure among publicly listed firms in Malaysia. Akbas, (2016) result of the regression analysis established that board independence has no significant relationship with environmental disclosure. Janggu et al. (2014) study concluded that there is a significantly negative relationship between board independence and sustainability disclosure. Michelon and Parbonetti, (2012) further find a significant negative relationship between board independence and sustainability disclosure. Hamidah and Arisukma, (2020) indicated that board independence was found to have a significant negative relationship with the level of sustainability report disclosure.

The board size variable has a coefficient value of -0.20 and (a p-value of 0. 0.046) which is not significant. This shows that board size has no significant effect on the sustainability disclosure of listed firms in Nigeria. However, this assertion is in line with the agency theory suggests that larger boards may suffer from coordination problems and reduced effectiveness in monitoring management (Jensen, 2001). Which are crucial for comprehensive sustainability reporting (Michelon & Parbonetti, 2012; Rao & Tilt, 2016). The finding of the study is consistent with other prior studies such as (Adeniyi & Fadipe, 2018) who indicate board size is found to have no significant relationship with sustainability disclosure. Similarly, Hamidah and Arisukma (2020) found board size was to have a significant negative relationship with the level of sustainability report disclosure. However, the finding of the study is not in line with the findings of Shamil, Shaikh and Ho, (2014) found that board size is positively and significantly related to sustainability disclosure. Dissanayake and Ajward, (2017) results revealed that board size has a significant positive impact on the level of sustainability disclosure. Bello and Abdul-Manaf, (2017) study reported board size to have a positive and significant relationship with sustainability disclosure. Adeseye, (2019) concluded that a larger board size is better able to monitor and control management decisions regarding sustainability matters. Janggu et al. (2014) results showed that board size has a significant impact on sustainability disclosure in Malaysia. Aman and Bakar, (2018) results revealed that board size has a significant positive impact on the level of sustainability disclosure. Mohammed et al. (2024) findings reveal that board size significantly and positively influences sustainability reporting. (Ajao and Moses, 2021) findings revealed that boards have significant relationships with sustainability reporting.

The result also shows that board meetings have a positive and statistically significant influence on the SD of listed firms in Nigeria, evidenced by the coefficient of 0.25 and the (p-value of 0.006) which is significant. This shows that regular meetings provide opportunities for directors to discuss and address sustainability concerns, leading to improved disclosure practices Jizi et al. 2(014). The findings also support the view of the agency theory perspectives which suggest that frequent board meetings enhance the board's monitoring capabilities, reducing information asymmetry and ensuring that management adheres to the firm's sustainability goals (Jensen & Meckling, 1976). Therefore, it means that an increase in board meetings will increase the sustainability information disclosed other things being equal.

This result is in line with the findings of Alotaibi et al. (2019) who showed that board meeting has a significant positive impact on the level of disclosure of sustainability practices of commercial banks in Jordan. Hu and Loh, (2018) findings revealed that larger board meetings aid more likely practice of sustainability reporting. Chen et al. (2008) found that boards that engage in regular, high-quality meetings are more likely to adopt comprehensive CSR practices and provide detailed SD. However, the result of this study is not consistent with that of Bello and Abdul-Manaf, (2017) who reported board meetings to have an insignificant relationship with SD. Further, Sunday, Fidelis, and Godwin's (2019) results revealed that board meeting has no significant positive association with SD. Additionally, (Gold and Aifuwa, (2022) results from both the panel least squares regression and the binary logit regression revealed that board meetings have no significant impact on the sustainability reporting of listed deposit money banks in Nigeria

Directors' qualification is one attribute of the board which qualifies members to contribute to the board due to their area of expertise especially financial expertise. The result also shows that directors' qualification has a significant influence on the SD of listed firms in Nigeria, evidenced by the coefficient of 0.40 and (p-value of 0.005) which is significant. By implication, it means that there is a positive relationship between directors' qualifications and the disclosure of sustainability information. Directors with relevant educational backgrounds and professional experience are better equipped to drive the adoption of comprehensive sustainability practices and improve disclosure quality (Fernandez-Feijoo, Romero & Ruiz, 2014).

The result of this study is consistent with the findings of Haladu and Salim, (2016) who revealed that environmental expert on the board has a significant positive impact on SD in Nigeria. Jangu et al. (2014) results showed that board professionalism has a significant impact on SD in Malaysia. Ntim et al. (2013) findings indicate that boards with directors possessing qualifications related to sustainability or corporate governance are more likely to engage in extensive sustainability reporting. Nguyen et al. (2015) found that directors with relevant educational backgrounds were more effective in promoting and overseeing comprehensive SD. However, Ganesan et al. (2019) findings revealed that director experience and skills have no significant influence on SD. Uwuigbe et al. (2018) found that board expertise was not a significant influence on SD. Other studies that found no significant relationship between board qualifications and SD include (Adeseye, 2019; Haladu & Salim, 2016).

Regarding the moderator effect model, the current study examined whether foreign managerial ownership moderates the relationship between board independence, board size, board meeting, board directors qualification on SD in Nigerian listed firms. Based on these, the present study results of the moderation effects found that foreign managerial ownership significantly and positively moderates the relationship between board independence, board meeting, board of director's qualification and SD. However, the study found a negative and insignificant moderating effect between foreign managerial ownership board size and SD. This may be as a

result of larger boards often suffer from coordination problems and slower decision-making (Jensen, 1993). When foreign managerial ownership is involved, these challenges may worsen due to differences in management styles, expectations, and cultural misunderstandings. Thus, rather than enhancing SD, foreign managers in firms with large boards may find it harder to push sustainability practices efficiently.

Summary and Conclusion

The study investigated the relationship between board characteristics and SD which focuses on Nigerian listed firms. It considers how various aspects of board governance, such as board independence, board size, board meetings, and directors' qualifications, impact the level of SD. Additionally, it explores the moderating role of foreign managerial ownership in these relationships. The study employs a quantitative research design using regression analysis to test the relationships between board characteristics and SD. Data was collected from annual reports of Nigerian-listed firms. The population includes all 156 listed firms on the NEG, with a sample of 106 firm's selected based on availability and relevance of data. The study found a significant positive relationship between board independence and SD. This finding suggests that independent directors play a critical role in ensuring sustainability issues are adequately addressed and reported. Further, the study found a significant positive relationship between the frequency of board meetings and SD. This translate that firms with more frequent board meetings were found to have better sustainability reporting. In addition, the study found a positive relationship between directors' qualifications and SD. This indicates that firms with more qualified directors tend to report more extensively on sustainability issues. However, the analysis revealed a negative relationship between board size and SD.

Foreign managerial ownership was found to have a moderating effect on the relationship between board characteristics and SD. Specifically, foreign managerial ownership strengthens the positive impact of board independence, meeting and director's qualification on SD. This suggests that foreign managers might bring additional oversight and standards that enhance the effectiveness of independent directors. The moderating effect on board size was not statistically significant, indicating that foreign managerial ownership does not substantially alter the negative relationship between board size and SD. The study provides valuable insights into how board characteristics influence SD and how foreign managerial ownership moderates these relationships. It emphasizes the need for improved CG practices and supports the idea that foreign managerial ownership can play a role in enhancing sustainability reporting.

Based on the study's findings, several recommendations are proposed for improving SD among Nigerian listed firms, as well as for guiding policy and regulatory frameworks. First, firms should strive to increase the proportion of independent directors on their boards. Independent directors play a crucial role in enhancing oversight and ensuring that sustainability issues are effectively addressed. Secondly, firms should aim to balance board size to avoid the inefficiencies associated with excessively large boards. An optimal board size can enhance decision-making and oversight related to sustainability issues. Establish guidelines for board size based on industry standards and best practices to ensure boards are neither too large nor too small. Thirdly, firms should hold more frequent board meetings to facilitate ongoing discussions and monitoring of sustainability practices. Develop and adhere to a regular meeting schedule that allows sufficient time for addressing sustainability issues.

Fourthly, improve the qualifications of directors ESG qualification to ensure they have the expertise needed to oversee and guide sustainability initiatives effectively. Fifthly, firms should consider the role of foreign managerial ownership as a factor that can enhance the positive impact SD. Explore opportunities for strategic partnerships or joint ventures with foreign investors to leverage their expertise and standards in sustainability. Lastly, policymakers and

regulatory authorities should develop and enforce regulations that promote the appointment of independent directors to strengthen CG and sustainability reporting. Provide incentives for firms that adhere to best practices in board independence and SD. Create a favorable regulatory environment for foreign managerial ownership to attract investors who can contribute to improved sustainability practices. Implement transparency requirements for foreign ownership to ensure that their involvement positively impacts sustainability disclosure. Effective board structures, optimized board sizes, increased meeting frequencies, and well-qualified directors are critical components of successful sustainability reporting.

Understanding the limitations of this study is crucial for interpreting the findings accurately and identifying areas for future research. The study relies on publicly available data from annual reports and SDs of Nigerian listed firms. The quality and completeness of these reports can vary across firms, which may impact the accuracy of the study's findings. Incomplete or inconsistent data may lead to biased results or affect the generalizability of the findings. Second, the study focuses exclusively on listed firms in Nigeria. This geographic and contextual focus may limit the applicability of the findings to firms in other countries or regions with different regulatory environments and corporate practices. The results may not be directly applicable to firms outside Nigeria, reducing the generalizability of the findings to other international contexts. Other factors, such as industry type, firm size, or market conditions, may influence SD but were not controlled for in the study. Confounding variables may introduce additional variability in the results, affecting the strength and direction of the observed relationships between board characteristics, foreign managerial ownership, and SD.

Building on the findings and limitations of the study, several areas for further research are identified to deepen the understanding of the relationships between board characteristics, foreign managerial ownership, and SD. These areas can help address the study's limitations and provide more comprehensive insights into CG and sustainability practices. The current study uses a cross-sectional design, which captures data at a five-year point in time. Longitudinal studies can provide insights into how board dynamics and foreign ownership impact SD over extended periods. Furthermore, future studies may compare the impact of board characteristics and foreign managerial ownership on SD across different countries or regions. Comparative studies can reveal whether the observed relationships hold true in other contexts or if they are specific to Nigeria's regulatory and cultural environment. In addition, future studies can investigate other board characteristics that might influence SD, such as gender diversity, executive compensation, and board tenure. Exploring additional factors can provide a more comprehensive understanding of how different aspects of board governance affect SD. Studies may assess how changes in regulatory frameworks and policies affect the relationship between board characteristics, foreign managerial ownership, and SD. Regulatory and policy environments can significantly influence CG practices and reporting requirements.

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