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Influence of firm attributes and governance on the quality of sustainability reports of Nigerian deposit money banks

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Abstract Companies are under pressure to conduct their business more transparently by presenting reports other than traditional financial statements. The disclosure of non-financial activities in relation to firms' environmental and social impact is expected to influence firm performance and valuation. The need to present the firm in a positive light to potential and current investors may result in distortions in non-financial disclosures, including environmental and social information. Therefore, this study examines the determinants of sustainability reporting quality of listed deposit money banks in Nigeria. The study adopted an index developed by previous studies to measure the quality of sustainable reports, while firm attributes were proxied with firm size, firm growth, firm performance, firm type; corporate governance mechanisms such as board independence, meeting, gender, and institutional ownership were employed. The regression model was measured using the ordered logistic regression technique with the use of categorical variables. The regression results show that firm size and board gender diversity positively influence sustainable reporting quality, whereas firm performance and board independence have a significant negative effect on the quality of sustainable reporting.

Keywords Firm attributes · Corporate governance · Sustainability reporting quality · Deposit money banks

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1. Introduction

Corporate fraud in recent times, as a result of managerial opportunistic behavior, has led to developments in accounting, including accounting standards, corporate governance, and the recent surge in sustainability reporting. The limitations of conventional financial reports have driven these innovations (Clayton et al., 2015). It has been noted that financial reports only provide the financial performance of firms while neglecting governance and environmental information that is relevant to the stakeholders and investors of firms.

There are benefits accruing to firms for being socially and environmentally responsible, which include improving the stakeholders' relations, promoting the value of the firm, and reducing the cost of equity (Benvenuto et al., 2023). In addition, costs are incurred to protect the environment and safeguard relevant stakeholders while also complying with regulations and environmental management standards. These are often referred to as environmental protection costs, which are divided into administrative, operational, investment, and nonconformity costs (Grudzien et al., 2018). These include protection equipment, installations of devices to reduce pollution, non-conformity costs such as penalties and fines, and the cost of reporting (Grudzien et al., 2018). Therefore, sustainability reporting is not without cost. Although there are few regulatory bodies monitoring the information disclosed or reported in these reports, managers have the discretion to report information based on how favorable or how well it signals favorable information to investors.

Sustainability Reporting serves as a system for communicating a firm's performance and its impact on stakeholders (Aris et al., 2021). These reports serve as a mechanism for communicating information to stakeholders about an entity's short- and long-term policies regarding its environment and community (Masud et al., 2018). While sustainability reporting remains voluntary, many firms are increasingly reporting sustainable issues and practices in their annual reports. Mentes (2022) noted that the demand for sustainability reports arises from the increased demands of stakeholders. Therefore, sustainability reports can serve as an extension of bridging information asymmetry gap. Some organizations prepare sustainability report in the annual report, while others present reports independently of the annual report. Although there are no specific guidelines for sustainability reporting or reports, many studies have questioned the quality of such reports (Erin et al., 2022; Akintoye & Kassim, 2022).

Gerwing et al. (2022) noted that the voluntary nature of sustainability reporting makes it susceptible to disclosing only positive information, which leads to agency conflicts. There are no prescribed standards for sustainability reports, unlike financial statements with IFRS/IAS, which serve as a basis for certifying or attesting to the accuracy of information disclosed. In some nations, sustainability reporting has been mandated. For example, the European Union (EU) through the CSR Directive (2014/95/EU) mandated the publication of non-financial statements (Gerwing et al., 2022). However, the CSR Directive only defines minimum disclosure requirements (Gerwing et al., 2022). While the GRI guidelines remain the most widely used framework for sustainability reporting, Hockerstedt (2022) documented that the GRI tends to depreciate the impact of sustainable development issues on financial materiality because it is "very broad and extensive" (pp. 4). Therefore, the reports may be difficult to compare over time and across firms. Information disclosed in sustainability reports is considered to fail to meet stakeholders' expectations and is opportunistic (Khan et al., 2020; Leung et al., 2015). Moreover, sustainability reporting is a voluntary disclosure that

is scarcely not regulated in many countries; hence, it may be difficult to compare the sustainability report of one firm with another firm's sustainability report (PricewaterhouseCoopers' [PwC], 2014).

Banks and other financial institutions are not environmentally sensitive compared to construction, extraction, and other manufacturing firms (Hanic et al., 2021). However, banks play a critical role in the sustainability of a nation's economy; therefore, they are highly regulated. Apart from promoting financial inclusion, other roles of financial institutions in an economy include; lending activities, helping to transfer risk, financial intermediaries, and contributing to increased market transparency (Hanic et al., 2021; Iannuzzi et al., 2022; Mentes, 2020). Banks directly affect the environment through social and environmental activities and indirectly through lending to firms involved in sustainable development (Bonifacio & Branco, 2019; Iannuzzi et al., 2022). Although banks' impact on the environment may be considered weak, they serve as a major source of investment for environmentally sensitive firms. In addition, governmental projects on sustainable development are conducted in collaboration with commercial banks (Khan et al., 2020).

Since the 2008 financial crisis, banking sector regulations have increased to ensure sustainable banking practices (Hanic et al., 2021; Mentes, 2020). Khan et al. (2020) noted that banks play critical role in emerging economies as 'key financiers of corporations' because of the lack of structure in economies' stock markets. Reforms have been implemented both internationally and domestically geared toward financial institutions to improve firm performance. The Nigerian banking industry has undergone a series of reforms in the last two decades, notable among them being the recapitalization in 2004, and corporate governance principles in 2009 (Fagbemi et al., 2019).

The extant literature has revealed that banks and other financial institutions rarely present corporate social and environmental disclosures. Mentes (2020) documented that only a few financial institutions had disclosed and prepared sustainability reports among the 52 Turkish banks in the study. The study found that some firms effectively disclosed sustainability information while aligning with the GRI reporting guidelines, while others only disclosed less information in the report. In Bangladesh, Khan et al. (2010) compared the social reporting disclosures of major banks using the GRI framework. The authors found that the information disclosed by the banks was diverse and mostly lacking structure. In addition, where such reports are without external assurance, the quality of the information disclosed can be jeopardized (Khan et al., 2010). Moreover, because they are less environmentally related, banks may likely report more positive environmental and social information and no negative information (Khan et al., 2010). Hanic et al. (2020) examined Serbian banks' environmental disclosure and found that there are inconsistencies in disclosure practice of the banks. In addition, some banks adopted the GRI Guidelines in reporting, whereas others did not. Kumar and Prakash (2019) found that Indian banks disclose more social-related information than environmental information in their sustainability reports. Furthermore, the authors document that it took the banks much longer to adopt sustainability reporting practices. Therefore, this study examines the determinants of sustainability reporting quality in Nigerian deposit money banks. A relevant review of the literature is discussed in the next section; research methodology including research design and source of data were outlined in the third section. The results and analyses are presented in the fourth section, and the fifth section concludes the study with recommendations.

2. Literature review

2.1. Theoretical framework

2.2. Sustainability Reporting Quality (SRQ)

Sustainability reports do not necessarily imply an increase in reported information quality (Junior et al., 2014). Extant studies have critiqued sustainable reporting quality in terms of the lack of transparency and credibility (Lock & Seete, 2016). Managers may hide negative environmental information, which reduces reporting quality and limits the usefulness of information to stakeholders (Gerwing, et al. 2022). It has been documented that most firms undertake sustainability reporting practices without complying with regulatory policies or international best practices (Moses et al., 2020).

However, some factors may signal the quality of sustainability reports, such as ensuring that the report is certified by an independent assurance professional (Al-Shaer & Zaman, 2016; Erin et al., 2022). This could be an audit firm or an independent assurance firm. The report from an independent external assurance firm enhances the reliance on such a report. Some firms engage audit and non-audit firms to certify and provide assurance on sustainability reports. It is done in a bid to enhance the usefulness of the report as well as increase stakeholders' confidence (Braam & Peeters, 2018; Simnett et al., 2009).

Moreover, the establishment of a sustainability committee that monitors sustainable practices and ensures stakeholder engagement also improves the quality of sustainability reports (Al-Shaer, 2020; Al-Shaer & Zaman, 2016; Michelon & Parbonetti, 2012). This committee is responsible for ensuring that accurate information is disclosed in the sustainability report. Another determinant of sustainability reporting quality is the alignment of executive compensation with sustainability targets (Al-Shaer, 2020; Al-Shaer & Zaman, 2016; Maas, 2018). Khan et al. (2020) considered the impact of sustainability reporting guidelines, social performance, and a standardized guideline for sustainability reporting such as GRI. In measuring sustainability reporting quality, this study adopts the index developed by Egbunike and Tarilaye (2017); Erin et al. (2022); Shuaibu (2020) as follows:

Table 1

Sustainability Reporting Quality Index

	Scores
Sustainability report exists	1 (0 otherwise)
Sustainability reports exist, and there is a sustainability committee.	1 (0 otherwise)
Sustainability reports exist, and non-audit firms provide assurance	1 (0 otherwise)
Sustainability reports exist, and audit firms provide assurance.	1 (0 otherwise)
Sustainability reports include quantitative information.	1 (0 otherwise)

Source: Egbunike and Tarilaye (2017); Erin et al. (2022); Shuaibu (2020)

2.3. Firm-specific attributes and SRQ

Firm Performance: There are varying measures of firm performance divided into the market- and accounting-based measures. Market-based measures include firm value proxied with stock price and Tobin q, market-to-book (MTB) ratio, while accounting-based measures include metrics from the financial reports of the firm (return on capital employed, return on assets, liquidity, etc). Iannuzzi et al. (2022) found that firm performance measured by return on assets is not significant in ESG disputes.

Firm Size: Firms may be involved in social responsibilities according to their size. A large firm will invest more resources in sustainability practices than a much smaller firm. Moreover, larger firms are visible and monitored by the public; hence, they tend to be subjective to pressures to act responsibly (Premavari & Utami. 2020).

Firm Type: Systemic Important banks are financial institutions that have a crucial impact on a nation's economy. The failure of such firms can cause a huge shock to a country's economy and financial system (Financial Stability Board, 2011). They are referred to as 'too big to fail' (Congressional Research Service [CRS], 2018). The failure of these banks can cause significant externalities and disruptions in the economy. As a result, the government will intervene to prevent such. This was developed by the Basel committee on Banking Supervision alongside the FSB which identified Global Systemically Important Banks (G-SIBs) through various assessment methodologies and provided supervision requirements (Sogunro, et al., 2021). In Nigeria, the CBN designated some banks as Domestic SIBs based on some methodologies adopted by the Basel Committee on Banking Supervision (BCBS). Considering the challenges of financial institutions and their role in the economy, there is a need to enhance supervisory and monitoring controls in these firms. In the past, the license of some notable banks has been revoked by the CBN, while some have merged with an inability to meet the capital adequacy ratio and bankruptcy. Some studies found that tier 1 banks and SIBs are not statistically significant in environmental disclosure as well as gender diversity of nomination committees (Iannuzzi et al., 2022).

2.4. Corporate governance and SRQ

Extant literature has found that corporate governance mechanisms mitigate manipulation in reporting (Al-Shaer, 2020; Erin et al., 2022). Corporate governance attributes include board characteristics, committee (audit, remuneration, nomination and governance), and stakeholder engagement. A firm's board assumes the responsibility of establishing social responsibility policies in line with the firm's business activities (Hasan et al., 2022). Hence, this study examines how the composition of the board influences disclosure quality. A firm's ownership structure (institutional, block, managerial) also enhances the degree of sustainability disclosure. Institutional investors are interested in the performance of the firm, therefore, they need transparent, timely, and accurate information (Premavari & Utami. 2020).

The board meeting reveals the effectiveness of the board and the commitment of board members to firm performance. Slotaibi and Hussainey (2016) noted that board meetings function as communication means through which directors interact and make relevant strategic decisions. The frequency of board meetings may provide information on board performance and provide a review of corporate performance and the necessary actions to be taken when needed.

Board independence: independent directors are not related to the daily operations of a firm; therefore, they enforce transparency, accountability, and safeguard stakeholders' interests (Hasan et al., 2022; Ong & Djajadikerta, 2018). Hence, independent directors facilitate the disclosure of social responsibility and sustainable practices in the firm (Herda et al., 2012; Naseem et al., 2017).

Board gender: the diversity of the board promotes the relationship between the organization and the external environment (Sarhan et al., 2019). Female directors are seen to be thorough in their approach and enforce accountability, therefore, the presence of females on board is expected to improve the quality of financial reporting processes.

3. Legitimacy theory

This theory hypothesizes that corporate bodies are bound to an unwritten social contract within the society where they carry out their operating activities (Deegan, 2002). Therefore, there is a relationship between the community and the firm; therefore, the firm is to run its operations in a way that builds the community and relevant stakeholders (Hockerstedt, 2022). The theory proposes a relationship between environmental disclosures so that firms' management may be responsible to the community and protect the firm's reputation (Benjamin, et al., 2017). The theory proposes that firms operate within acceptable society limits (Premavari & Utami, 2020). The survival of a firm depends on its social activities. In order to enhance stakeholders' perception about the firm's image, the firm must behave in a socially responsible way. Mentes (2020) noted that firms disclose their activities to receive commendable approval and to provide a responsible image before stakeholders. Regarding legitimacy and stakeholders' theories, firms tend to use sustainability reports as a mechanism to communicate environmental, social, and governance practices to stakeholders (Correa-Garcia, et al., 2020).

Therefore, sustainability reports help build a firm's legitimacy (Hockerstedt, 2022). However, in a bid not to lose their legitimacy, firms tend to reduce negative practices that affects sustainable development or present such information in a way that diminishes the negative reality (Hockerstedt, 2022), thus, affect the credibility and value of such reports.

4. Empirical review

Atanda et al. (2021) assessed the effect of sustainability disclosure on deposit money banks' value in Nigeria using a sustainability disclosure index. The study segregated sustainability disclosure into the three dimensions (economic, social and environment). The panel regression results found a negative but significant relationship between sustainability disclosure and banks' value. Specifically, the economic indicator had an insignificant effect on firm value, whereas the environment indicator was negatively related to the dependent variable. In contrast, the social indicator had a positive influence on firms' value.

Alhassan et al. (2021) evaluated the influence of sustainability reporting on the performance of industrial goods firms in Nigeria from 2011 to 2020. Financial performance was proxied with return on assets, return on equity, and earnings per share, while sustainability reporting was measured using economic, environmental, and social disclosure. Using a multiple regression analysis, the study revealed a positive, significant influence of the three disclosures on firms' financial performance.

Aris et al. (2021) explored various firm attributes that influence sustainability disclosure in 60 Malaysian companies. These attributes include firm size, profitability, firm type, and achievement. The study measured sustainability reporting disclosure using the ESG disclosure score of the Bloomberg database. The regression analysis showed that the four firms' characteristics (firm size, profitability, firm type and achievements) have a significant and positive effect on the disclosure of sustainability information.

Erin et al. (2022) examined the relationship between corporate governance mechanisms and sustainability reporting quality of 120 firms listed on the Nigerian Exchange Group. The corporate governance mechanisms measured were divided into board and audit committee variables, and a scoring system was employed for sustainability reporting quality ranging from 0 to 4. The study used an ordered logistic regression model to estimate the model. The regression results revealed that board attributes (board size,

gender and expertise) and audit variables (audit committee size, meeting and financial expertise) were significantly associated with sustainability reporting quality.

Correa-Garcia et al. (2020) studied the factors that affect sustainability reporting quality. The research examined board and ownership structure variables in 324 Latin American non-financial business groups. Sustainability reporting quality is measured using a dummy variable; therefore, the research applied logistic regression analysis. The study found that foreign ownership and board size positively influence sustainability reporting quality.

Gerwing et al. (2022) provided an analysis of the association between corporate governance and quality of sustainability reporting. The study considered the following governance measures; gender diversity, CSR committee, sustainable remuneration, external assurance, and engagement in CSR. The quality of mandatory sustainability reporting is measured using a manually collected disclosure score based on relevant regulatory guidelines and standards. The ordinary least squares results noted a significant impact of external assurance, sustainable remuneration, CSR committee participation, and engagement on sustainable reporting quality.

Ghuslan et al. (2021) evaluated the relationship between corporate governance, environmental, social reporting quality (ESRQ)and corporate reputation of quoted Malaysian companies. The study developed a governance index with board and audit committee characteristics, and an ESRQ score ranging from 0 to 4 was adopted. The regression results revealed a positive and significant association between corporate governance and ESRQ, as well as between ESRQ and corporate reputation.

5. Methodology

This study employed an *ex post facto* research design. This is because the data for the research will be sourced from the banks' annual financial and sustainability reports; thus, the authors cannot manipulate the data to be obtained as they are reported by the firms. The scope of this study includes all thirteen (13) listed deposit money banks on the Nigerian Exchange Group (NGX), spanning a period of eight (8) years from 2014 to 2021. The study chose 2014 as the base year since the Central Bank of Nigeria (CBN) released a circular on sustainable reporting practices as a means to enable banks to disclose sustainable practices in 2014. However, Ecobank was excluded because some annual reports could not be found for the specified period. Therefore, the total number of firms used in the study were twelve (12).

Table 2
Study Sample

S/N	NAME OF BANKS
1.	Access Bank
2.	Ecobank*
3.	FCMB
4.	Fidelity Bank
5.	First Bank Holdings
6.	Guaranty Trust Holdings (GTCo)
7.	Stanbic IBTC
8.	Sterling Bank
9.	United Bank for Africa (UBA)

S/N	NAME OF BANKS
10.	Union Bank
11.	Unity Bank
12.	Wema Bank
13.	Zenith Bank International

*Excluded
Source: Nigerian Exchange Group (NGX)

5.1. Model specification

The model for this study is thus specified as follows:

$SRQ_{it} = \alpha_0 + \alpha_1 FMZ_{it} + \alpha_1 FG_{it} + \alpha_2 FP_{it} + \alpha_3 BI_{it} + \alpha_4 BM_{it} + \alpha_5 BG_{it} + \alpha_6 FIO_{it} + \alpha_7 DIO_{it} + \alpha_8 BT_{it} + \varepsilon_{it}$

where

SRQ = sustainability reporting quality

FMZ = firm size

FG = firm growth

FP = firm performance

BI = board independence

BM = board meeting

BG = board gender

FII = foreign institutional ownership

DII = domestic institutional ownership

BT = bank type

5.2. Variable measurement

Table 3
Variable Measurements

Variables	Measurement	Acronym	Supporting studies
Sustainability Report Quality	This is measured as an index with a score ranging from 0 to 5.	SRQ	Egbunike and Tarilaye 2017; Erin et al., 2022; Shuiabu, 2020
Firm size	This is measured as the natural logarithm of the bank's total assets	FMZ	Grewing et al. (2022), Iannuzzi et al. (2022); Masud et al. (2018)
Firm growth	This is the change in the banks' gross earnings.	FG	Khan et al. (2020)
Firm performance	This is measured as the ratio of net profit to total assets	FP	Grewing et al. (2022); Hasan et al. (2022); Masud et al. (2018)
Board independence	This is the proportion of non-executive directors on the boards of banks.	BI	Correa-Garcia et al. (2020); Erin et al. (2022); Masud et al. (2018); Hasan et al. (2022)
Board meetings	This is the total number of times directors met during the period.	BM	Hasan et al. (2022)

Variables	Measurement	Acronym	Supporting studies
Board gender	This is the ratio of females on banks' boards.	BG	Grewing et al. (2022); Hasan et al. (2022); Iannuzzi et al. (2022);
Foreign institutional ownership	This is the shareholding percentage held by foreign institutions.	FIO	Hasan et al. (2022). Khan et al. (2020); Masud et al. (2018); Olorede et al. (2020)
Domestic institutional ownership	This is measured as the percentage of shareholdings held by national or domestic institutions in the country	DIO	Hasan et al. (2022). Olorede et al. (2020)
Bank type	This study controlled for bank types categorized as systemically important. A dummy variable was employed, where SIBs are represented as '1' and '0' for non-SIBs.	BT	Ogbonna et al. (2022); Sogunro et al. (2020); Iannuzi et al. (2022); Dicuonzo et al. (2022)

Source: Authors' compilation (2023)

5.2.1. Estimation technique

The sustainability reporting quality values ranged from 0 to 5. The following labels are used:

'0' = 'Poor'; '1' = 'Low'; '2' = 'Fair'; '3' = 'Average'; '4' = 'Good'; and '5' = 'Excellent'

The use of the Ordinary Least Square (OLS) technique will provide invalid standard errors as the errors from the OLS result will contradict the homoscedasticity and normality assumptions of OLS. Therefore, the study employed the Ordered logistic regression technique as a result of the use of categorical variables.

6. Results and Discussion

Table 4

Descriptive Statistics

	BI	BM	BG	SRQ	FMZ	FG	FP	FIO	DIO	FT
Mean	0.62	6.40	0.24	2.47	21.39	0.10	0.02	8.52	22.80	0.42
Median	0.58	6.00	0.25	2.00	21.46	0.09	0.01	0.00	18.18	0.00
Maximum	0.90	16.00	0.45	4.00	23.19	0.47	0.07	67.51	65.31	1.00
Minimum	0.31	1.00	0.00	1.00	18.87	−0.61	−0.09	0.00	0.00	0.00
Std. Dev.	0.12	2.47	0.09	1.11	0.96	0.14	0.02	17.03	19.56	0.50
Skewness	0.89	1.43	−0.42	0.15	−0.32	−1.11	−1.45	2.40	0.67	0.34
Kurtosis	3.33	5.84	3.29	1.68	2.51	9.42	12.75	7.78	2.56	1.11
Jarque-Bera	13.02	65.06	3.11	7.36	2.58	184.20	413.72	183.70	7.94	16.05
Observations	96	96	96	96	96	96	96	96	96	96

Source: Authors' computation (2023)

Table 4 presents the mean, maximum, minimum, and standard deviation of the variables. The average sustainability reporting quality value of 2.47 indicates that the selected banks considerably met the requirements for the quality of SR. Only a few firms have assurance reports on their sustainability disclosure as well as an established sustainability committee. Therefore, the maximum value of the SRQ from the selected banks was 4 against an index score of 5, indicating that none of the banks used in this study had all the required benchmarks. Regarding corporate governance mechanisms, the mean value of

board independence and gender reveal that firms' boards have quite a number of non-executive directors, while there is a low presence of females on the board, with a minimum of 0. The banks' board generally has meetings about 6 times with a minimum meeting period of 1 and maximum of 16. The ownership structure indicates that, on average, foreign and domestic institutional firms have an annual percentage of 8.52% and 22.80%, respectively. Regarding firm attributes, average bank growth is 10%, whereas performance measured using ROA has an average of 2%.

Table 5

Summary of Sustainability Reporting Quality

SRQ	%
Poor	0
Low	22.92
Fair	33.33
Average	17.71
Good	26.04
Excellent	0
	100

Table 6

Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	VIF
(1) SRQ	1.0000										
(2) FMZ	0.4759	1.0000									2.75
(3) FG	0.1012	0.1547	1.0000								1.09
(4) FP	0.0135	0.4472	0.2133	1.0000							2.12
(5) BI	−0.2192	−0.0160	−0.1015	−0.1020	1.0000						1.43
(6) BM	0.1462	0.1866	0.0511	−0.2337	−0.1012	1.0000					1.35
(7) BG	0.1401	−0.0886	−0.0572	0.0412	−0.1067	−0.0125	1.000				1.22
(8) FII	−0.1042	−0.1303	−0.0845	0.2489	0.2933	−0.0825	0.3271	1.0000			2.20
(9) DII	−0.0861	−0.4786	−0.1091	−0.1765	−0.2488	−0.2018	−0.0372	0.0323	1.000		1.56
(10) SIB	0.2638	0.7540	0.1712	0.3666	−0.0687	0.2173	−0.1406	−0.3939	−0.4509	1.000	3.51

Source: Authors' computation (2023)

The correlation matrix (Table 6) provides the association between variables. It is important to check the relationship between the variables to ensure that multicollinearity does not exit. Multicollinearity is a problem in which variables are related to each other. This may affect the regression results. To check multicollinearity, the Variance Inflation Factor (VIF) was run. The mean value of 1.91 revealed a minimal relationship between the variables; however, the rule of thumb notes that where the mean VIF is 10, multicollinearity exists; hence, there is an absence of multicollinearity among the explanatory variables.

Table 7 presents the estimation results of the ordered logistic regression. The baseline results are presented in Column 1. Because of the adopted regression model, the result can be interpreted according to the signs of the coefficient. The findings note that firm size (co-eff. 2.23; $p<0.001$) and board gender diversity (co-eff. 6.98; $p<0.001$) influences higher sustainability reporting quality; hence, banks with more assets and female directors tend to have good sustainability reports. On the other hand, firm performance (co-eff.

−46.00; p<0.001) and board independence (co-eff. −5.05; p-<0.05) have a negative but significant relationship with sustainability reporting quality. Board meetings, firm growth, institutional ownership structure (foreign and domestic), and bank type are not significantly associated with sustainability reporting quality.

Table 7

Ordered Logistic Regression Result

Variables	Baseline regression results	Marginal effects of Categorical outcome (dy/dx)					
		0 Poor	1 Low	2 Fair	3 Average	4 Good	5 Excellent
FMZ	2.2314*** (0.4578)	-	−0.2890*** (0.0706)	- 0.2618*** (0.0962)	0.1937** (0.0762)	0.3570*** (0.0835)	-
FG	1.5965 (1.4655)	-	−0.2066 (0.1905)	−0.1873 (0.1828)	0.1386 (0.1343)	0.2554 (0.2378)	-
FP	−46.0021*** 16.9792	-	5.9576*** (2.2833)	5.3973** (2.6422)	−2.9942** (1.9628)	−7.3607** (2.8968)	-
BI	−5.0540** (2.1326)	-	0.6545** (0.2944)	0.5930** (0.3029)	−0.4388 (0.2309)	−0.8087** (0.3582)	-
BM	−0.0573 (0.1077)	-	0.0074 (0.0140)	0.0067 (0.0128)	−0.0050 (0.0095)	−0.0092 (0.0173)	-
BG	6.9753*** (2.7139)	-	−0.9034** (0.3795)	−0.8184* (0.3974)	0.6057** (0.3038)	1.1161** (0.4607)	-
FII	0.0065 (0.0179)	-	−0.0008 (0.0023)	−0.0008 (0.0021)	−0.0006 (0.0016)	0.0010 (0.0029)	-
DII	0.0149 (0.0129)	-	−0.0019 (0.0017)	−0.0017 (0.0016)	0.0013 (0.0012)	0.0024 (0.0021)	-
BT	−0.8936 (0.8820)	-	0.1158 (0.1156-)	0.1015 (0.0981)	−0.0734 (0.07025)	−0.1439 (0.1430)	-
Pseudo r-squared	0.1909	-					-
Chi-square	49.87						-
F-stat	0.0000						

Source: Authors' computation (2023)

***. **. * indicate significance at 1%, 5%, and 10%, respectively; standard errors are reported in parentheses ()

Column 2-6 show the marginal effects of the categorical data at the mean. Columns 2 and 6 indicate that there was no information on banks with poor (0) and excellent (5) reporting quality; however, there were records of low to good sustainability reporting quality. An increase in firm size significantly influences the likelihood of banks reporting low (28.90%), fair (26.18%), average (19.37%), and moderate (35.70%) quality sustainability reports. Board gender diversity is 90.34% less likely to influence low sustainability report quality, 81.84% less likely to have fair report, 60.57% more likely to have an average sustainability report quality, and 111.61% more likely to report a better sustainability report. In relation to board independence, an increase in more independent variables on the board enhances low (65.45%) and fair (59.30%) quality reports, while, on average, board independence has an inverse relationship with sustainability reporting quality.

7. Discussion of findings

This study assessed the determinants of the quality of sustainability reports of Nigerian Deposit Money Banks. The regression results reveal that firm-specific attributes, such as firm size, significantly influence the quality of sustainable information disclosure by firms. This then connotes that the larger a bank, the higher the quality of the sustainability information disclosed by management. This result is similar to the findings of Grewing et al. (2022); Hasan et al. (2022); Khan et al. (2020), which found that bank size significantly affects sustainability disclosure practices. Board gender diversity is expected to bring balance and more transparency to the board; this was found to be significantly related to sustainability reporting quality. This result is consistent with previous studies, such as Erin et al. (2022); Grewing et al. (2022); Hasan et al. (2022). Other studies, such as Iannuzzi et al. (2022); Masud et al. (2018), found contradictory results to the findings of this study.

Nevertheless, firm performance measured by return on assets appears to have a negative relationship with sustainable reporting quality. Hence, firms that earn higher returns in the form of profit may tend to reduce social and environmental commitments. This may be done in a bid to distribute such to investors. Previous studies, such as Hasan et al. (2022); Iannuzzi et al. (2022), and Khan et al. (2020), have documented that firm performance does not impact sustainability reports. In contrast, Aris et al. (2021), Grewing et al. (2022), Masud et al. (2018), and Shuaibu (2020) found a positive significant relationship between firm performance and environmental and social disclosure quality.

The presence of non-executive directors on a board is expected to enhance the efficient management of firms' resources and improve the quality of financial reports (Gerwing et al., 2022). However, this study's regression results found that board independence is negatively related to the quality of sustainability reports. This may be due to the fact that non-executive directors are not employees of the firm but are appointed to monitor management activities. Iannuzzi et al. (2022) noted that an excessive number of independent directors reduces the performance of the board as it reduces the value of executive (insiders) directors in terms of their expertise and experience. This may also corroborate the similar findings of Erin et al. (2022) and Hasan et al. (2022), who found that board independence is not significantly related to sustainability disclosure quality.

Furthermore, board meetings that measure the effectiveness of the board were not significantly associated with sustainability reporting quality. Result from the banks' ownership structure indicates that foreign and domestic institutional investors have a positive influence on the quality of sustainability disclosure; however, this is not significant. This supports the study of Olorede et al. (2020), which noted that domestic institutional firms may not be actively involved in monitoring reporting performance. This contradicts the research of Correa-Garcia et al. 2020; Masud et al. (2018), who documented that foreign institutional investors serve as watch dogs and influence corporate disclosure.

8. Conclusion and recommendations

This study assessed the influence of bank attributes and governance mechanisms on the quality of sustainability reports. The results show that bank size, type and foreign institutional ownership positively enhance the quality of corporate disclosure, whereas board independence and performance have a negative relationship with sustainability reporting quality. Based on the findings, the study recommends the following:

1. Banks should work on providing more comprehensive sustainability reports as well as establish sustainability committees that oversee the sustainable development practices of banks and disclosure;
2. Domestic institutional investors should make increased efforts to monitor banks' reporting practices;
3. Only a few banks certify their sustainability reports through external assurance; therefore, more banks should adopt this approach to improve the reliability of their reports.

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