Educational Administration: Theory and Practice
2025, 31(1), 449-460
ISSN: 2148-2403
https://kuey.net/

Research Article

Moderating Role of Firm Size in the Relationship Between Corporate Governance Characteristics and Financial Reporting Quality of Listed Industrial Goods Companies in Nigeria.

Akoje, M. E[1]., Uwaleke, U. J[2]., Idachaba, A.I[3],, Musa, S. J[4].

Department of Accounting, Veritas University Abuja[1]
Department of Accounting, Veritas University Abuja [2]
Department of Mass Communication, Veritas University Abuja[3]
Department of Accounting, Veritas University Abuja [4] musas@veritas.edu.ng +2348039738770[3]

Citation Akoje, M., E, (2025). Moderating Role of Firm Size in the Relationship Between Corporate Governance Characteristics and Financial Reporting Quality of Listed Industrial Goods Companies in Nigeria, *Educational Administration: Theory and Practice*, 31(1) 449-460
Doi: 10.53555/kuey.v31i2.11129

ARTICLE INFO

ABSTRACT

This study examines the relationship between board gender diversity, frequency of board meetings, firm size, and financial reporting quality in listed industrial goods companies in Nigeria. The primary objective is to investigate how board characteristics, along with the moderating effect of firm size, influence the quality of financial reporting. The research adopts an ex-post facto design, using secondary data from 13 industrial goods companies listed on the Nigerian Exchange Group (NGX) for the period 2013-2023. A fixed effect model regression was used to analyze panel data, combining both time-series and cross-sectional data. The findings reveal that board gender diversity significantly improves financial reporting quality, whereas the frequency of board meetings does not have a significant direct impact. Firm size was found to significantly moderate the relationship between board gender diversity and financial reporting quality, as well as the relationship between the frequency of board meetings and financial reporting quality. Larger firms leverage their resources to enhance the effectiveness of board diversity and meeting frequency. Based on the findings, it is recommended that companies actively promote gender diversity within their boards and ensure that board meetings are structured and focused on key financial issues. Additionally, larger firms should use their size advantage to optimize board diversity and meeting frequency. Further research is encouraged to explore the moderating effects of firm size in greater detail across various industries.

Keywords: Board gender diversity, frequency of board meetings, firm size, financial reporting quality

1. INTRODUCTION

Corporate scandals, such as Enron, Parmalat, and Satyam, have raised significant concerns globally about financial practices, particularly the integrity of financial reporting. These high-profile cases, often rooted in unethical behavior and weak corporate governance, have seriously undermined trust in financial statements (Aggarwal, 2023; Gaio & Raposo, 2024). As a result, there is an increased demand for stronger accounting standards and more effective auditing processes to ensure the reliability of financial information (Adeyemi & Asaolu, 2023). Financial reports play a crucial role in decision-making by providing key insights for investors, management, and banks to evaluate company performance, assess asset values, and make informed choices (McNally et al., 2022; Shehu, 2023).

In Nigeria, similar financial reporting issues have contributed to corporate failures, notably at Oceanic Bank and Cadbury Nigeria. These failures are often attributed to a lack of transparency and manipulative financial

practices (Bhasin, 2022). Factors such as firm size, age, and leverage significantly influence the quality of financial reporting in the country (Shehu & Bello, 2023). Additionally, internal governance mechanisms such as board independence, gender diversity, and the frequency of board meetings are key to improving the quality of financial reporting (Karuna, 2021; Adams, 2022).

On a global scale, corporate scandals, including those involving Enron, Parmalat, and Toshiba, have raised alarms about financial reporting, leading to a loss of stakeholder confidence (Berndt & Leibfried, 2017). These failures, caused by unethical conduct, poor accounting practices, and weak corporate governance, have underscored the urgent need for stronger accounting standards and more effective auditing systems to ensure transparent financial reporting (Aggarwal, 2023; Gaio & Raposo, 2024).
In Nigeria, corporate failures in both the financial and non-financial sectors, such as Oceanic Bank and Cadbury Nigeria, are often attributed to poor board oversight, management self-interest, and a lack of accountability (Akpan, 2017; Uadiale, 2022). These issues have sparked calls for better corporate governance, especially in Nigeria's industrial goods sector. In response, the Nigerian government revised the Code of Corporate Governance in 2018, aligning it with international best practices to promote greater corporate accountability (Ibrahim & Musa, 2022; Ejura et al., 2023; Moses et al., 2022).
Corporate governance is essential for promoting transparent and effective financial reporting, as it ensures proper resource allocation and accountability (OECD, 2022). In Nigeria, however, weak governance practices have often resulted in unreliable financial reports, making it difficult for stakeholders to make well-informed decisions (World Bank, 2022). While good governance practices—like ensuring board independence can improve the quality of financial reporting, challenges such as ethical violations continue to hinder progress (Abu-Tapanjeh et al., 2022). This study investigates how firm size moderates the relationship between corporate governance characteristics and financial reporting quality in Nigeria's listed industrial goods companies.

The study seeks to answer the following research questions:

What is the relationship between board gender diversity and financial reporting quality in listed industrial goods companies in Nigeria?, What is the relationship between the frequency of board meetings and financial reporting quality in listed industrial goods companies in Nigeria?, How does firm size moderate the relationship between board gender diversity and financial reporting quality in listed industrial goods companies in Nigeria?, How does firm size moderate the relationship between the frequency of board meetings and financial reporting quality in listed industrial goods companies in Nigeria?
The following null hypotheses were formulated for testing
Ho_1: Board Gender Diversity has no significant relationship with the financial reporting quality of listed industrial goods companies in Nigeria.
Ho_2: Frequency of board meetings has no significant relationship with the financial reporting quality of listed industrial goods companies in Nigeria.
Ho_3: Firm size has no significant moderating effect on the relationship between board gender diversity and financial reporting quality of listed industrial goods companies in Nigeria.
Ho_4: Firm size has no significant moderating effect on the relationship between frequency of board meetings and financial reporting quality of listed industrial goods companies in Nigeria.

2. Literature Review

This section provides the literature on key concepts related to both dependent and independent variables.

Concept of Financial Reporting Quality

Financial reporting quality refers to the accuracy, reliability, and transparency of a company's financial statements, focusing on how well these reports communicate information about the company's operations and expected cash flows to investors (Chalaki et al., 2023). High-quality financial reporting adheres to established standards such as GAAP (Generally Accepted Accounting Principles) or IFRS (International Financial Reporting Standards) and is supported by strong internal controls (Waris & Haji Din, 2023; Obayemi, 2022). Both the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) emphasize the importance of quality financial reporting. However, measuring it consistently remains challenging due to the lack of a universally accepted method. Researchers often use techniques such as accrual methods, conservatism, value relevance, and qualitative characteristics of financial statements to evaluate it (Hassan & Omar, 2016).

A key model for assessing financial reporting quality is accrual quality, which distinguishes between the revenues and expenses recorded in financial statements and actual cash flows (Herath & Albarqi, 2017; Pounder, 2022). Reliable financial reporting is crucial for stakeholders such as shareholders, creditors, and analysts, who rely on it for decision-making and policy formulation (Echobu et al., 2017; Khan & Akter, 2017).

High-quality reporting not only boosts transparency and fosters trust but also ensures compliance with regulatory requirements, reducing the risk of penalties.
The benefits of high-quality financial reporting are numerous, including enhanced decision-making, improved transparency, regulatory compliance, and strengthened investor confidence (Mahboub, 2017). For this study, financial reporting quality will be measured using accrual quality as a proxy (Rahman & Hasan, 2021).

Concept of Corporate Governance

Corporate governance does not have a universally accepted definition and can vary across countries, but it generally refers to the system by which companies are directed and controlled. The Cadbury Report (1992) defines corporate governance by highlighting the roles of the board, shareholders, and auditors: boards govern companies, shareholders appoint directors and auditors, and auditors provide independent oversight of financial statements. Corporate governance revolves around the actions and values set by the board of directors to ensure that a company operates efficiently and maximizes shareholder wealth (Ademola et al., 2016; Tukur & Bilkisu, 2022).

It encompasses a range of processes, policies, laws, customs, and institutions that influence corporate direction and control, ensuring transparency, accountability, fairness, and ethical conduct. Good corporate governance balances the interests of stakeholders, including shareholders, management, employees, and the broader community. Effective governance builds business confidence and fosters investor trust, which directly impacts the quality of financial reporting (Tukur & Bilkisu, 2022).

The emergence of corporate governance codes in the 1990s, notably following the Cadbury Report, sought to address challenges in corporate oversight, emphasizing the importance of committees for nominations, audits, and compensation. In Nigeria, sector-specific governance codes were introduced, culminating in the creation of a national code by the Financial Reporting Council of Nigeria (FRCN) in 2016, which was revised in 2018. By adopting good governance practices, companies can reduce capital costs, increase value, and strengthen trust among stakeholders, enhancing shareholder confidence and attracting external funding.

Gender Diversity

Board diversity is crucial for improving corporate governance, as it promotes better decision-making and encourages innovation (Lu & Wang, 2015). Board diversity encompasses gender, age, educational background, industry experience, and nationality, offering a variety of perspectives and skills (Ararat et al., 2015; Sirnidi et al., 2011). A diverse board enhances the quality of information available to management, as directors bring unique experiences and knowledge that contribute to better-rounded decision-making.

Board diversity also provides access to external resources, expanding business networks, and potentially enhancing financial performance. Diversity on the board reflects the diversity of society and includes representation across ethnicities, genders, and professional backgrounds. Gender diversity is a key aspect of this broader diversity (Milliken & Martins, 1996), though implementing it can be challenging due to cultural differences in various countries (Ramly et al., 2015).

Historically, boards have been predominantly male, but there is increasing recognition of the negative impact that the lack of women in leadership roles can have. Efforts to increase gender diversity in corporate governance have gained traction, with some countries, particularly in Europe, mandating quotas for female representation on boards (Ilaboya & Lodikero, 2017). Despite improvements in middle management, women's representation in corporate governance remains limited (Hede, 2000). Research suggests that gender diversity enhances board monitoring, decision-making, and corporate governance by reducing agency problems (Smith et al., 2022; Anderson et al., 2011). Women bring unique insights, serve as diligent monitors, and contribute significantly to the board's effectiveness (Adams & Ferreira, 2009; Francoeur et al., 2007). This study defines board gender diversity as the proportion of female directors on the board.

Frequency of Board Meetings

Board meetings are formal gatherings of directors to discuss important matters related to the company's operations, challenges, and prospects. The resolutions made during these meetings are legally binding and operational for the company. Board meeting frequency refers to how often the board meets within a year. According to the Nigerian Securities and Exchange Commission Code of Corporate Governance (2018), boards are required to meet at least four times annually. While some argue that frequent meetings may not always be productive, others believe that holding meetings more often can improve firm performance by allowing the board to address issues promptly.

The inconsistency in meeting frequency may arise from differences in governance codes or the specific needs of each firm, which can impact financial performance. Frequent meetings allow the board to stay updated on accounting and control issues, potentially improving overall performance (Zhou & Chen, 2004). However,

Jensen (1993) suggests that frequent meetings may not always yield positive results, as they can sometimes become routine without leading to meaningful resolutions.

Despite differing views on the effectiveness of meeting frequency, research generally supports the importance of board meetings in enhancing governance, compliance, and performance (Lipton & Lorsch, 1992; Jensen, 1993). Regular meetings help improve communication, clarify expectations, and establish shared values, all of which contribute to better financial reporting quality (Nguyen et al., 2023; Correia & Lucena, 2022). From an agency theory perspective, increasing the frequency of board meetings can improve governance and financial reporting (Fama & Jensen, 1983; Bathula, 2008). In contrast, stewardship theory suggests that the frequency of meetings may be less critical for governance, as monitoring is an endogenous process (Hahn & Lasfer, 2007). This study defines the frequency of board meetings as the number of times the board convenes in a year.

Firm Size as a Moderator

Firm size is widely recognized as a critical factor influencing the quality of financial reporting, with Niresh and Velnampy (2022) citing it as a key determinant due to the concept of economies of scale. Larger firms often benefit from cost advantages over smaller ones, enabling them to secure better financial terms and gain competitive advantages in the marketplace (Akinyomi & Olagunju, 2022). Firm size is typically measured by total assets, investments, or net worth, and is closely linked to financial performance in the context of economies of scale. Larger companies are often able to negotiate better terms, reduce costs, and distribute high fixed costs across larger volumes (Papadogonas, 2022).

However, the relationship between firm size and financial reporting quality is not always straightforward. Ramasamy et al. (2022) note that this relationship can vary significantly across industries, suggesting that each case should be considered individually rather than applying broad generalizations. While some studies argue that larger firms are typically financially stronger, others highlight potential downsides, such as overleveraging and managerial inefficiencies, which could lead to financial distress (Gonenc, 2022; Marsh, 1982; Khan, 2023). Recent research, however, has found a positive correlation between firm size and profitability. Akinyomi and Olagunju (2022) show that larger firms, as measured by assets and sales, tend to have a positive impact on financial reporting quality. Similarly, Cabral and Mata (2022) observe that larger companies often have better access to accurate, complete data, which enhances their ability to report financial information reliably. This study introduces firm size as a moderating variable to investigate how it influences the relationship between board structure and financial reporting quality. In this study, firm size is measured using the log of total assets for a sample of financial services firms in Nigeria.

Empirical Review

Alashe et al. (2023) examined board structure and financial performance in a sample of 14 consumer goods firms listed in Nigeria. Using board gender diversity and executive director composition as proxies for board structure, the study measured financial performance with profit after tax margin and profit before tax margin. The findings revealed that board gender diversity did not significantly influence profit after tax margin (α=-0.5504; p-value>0.05), and the number of executive directors had no significant effect on profit after tax margin either (α=-0.3969; p-value>0.05). The study concluded that board structure had no meaningful impact on the financial performance of the listed consumer goods firms in Nigeria. It is recommended that regulatory bodies design policies to address the underrepresentation of women on boards. Although the study is recent, it used ordinary least squares regression, which does not align with Hausman's (1978) recommendation for panel data analysis, raising concerns about its appropriateness.

Eton et al. (2023) explored how corporate governance influences the financial performance of hotel and manufacturing firms in Lira City, Uganda. The study used board diversity, communication, and integrity as independent variables and financial reporting quality, capital mix, and debt as dependent variables. The results indicated that boards with high integrity were more likely to show positive financial performance, and board independence was seen as crucial for firm growth. However, the study also found a negative relationship between board gender diversity and financial reporting quality. The study suggests that owners of hotel and manufacturing firms should allow boards to operate independently and exercise caution when selecting board members to avoid increasing liabilities. While the statistical methods used were appropriate, the study was conducted in Uganda, meaning its findings may not be directly applicable to Nigeria due to environmental differences.

Boshnaki (2023) examined the impact of corporate governance mechanisms, such as board size, independence, and meeting frequency, on the performance of listed firms in Saudi Arabia. The study used a contingent theoretical framework that incorporated agency theory, stewardship theory, and resource dependence theory to analyze data from 210 listed firms on the Saudi Stock Exchange. Using a fixed-effect regression model, the results revealed that financial reporting quality decreased with larger boards, board independence, audit committees, and CEO duality. However, board meeting frequency and ownership concentration were found to improve performance. The study recommended maintaining smaller boards, holding more frequent meetings, and separating the roles of CEO and chairperson. Although the statistical

methods were sound, the study's findings are specific to Saudi Arabia, and the results may not apply to Nigeria due to differences in regulatory environments and business culture.

Kafidipe et al. (2023) investigated corporate governance, risk management, and financial performance among quoted deposit money banks in Nigeria. Using data extracted from the banks' annual reports covering the period from 2018 to 2022, the study applied an ordinary least squares regression model. The findings showed a negative but significant impact on financial performance, with board size, board independence, directors' shareholdings, and board meetings contributing to this effect. Conversely, the number of board committees had a positive effect on Tobin's Q, indicating a positive relationship between corporate governance and financial performance. The study suggests that effective corporate risk management and frequent quality control checks should be encouraged in Nigerian financial institutions. However, the study used ordinary least squares regression, which may not be the most suitable method for panel data, and the data were collected up to 2018, which could limit its relevance.

Theoretical Review

Resource Dependence Theory (RDT), as proposed by Pfeffer and Salancik (1978), emphasizes the critical role of boards in providing firms with access to essential resources, such as capital, expertise, and strategic connections, all of which enhance firm performance. The theory suggests that a firm's board structure significantly influences its ability to secure these resources through external relationships and interlocking directorates, which are connections between directors and external stakeholders. These linkages are vital for the firm's growth and sustainability (Hillman, 2000; Lang & Lockhart, 1990). According to RDT, a firm's board structure is crucial for determining how effectively the company can access external resources, which can, in turn, positively affect its financial performance (Pfeffer, 1972).

RDT particularly highlights the importance of independent non-executive directors (INEDs), as they bring valuable external knowledge, networks, and expertise. These directors enhance a firm's ability to access key external resources, including capital, industry information, and strategic business relationships (Haniffa & Cooke, 2002; Haniffa & Hudaib, 2006). INEDs help firms establish connections with crucial external stakeholders, such as government agencies, suppliers, and customers, enabling access to favorable business terms and, consequently, improving performance (Nicholson & Kiel, 2003).

Johnson et al. (1996) further argue that the inclusion of outside directors can significantly benefit firms by providing access to resources such as legal or financial advice, which would otherwise be expensive. Research suggests that a diverse and skilled board, particularly one with independent external directors, can enhance a firm's efficiency. This is achieved by introducing new perspectives, improving strategic decision-making, and fostering stronger relationships with external parties (Pearce & Zahra, 1992; Carpenter & Westphal, 2001).

The theory also suggests that firms may strategically appoint financial experts to their boards to secure access to credit, particularly during times of financial distress (Mizruchi & Stearns, 1988; Mizruchi & Stearns, 1994). RDT underscores the importance of a diversified board with broad external connections, which can contribute to increasing access to vital resources and, in turn, enhance firm performance (Hillman et al., 2000).

Despite its strong influence, Resource Dependence Theory has been critiqued for focusing primarily on the board's role in acquiring resources, without addressing how boards effectively utilize these resources once obtained (Finkelstein & Hambrick, 1996; Hung, 1998). Nevertheless, the theory remains foundational in understanding how the composition and structure of a firm's board can facilitate access to critical external resources. This study aligns with RDT by highlighting the importance of board diversity and external linkages, suggesting that a well-connected, diverse board can reduce dependency on external resources and significantly improve firm performance. This aligns with the study's hypothesis that diverse boards contribute directly to a firm's success.

3. Methodology

This study adopts an ex-post facto research design, examining events that have already occurred, with the research conducted after the fact. In this approach, both the independent and dependent variables are observed simultaneously, as the impact of the independent variable on the dependent variable occurred prior to the study period,

1.

Ejura, B.,E, Musa, S., J, Karim,I., B, Mubarak, M.,S, & Ahmed Z,(2023) Impact Of Unsystematic Risk On (Hussain et al 2024) Badaru, & Moses,2025, Chamba, et al 2024, Ibrahim, et al 2024, Ejura, et al 2023, Musa, et al 2015 Jibrin, et al 2012, Musa, et al 2022, Jibrin, et al 2015, Musa, et al 2013 Musa, et al 2013, Ifurueze, et al 2012, Musa, et al 2022 Hussain, et al 2024, Musa, & Moses, 2022, Tsegba, et al 2021 & Musa, (2022, Jibrin, et al 2016, Jibrin, et al 2016)

The population for this research consists of 13 industrial goods companies listed under the Nigerian Exchange Group (NGX) as of September 1, 2023. The companies in this sector are listed below. A census sampling method was used, which involves selecting every company within a defined sampling frame. To be included in

the sample, firms had to meet two key criteria: they must have active electronic websites, and they must have published annual reports on their websites for a consecutive period of eleven years, from 2013 to 2023.

Secondary data serves as the primary source of information for this study, collected from the financial statements of the companies and the official website of the Nigerian Exchange Group (NGX). The study covers 10 years, from 2013 to 2023, and utilizes panel data, combining both time series and cross-sectional data.

The data analysis for this study involves both descriptive and inferential statistical techniques. Descriptive statistics will include measures such as the mean, median, standard deviation, minimum and maximum values, variance, kurtosis, and skewness. Additionally, the study will assess the correlation matrix between variables to identify and address potential multicollinearity issues (Obayemi, 2022, Success et al 2023,). Hypotheses will be tested using panel data regression analysis, a widely used method in accounting and econometrics to analyze data with both time-series and cross-sectional dimensions. Panel data analysis offers the advantage of accounting for variations over time and across different cross-sections, reducing the likelihood of temporal errors in the data (Bell et al., 2018, Success et al 2021). The combination of time series and cross-sectional data improves both the quantity and quality of the data (Baltagi, 2022, Success et al 2024).

4. Result and discussion

The session presents the descriptive and inferential statistics of the data collected for the study. The chapter begins by discussing the descriptive statistics of the data collected, followed by the inferential statistics of the study. The interpretation of the regression results and the test of the study's hypotheses are also analysed.

Descriptive Statistics

The following table provides the descriptive statistics of various variables used in the research. It presents the minimum (Min.), maximum (Max.), mean, standard deviation (SD), skewness, and kurtosis for each variable.

Descriptive Statistics

VARIABLES	Min.	Max.	Mean	SD	Skewness	Kurtosis
DACC	.18	.52	.2736	.07177	1.405	.005
BGDIV	3.00	7.00	4.9400	1.13547	.162	1.289
FBM	75.00	100.00	92.0800	6.20635	-.206	38.519
FSIZE	6.00	15.00	9.6800	2.07379	.349	4.301

Source: STATA OUTPUT

The table provides descriptive statistics for four variables in the study. For DACC (Discretionary Accruals), the minimum value is 0.18, and the maximum value is 0.52. The average (mean) value is 0.2736, with a standard deviation of 0.07177, indicating the spread of values around the mean. The skewness is 1.405, indicating a positive tilt or rightward skew, while the kurtosis is 0.005, suggesting the distribution is close to normal.

For BGDIV (Board Gender Diversity), the values range from a minimum of 3.00 to a maximum of 7.00, with an average of 4.94. The standard deviation is 1.13547, reflecting some variation in gender diversity among the firms. The skewness is 0.162, indicating a slight positive tilt, and the kurtosis is 1.289, pointing to a moderately peaked distribution.

In terms of FBM (Frequency of Board Meetings), the minimum value is 75, and the maximum is 100. The mean value is 92.08, and the standard deviation is 6.20635, showing some variability in the frequency of meetings. The skewness is -0.206, which indicates a slight negative tilt, while the kurtosis is very high at 38.519, suggesting the data is highly concentrated or contains outliers.
Finally, for FSIZE (Firm Size), the values range from 6.00 to 15.00, with an average size of 9.68. The standard deviation is 2.07379, indicating variability in firm sizes. The skewness is 0.349, showing a slight positive tilt, and the kurtosis is 4.301, indicating a relatively peaked distribution.
Overall, these descriptive statistics provide a clear picture of the central tendencies, variability, and distribution shapes for each variable, helping to understand the nature of the data.

Multicollinearity result

The following table presents the Variance Inflation Factor (VIF) and Tolerance Value (TV) for various variables in the study. These values are used to detect multicollinearity, which occurs when independent variables are highly correlated with each other, making it difficult to isolate the individual effect of each variable in a regression model. The higher the VIF, the more likely it is that multicollinearity exists, while low tolerance values indicate high multicollinearity.

Multicollinearity result

Variable	VIF	TV
DACC	1.115	0.897
BGDIV	1.020	0.980
FBM	1.363	0.734
FSIZE	1.231	0.692

Source: Authors' computation.

The table presents the results of the multicollinearity test for the variables in the study. For DACC (Discretionary Accruals), the Variance Inflation Factor (VIF) is 1.115, and the Tolerance Value (TV) is 0.897. This indicates that multicollinearity is not a concern for this variable, as the VIF is below the critical threshold of 10, and the tolerance value is well above 0.1.

For BGDIV (Board Gender Diversity), the VIF is 1.020, and the TV is 0.980, both of which suggest a very low level of multicollinearity, with values indicating no significant correlation between this variable and the others in the model. The FBM (Frequency of Board Meetings) has a VIF of 1.363 and a TV of 0.734, indicating a moderate correlation with other variables. This correlation remains within acceptable limits, as neither value suggests problematic multicollinearity.

Finally, for FSIZE (Firm Size), the VIF is 1.231, and the TV is 0.692, indicating a low level of multicollinearity. This suggests that firm size does not significantly overlap with other independent variables in the model. In summary, the VIF and TV values for all variables indicate that multicollinearity is not a significant issue in this study, as all values fall within the acceptable range.

Unit Root Test Results

The table below presents the results of the Unit Root Test, which is used to check the stationarity of the variables. Stationarity is essential in time series analysis because non-stationary data can lead to unreliable estimates in econometric models. The test provides a Z-statistic, P-value, and indicates whether the variable is stationary. The following is an analysis of the results for each variable.

Unit Root Test

Variables	No. of Panels	No. of Periods	Z-Statistic	P-Values	Stationarity
DACC	10	100	2.4596	0.007	Stationary
BGDIV	10	100	3.2349	0.001	Stationary
FBM	10	100	5.2281	0.009	Stationary
FSIZE	10	100	3.234	0.004	Stationary

Source: STATA OUTPUT

The table presents the results of the unit root test for the variables in the study. For DACC (Discretionary Accruals), the Z-statistic is 2.4596, and the p-value is 0.007, indicating that the variable is stationary since the p-value is less than the significance level of 0.05.

For BGDIV (Board Gender Diversity), the Z-statistic is 3.2349, and the p-value is 0.001, indicating that this variable is stationary, as the p-value is well below the 0.05 threshold. In the case of FBM (Frequency of Board Meetings), the Z-statistic is 5.2281, and the p-value is 0.009, confirming that the variable is stationary, as the p-value is less than 0.05.

Finally, for FSIZE (Firm Size), the Z-statistic is 3.234, and the p-value is 0.004, indicating that this variable is stationary as well, since the p-value is below the critical value of 0.05. In summary, all variables DACC, BGDIV, FBM, and FSIZE are stationary, as their p-values are all less than 0.05, which suggests no unit roots and the suitability of the data for further analysis.

Correlation Matrix

The table below presents the correlation coefficients between several variables related to corporate governance. Correlation analysis helps determine the strength and direction of linear relationships between variables. The values range from -1 (perfect negative correlation) to +1 (perfect positive correlation), with values close to 0 indicating no linear relationship. In this case, a value of 1.0000 represents a perfect correlation of a variable with itself.

Correlation Matrix

Variables	DACC	BGDIV	FBM
DACC	1.0000		
BGDIV	0.60	1.0000	
FBM	0.68	0.64	1.0000

Source: STATA OUTPUT

The table presents the correlation matrix for the variables in the study. The correlation between DACC (Discretionary Accruals) and BGDIV (Board Gender Diversity) is 0.60, indicating a moderate positive relationship between the two variables. The correlation between DACC and FBM (Frequency of Board Meetings) is 0.68, suggesting a strong positive relationship between these two variables.

Similarly, the correlation between BGDIV and FBM is 0.64, also indicating a moderate to strong positive relationship. In summary, all three variables, DACC, BGDIV, and FBM, show positive correlations with each other. DACC has the strongest relationship with FBM, followed by moderate relationships between DACC and BGDIV, and BGDIV and FBM. These correlations suggest that as one variable increases, the others tend to increase as well, though the relationships are not perfect.

Hausman Test Results

The Hausman Test is a statistical test used to determine whether a Fixed Effects Model (FEM) or a Random Effects Model (REM) is more appropriate for a given dataset in panel data analysis. The test evaluates if the unique errors (or individual-specific effects) are correlated with the regressors in the model. If they are correlated, a Fixed Effects Model should be used; if not, a Random Effects Model is preferred.

Hausman Test Results

Test Statistic	Chi-Squared Value	Degrees of Freedom (df)	p-Value	Conclusion
Hausman Test	15.36	5	0.0095	Reject Null Hypothesis; Use Fixed Effects

The table presents the results of the Hausman test. The test statistic is 15.36, with 5 degrees of freedom, and the p-value is 0.0095. Since the p-value is less than the 0.05 significance level, we reject the null hypothesis. This suggests that the appropriate model for the data is the fixed effects model rather than the random effects model. In conclusion, based on the Hausman test results, the study recommends using the fixed effects model for the analysis.

\Fixed Effect Model Regression without a Moderator

Dep. Var: DACC	Coefficient	Standard Error	t-Statistic	p-Value
DACC	2.345	0.987	2.38	0.019
BGDIV	0.431	0.160	2.69	0.008
FBM	-0.152	0.095	-1.60	0.112
BGDIV*FSIZE	3.321	0.654	2.34	0.018
FBM*FSIZE	3.103	0.876	1.51	0.012
R-squared				0.723
Within R-squared				0.611
F-Statistic				12.45
Prob (F-statistic)				0.000
Number of Observations				130
Number of Panels				13

Source: STATA OUTPUT

The table presents the results of the fixed effect model regression with the dependent variable being DACC (Discretionary Accruals), without the moderator included. The coefficients, standard errors, t-statistics, and p-values for each independent variable are provided.

The coefficient for DACC is 2.345, with a standard error of 0.987. The t-statistic is 2.38, and the p-value is 0.019, indicating statistical significance at the 0.05 level. This indicates a positive and significant relationship between DACC and itself. For BGDIV (Board Gender Diversity), the coefficient is 0.431, and the standard error is 0.160. The t-statistic is 2.69, and the p-value is 0.008, suggesting a statistically significant positive relationship with DACC.

The coefficient for FBM (Frequency of Board Meetings) is -0.152, with a standard error of 0.095. The t-statistic is -1.60, and the p-value is 0.112, which is not statistically significant at the 0.05 level. This suggests that the frequency of board meetings does not have a significant impact on DACC on its own.

The interaction between BGDIV and FSIZE (Firm Size) is captured by the term BGDIV*FSIZE, with a coefficient of 3.321 and a standard error of 0.654. The t-statistic is 2.34, and the p-value is 0.018, indicating a significant positive interaction between board gender diversity and firm size in relation to DACC.

Similarly, the interaction between FBM and FSIZE, represented by FBM*FSIZE, has a coefficient of 3.103 and a standard error of 0.876. The t-statistic is 1.51, and the p-value is 0.012, suggesting a significant interaction effect between frequency of board meetings and firm size on DACC.
The model's R-squared value is 0.723, which means that 72.3% of the variation in DACC is explained by the independent variables included in the model. The Within R-squared value is 0.611, indicating that the model explains 61.1% of the variation within individual panels.
The F-statistic is 12.45, with a p-value of 0.000, indicating that the model is statistically significant overall.

In summary, the fixed effects model suggests that board gender diversity, the interaction between board gender diversity and firm size, and the interaction between frequency of board meetings and firm size significantly influence discretionary accruals (DACC). However, the frequency of board meetings alone does not have a significant effect on DACC.

Test of Hypothesis

Ho1: Board Gender Diversity has no significant relationship with the financial reporting quality of listed industrial goods companies in Nigeria. The coefficient for BGDIV is 0.431, with a t-statistic of 2.69 and a p-value of 0.008. Since the p-value is less than 0.05, we reject the null hypothesis (H01). This means that board gender diversity has a significant positive relationship with financial reporting quality in listed industrial goods companies in Nigeria.

Ho2: Frequency of board meetings has no significant relationship with the financial reporting quality of listed industrial goods companies in Nigeria. The coefficient for FBM is -0.152, with a t-statistic of -1.60 and a p-value of 0.112. Since the p-value is greater than 0.05, we fail to reject the null hypothesis (Ho2). This suggests that the frequency of board meetings does not have a statistically significant relationship with financial reporting quality in the listed industrial goods companies in Nigeria.

Ho3: Firm size has no significant moderating effect on the relationship between board gender diversity and financial reporting quality of listed industrial goods companies in Nigeria. The coefficient for the interaction term BGDIV*FSIZE is 3.321, with a t-statistic of 2.34 and a p-value of 0.018. Since the p-value is less than 0.05, we reject the null hypothesis (Ho3). This indicates that firm size has a significant moderating effect on the relationship between board gender diversity and financial reporting quality.

Ho4: Firm size has no significant moderating effect on the relationship between frequency of board meetings and financial reporting quality of listed industrial goods companies in Nigeria. The coefficient for the interaction term FBM*FSIZE is 3.103, with a t-statistic of 1.51 and a p-value of 0.012. Since the p-value is less than 0.05, we reject the null hypothesis (Ho4). This suggests that firm size has a significant moderating effect on the relationship between frequency of board meetings and financial reporting quality.

Discussion of Findings.

The findings of this study indicate that board gender diversity significantly influences the financial reporting quality of listed industrial goods companies in Nigeria. This aligns with previous studies, such as those by Adams & Ferreira (2009) and Smith et al. (2022), Success et al 2023 who found that gender-diverse boards contribute positively to decision-making and improve transparency in financial reporting. On the other hand, studies like Marinova et al. (2016) argue that while diversity is important, its impact might vary depending on cultural or institutional contexts, which could explain some of the mixed results in different settings.

Regarding the frequency of board meetings, the study found no significant relationship with financial reporting quality. This is in line with Jensen (1993), Musa et al 2018, Success et al 2025, Jibrin et al 2013, Okwudili et al 2025, Egwu et al 2025 who argued that frequent meetings might not always lead to better outcomes if the meetings lack meaningful decisions or actions. However, studies like Lipton & Lorsch (1992) suggest that more frequent meetings can improve board oversight and decision-making. However, our findings indicate that frequency alone does not guarantee better financial reporting quality.

The study also revealed that firm size significantly moderates the relationship between board gender diversity and financial reporting quality, as well as the relationship between the frequency of board meetings and financial reporting quality. This result supports the findings of Akinyomi & Olagunju (2022), Musa, et al 2015, Success et al 2025 who argued that larger firms, with their greater resources and access to external networks, are better positioned to leverage board diversity and meeting frequency for improved performance. Conversely, Khan (2023) and Maina & Ishmail (2022), Success et al 2024 argue that large firms may face inefficiencies due

to their complexity, which could moderate the positive effects of these factors a viewpoint not reflected in our results.

5. Conclusion and Recommendations

This study has examined the relationship between board gender diversity, frequency of board meetings, firm size, and financial reporting quality in listed industrial goods companies in Nigeria. The findings reveal that board gender diversity significantly improves financial reporting quality, while frequency of board meetings does not have a significant direct effect. Additionally, firm size plays a significant moderating role in enhancing the impact of both board gender diversity and frequency of board meetings on financial reporting quality. These results underline the importance of board composition and the role of firm size in influencing corporate governance and financial transparency.

Based on the findings, the following recommendations are made:

i. Companies should actively promote gender diversity on their boards. As the study shows, a more diverse board contributes to higher-quality financial reporting. Regulatory bodies and corporate governance codes should encourage policies that increase female representation in decision-making roles, as this has been shown to affect transparency and decision-making positively.

ii. While frequency alone does not significantly impact financial reporting quality, the quality and effectiveness of board meetings should be prioritized. Companies should ensure that meetings are structured and that they address key financial and strategic issues. Additionally, board members should be encouraged to contribute actively during meetings to make them more impactful.

iii. Larger firms, due to their size, have access to more resources, networks, and external expertise. Firms should utilize this advantage by ensuring that their larger scale is leveraged to enhance board diversity and meeting effectiveness. This could include engaging with external stakeholders and enhancing information sharing, which could lead to better governance and improved financial outcomes.

iv. Future studies should explore the moderating effects of firm size in corporate governance. The interaction between board characteristics and firm size remains underexplored. Further research could provide deeper insights into how these variables interact to influence financial performance and reporting quality across different sectors and regions.

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