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# **Corporate Governance and Financial Performance: The Moderating Effects of Board Gender Diversity Among Listed Consumer Goods Firms in Nigeria**

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## **Abstract**

The main objective of this paper is to examine the moderating effect of board gender diversity on the relationship between corporate governance (audit committee characteristics) and performance of consumer goods firms, Nigeria for the period of 2016-2022. An ex-post facto method was adopted, as the study entails the use of annual reports and accounts of listed consumer goods company in Nigeria. Filter sampling technique was used through applying criteria, for a company to be part of the sample, the application of the criteria resulted to the selection of 10 consumer goods companies as sample size of the study. The STATA version 14 was adopted to test the hypotheses developed in this study. The result shows that proxies of independent variable; audit committee size and audit committee meeting have no significant effect on the performance of consumer goods firms. It was also found that board gender diversity moderates the relationship between audit committee characteristics (audit committee size and audit committee meeting) and performance of consumer goods firms. Therefore, it is recommended that consumer goods firm managers should consider board gender diversity in their operation process as it effects their performance and strengthen the relationship between firm performance and audit committee characteristics.

**Keywords:** performance, audit committee size, audit committee meeting, board gender diversity

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## **1. Introduction**

The performance of the global consumer goods sector contributed 2.6% – 2.4% between 2000 and 2020, respectively, to the sector's gross value added (UNIDO, 2022a). In Latin American countries, for example In Peru, Section 14's share of national GDP fell from 1.7% in 2010 to 0.7% in 2020. This decline was also reflected in a lower share of sector output, which fell from 10.6% (2010) to 5.7% (2020). ) (National Industries Association, 2022). In Nigeria, although FMCG companies contribute to the country's GDP by as much as 21%, Ogbede et al (2023) recently reported that the FMCG sector is underperforming (i.e. Northern Nigeria Cement Company; Nigerian German Chemicals and Chemical and Allied Products were delisted due to poor performance in 2020, 2021 and 2021 respectively).

Moreover, discussion of the role of corporate governance falls within the mainstream financial performance literature. With a good corporate governance mechanism (representative oversight by the board of directors, composition and size, audit committee, etc.), the company's financial performance is expected to increase, as this leads to improved shareholder wealth; Attract investors (both foreign and domestic), improve accountability, improve environmentally friendly measures, reduce bankruptcy, improve social benefits and improve

technical efficiency (Lawal et al., 2023; Saigili et al. 2022; Hong et al. 2021; Peng et al., 2021; Ali et al. 2021; Sheikh & Alam 2021). However, recent evidence has proven the opposite, for example in the USA, where the need for an effective corporate governance structure was reinforced by the fall of two giant companies, Enron (the energy sector giant) and WorldCom (the energy sector giant) (Lawal et al., 2023). This also negatively affected one of the world's four largest accounting firms, Arthur Andersen, which was Enron's audit firm. In Nigeria, we witnessed an overvaluation of the accounts of Cadbury Nigeria PLC in 2007, as well as ongoing instances of company closures (Lawal et al., 2023).

However, the results of previous studies have shown inconsistencies in the relationship between corporate governance and corporate performance, for example Bui, and Krajcsak, (2023); Ermalina, etc., (2023); Ibrahim, etc., (2023); Sarwar, et al., (2022); Huynh, et al., (2023) et al. It shows a positive relationship. Whereas Adamo, etc., (2023); Adeboye et al. (2019); Mansour et al. (2022); Singh and Tabassum, (2018); Badachi etc. (2017) etc. shows a negative relationship. Much previous literature has attempted to moderate the relationship e.g. Mansour, et al., (2022); El-Hamadshah et al., (2020); Al-Matari and Majmal (2019), but to date none of these studies have presented gender diversity on boards as a moderating variable. On the other hand, consumer goods companies were selected in the Nigerian context because, like most listed consumer goods companies, their controlling interests in Nigeria are in the hands of a few individuals. Therefore, studies using samples from Nigeria are likely to provide different but interesting results.

Based on the above background, the study introduces gender diversity on boards to moderate the relationship between corporate governance (audit committee characteristics) and company performance, because today research on “gender diversity in the workplace” provides rich and diverse knowledge.

## **2. Literature Review**

### **2.1 Financial Performance**

Performance is defined as the ability of an organization to achieve set goals to maintain profit, gain competitive advantage, increase market share, and sustain long-term survival, which depends on the use of appropriate organizational strategies and operational plans. (Oyemomi et al., 2019; Soto-Acosta et al., 2016; Vatamanescu et al., 2022). It can be generally said that performance is the achievement that companies can achieve in a given period. Return on assets (ROA) is a better measure of a company's ability to generate returns on its portfolio of assets. ROA gives an idea of how efficiently management is using its assets to generate profits. Other company performance measures include Return on Equity/Investment (ROE) as net income per naira of equity, Net Interest Margin (NIM) which is the difference between interest income and interest expense as a percentage of total of assets and others. In this study, financial performance is the efficiency with which a company achieves profit using available assets. The study also chose return on equity because the purpose of the study is to measure the company's performance in terms of shareholder returns, and return on equity measures the return on shareholders' investment by comparing the company's net income to the value of shareholders' equity. It measures a company's ability to generate profits from the money invested by shareholders. Therefore, the study will consider this measure of the dependent variable as the most suitable for analysis that remains adaptable.

### **2.2 Corporate Governance**

Corporate governance refers to a set of mechanisms and tools that allow better control while reducing sources of conflict within the company. However, better governance largely depends on a qualified board of directors (Tyrowicz, et al., 2020), etc. In fact, the role of the board of directors is to reduce agency costs, monitoring and controlling managers to ensure that their decisions converge with the company's goal of creating value and increasing its social

legitimacy (Ouni, et al., 2022). Many previous studies have examined the quality and effectiveness of the board of directors by examining its characteristics such as independence, size, number of meetings, communication, experience, etc.

Most corporate governance laws and regulations worldwide, such as Cadbury 1992, Sarbanes-Oxley Act 2002 among others, require the establishment of audit committees by all listed companies and must consist of a majority of independent members. The Audit Committee is a subgroup of the Audit Committee of the Company's Board of Directors and is responsible for improving internal control procedures, overseeing the Company's financial performance and reporting process, preparing external reports and managing corporate risk. . It also plays an important role by facilitating communication between the board of directors, external auditors and internal auditors (Farhat, 2014; Cheng & Leung, 2006). Capital market authorities around the world also require listed companies to establish audit committees. Given the growing awareness of the important role played by the audit committee, a number of companies have voluntarily established an audit committee to provide more effective communication between the board of directors and external auditors (Rajkovich, 2020). Therefore, this study used measures of audit committee characteristics (ie, audit committee size, audit committee meeting) to measure corporate governance.

### **2.2.1 Audit Committee Size**

The size of the audit committee is one of the characteristics that is considered important for the effective performance of its duties (Cadbury Committee, 1992). In Nigeria, the Companies and Allied Matters Act 1990 stipulates that a public limited company must have an audit committee (maximum of six members with equal representation of three members each representing management/directors and shareholders).

### **2.2.2 Audit Committee Meeting**

The frequency of audit committee meetings can be used as a measure of their effectiveness. The NCCG (2018) in Nigeria recommends that the audit committee meet at least four times a year. Zhou and Chen (2004) pointed out that audit committee meetings serve as an important mechanism for improving and strengthening corporate governance in companies. Financial fraud is more likely to be reduced if the audit committee meets frequently and performs its duties as necessary.

### **2.3 Board Gender diversity**

Board gender diversity explains the number of women on the board. Gender studies literature has reported that board diversity can improve board effectiveness and efficiency and that a company can benefit from the presence of women on the board (Salavu & Adedeji, 2017). Vaca et al., (2020) argue that gender diversity is important for decision-making because it ensures that companies have good governance structures; Achieve ethical and strategic decision-making; Better financial and economic efficiency and more transparency (Nadeem, et al., 2017; Cabeza-García, et al., 2018; Ahmadi, et al., 2018). Reguera-Alvarado et al., (2017) explain that gender diversity allows the board of directors to create an appropriate strategy that takes into account the interests of the company's stakeholders.

### **2.4 Audit Committee Characteristics and Firm Performance**

The stewardship hypothesis is one of the major theories that govern the impact of an audit committee on the financial performance of firms. According to the model, auditors are agents of the stakeholders employed to access the behavior of managers. The assertion of the theory has been subjected to a number of empirical investigations. For instance, Pozzoli et al. (2022); Hsu and Yang (2022); Pozzoli et al. (2022); Alsmady (2022); Muslih, (2021); Bawazir et al. (2021); Dakhlallah, et al., (2020); Noor, et al (2019); Al-Matari & Mgammal (2019); Akbar et al (2019); noted that audit committees have a positive effect on financial performance. Ali et

al., (2022); Ghafran et al. (2022); Li and Li (2020); Al-ahdal et al. (2020); Nguyen (2021); argued that audit committee and financial performance has a negative significant relationship. While other studies of Boshnak (2021); Marie et al (2021). Al-Hamadsheh et al (2020); Khanifah et al (2020); Mandal and Al-Ahdal (2018) reported a statistical insignificant relationship between audit committee and financial performance. Result from previous studies indicated an inconsistency, therefore, Nguyen (2021) introduced a religious dimension to the role of the audit committee in the financial performance of firms.

## **2.5 Moderating Role of Board Gender Diversity**

Theories establish that board gender-diversity can affect performance, but what remains unclear is the nature of such relationship. Until now, extant literatures have reported divergent opinions. For instance, some researchers argue that the relationship between board gender-diversity and performance is positive i.e. Wang, et al., (2024); Ouni, et al., (2022); Huynh, et al., (2022); Marie et al (2021); Garanina and Muravyev (2021), Simionescu, et al., (2021); Sarkar and Selarka (2021); Belaounia et al. (2020); Pucheta-Martínez and Gallego-Álvarez (2020). While, various empirical studies across different national contexts support the notion that board gender diversity negatively impacts corporate performance i.e. Ahmad et al. (2020); Akram et al. (2020); Lim et al. (2019); Shehata et al. (2017). Many studies uses board gender diversity as moderating variable i.e. Chu et al., (2023); Li et al., (2022); Anas, et al., (2022); Mohsni, et al., (2021); Kimanzi et al., (2020) find the moderating role board gender diversity on the relationship between different independent variables and performance and concluded that board gender diversity is a good moderating variable.

## **2.6 Empirical Review**

Kijkasiwat, Hussain, and Mumtaz, (2023) analyzed the association between corporate governance and firm performance through the mediating role of financial leverage based on panel data of 2568 firms during the period from 2002 to 2017. The study uses a two-step dynamic panel as well as a generalized method of moments (GMM) to estimate these relationships. The findings demonstrated financial leverage mediates the relationship between corporate governance and firm performance in the context of developed economies, and also in emerging economies. Additionally, firm performance is negatively associated with corporate governance through excessive leverage. The study suggests it is the responsibility of the board to use low financial leverage to enhance firm performance. In emerging countries, firms with a large-sized board use low leverage, whereas in developed countries, firms with a small-sized board use low leverage to enhance corporate performance.

Abolo, (2023) examined the relationship between board size and financial performance of listed construction and real estate companies in Nigeria. The ex post facto research design was adopted for the study with a population of six (6) listed construction and real estate companies in Nigeria as listed by the Nigerian Exchange Group in 2022. Data were retrieved from the annual reports of the selected construction and real estate companies for the period 2017 to 2021. Multiple regression analysis was used to analyzed the data gathered with the aid of Stata12 statistical software. A negative and insignificant relationship between board independence and net profit margin. The study concluded that corporate governance has no significant relationship with financial performance of listed construction and real estate companies in Nigeria.

Asikhia, et al., (2023) examined the effect of corporate governance dimensions on the financial performance of listed Oil and Gas firms in Nigeria for ten years, 2009 to 2018. The study is underpinned by the stakeholder theory. The study adopted a content analytical approach to obtain data through the corporate website of the respective oil and gas firms and website of the Nigerian Stock Exchange. A total of 12 Oil and Gas firms were selected for the study cutting across three listing classifications of the Oil and Gas firms in Nigeria. The result

of the study showed that corporate governance had no significant effect on return on assets (Adj.R2= 0.009;  $F = 0.505$ ;  $p > 0.05$ ). The result suggests that listed Oil and Gas companies in Nigeria should continue to maintain large board size provided the cost of doing so is not outrageous and ensure that the board always has a mix of persons with requisite skills, knowledge and understanding of business management and the operations of the company. The study also suggest that Oil and Gas firms should anchor on Corporate Governance dimensions for higher and better performance.

Mansour, Al Amosh, Alodat, Khatib, and Saleh, (2022) explored whether capital structure (CS) has a contingent role in the relationship between corporate governance (CG) quality and firm performance. The empirical findings indicate that CG quality had a positive and significant effect on the performance of Jordanian non-financial firms listed on the Amman Stock Exchange (ASE) from 2014 to 2019. Additionally, the moderate effect of the CS reinforces this relationship. These results are robust to alternative econometric specifications and variable definitions. This study utilizes certain firm-specific characteristics to represent the CS to assess its role as a moderating variable in the relationship between CG quality and firm performance. This study makes a contribution to the literature by showing that CS can strengthen the relationship between CG quality and firm performance.

Huynh, Hoque, Susanto, Watto, and Ashraf, (2022) explore the impact of corporate governance on firm performance while considering financial leverage as a mediating variable. This study was conducted in the non-financial sector of Pakistan, and data was collected from financial statements. A sample of 150 firms was selected from those registered on the Pakistan Stock Exchange during the period of 2011–2021. Results show that corporate governance is associated with firm performance. Board size has a positive relationship with firm performance; as board size increases, the performance of the firm also increases. Board independence is positively and significantly associated with firm performance. Audit committee size is also positively associated with firm performance. Female directors on the board are also associated with positive firm performance. Board independence, board size, audit committee, and female directorship were positively associated with financial leverage. Corporate governance protects the interest of shareholders and transfers risk from shareholders to debt holders. Results show that corporate governance enhances the financial distress cost by enhancing the debt ratio in the financial leverage. Financial leverage partially mediates the board size and board independence with firm performance, while audit committee size and female directorship relationship with firm performance are fully mediated.

### **2.6.1 Research Gap**

Prior research has found mixed evidence or inconsistency regarding the relationships between corporate governance and firm performance. Moreover, there is a lack of evidence on the moderating variable that can weaker or strength the relationship; hence, this study tackles this issue. The study aim to investigate the moderating role of board gender diversity on the relationship between corporate and firm performance among consumer goods firms in Nigeria.

## **2.7 Theoretical Review**

### **2.7.1 Agency Theory**

Agency theory, as proposed by Jensen and Meckling (1976), delves into the potential conflicts of interest resulting from the division of ownership and control between principals (shareholders) and agents (management). A critical function of managers is to mitigate these agency problems through managerial control. Agency theory has been used to support corporate governance literature in accounting, economics, finance, marketing, political science, organizational behavior, and sociology (Amedu, 2016; Farhat, 2014; Garko, 2014; Haniffa & Hudaib, 2006). It is often seen as the most widely used theoretical approach to analyze corporate governance, based on the idea of the separation between ownership and control

implied by today's corporate culture. The presumption of agency refers to the relationship between these two parties, directors who are shareholders or owners of the company and directors as agents/trustees to manage and control the company, but they may not take full action for the benefit of the company shareholders, but instead act to promote their own interests.

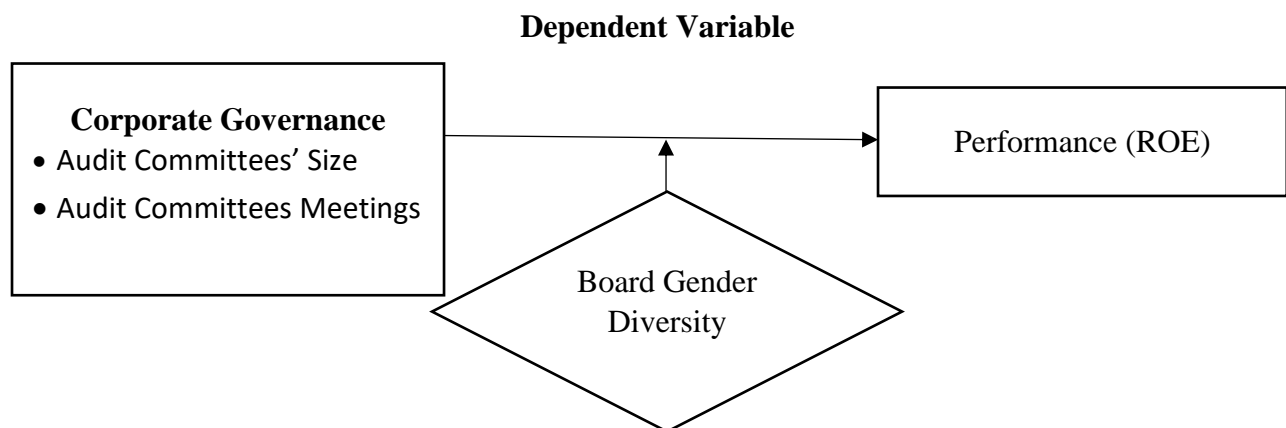
A critical function of managers is to mitigate these agency problems through managerial control. Within the context of gender diversity, agency theory facilitates the exploration of whether female managers increase the effectiveness of managerial control. Some literature hypothesizes that board gender diversity positively affects firm performance due to increased vigilance on the part of female directors, introduction of new perspectives and avoidance of entrenched "old boy networks" (Adams & Ferreira 2009; Lara et al., 2017; Gull et al., 2011). Conversely, other literature asserts that gender diversity on boards negatively affects firms, either due to a lack of qualified female directors (Ahern & Dittmar 2012; Bohren & Staubo 2014) or due to excessive monitoring by female directors. (Adams & Ferreira 2009).

In conclusion, agency theory focuses on identifying and resolving conflicts that may arise between managers and owners of an organization while performing their duties. Therefore, this study derives its theoretical review from agency theory, which best explains the study problem. This is because shareholders in Nigerian consumer goods companies are spread across the country and beyond. This makes it difficult for them to meet regularly and make appropriate decisions that can moderate the excesses of managers.

## 2.8 Conceptual Framework

The conceptual framework of this study shows, diagrammatically, how board gender diversity moderate the relationship between corporate governance and firm performance.

### Independent Variable



*Figure 1: Conceptual Framework of the Study*

## 2.9 Model Specification

$$ROE_{it} = \beta_{0it} + \beta_1 ACS_{it} + \beta_2 ACM_{it} + \beta_3 Size_{it} + e_{it}$$

$$ROE_{it} = \beta_{0it} + \beta_1 ACS * BGD_{it} + \beta_2 ACM * BGD_{it} + \beta_3 BGD_{it} + \beta_4 Size_{it} + e_{it}$$

Where:

ROE<sub>it</sub> = Return on Equity

ACS<sub>it</sub> = Audit Committee Size

ACM<sub>it</sub> = Audit Committee Meeting

FSize<sub>it</sub> = Firm Size

BGD<sub>it</sub> = Board Gender Diversity

β<sub>0</sub> = Constant (i.e., the intercept)

β<sub>1</sub> – β<sub>5</sub> = Coefficient of the explanatory variables (i.e., the slope)

- e = Error term
- i = Individual firm
- t = Time period (i.e., year)

### 3. Methodology

This study adopted correlation research design. The population of the study consists of all the 21 consumer goods firms listed on the Nigerian Stock Exchange as at year 2023. The study adopted census method to select the sample size by applying filtering criteria. Based on the criteria, 10 firms were selected as the sample size of the study. The study used secondary data which was extracted from the annual reports of consumer goods firms listed on the Nigerian Stock Exchange for the period of seven years from 2016 to 2022. The dependent variables are Return on Equity (ROE) used as a proxy of performance and the independent variable is CG measured by ACS and ACM, while the moderating variable is board gender diversity (BGD). For the purpose of presentation and discussion of the result of data generated in the course of these research, descriptive statistics, correlation and regression techniques of data analysis were used in STATA version 14<sup>th</sup> statistical tools of analysis.

**Table 1: Measurement of Variables**

| Variable                | Abbreviation | Formula  |
|-------------------------|--------------|--|
| Return on Equity        | ROE          | Net Profits/Total Equity (Nguyen, & Thi 2023)  |
| Audit Committee Size    | ACS          | It is calculated by the number of members of the audit committee (Al-Matari & Mgammal 2019)      |
| Audit Committee Meeting | ACM          | It is calculated by the number of audit committee meeting in a year (Mandal & Al-Ahdal 2018)     |
| Board Gender Diversity  | BGD          | Number of women on the board divided by total number of directors on the board (Khan & Ali 2017) |
| Firm Size               | FSize        | Measure by natural log. of total assets (Nguyen et al., 2015)                                    |

*Compiled by the author (2024)*

### 4. Discussion of Results

The section presents the data analysis and interpretation of result of the dependent variable and independent variables. It presents the descriptive statistics, correlation and regression results of the study.

#### 4.1 Descriptive Statistics

**Table 2: Descriptive Statistics**

|       | N  | Minimum | Maximum | Mean | Std. Deviation |
|-------|----|---------|---------|------|----------------|
| ROE   | 70 | -0.25   | 0.60    | 0.18 | 0.20           |
| ACS   | 70 | 3.00    | 6.00    | 3.06 | 0.50           |
| ACM   | 70 | 6.00    | 14.00   | 9.55 | 3.44           |
| BGD   | 70 | 0.00    | 0.83    | 0.12 | 0.11           |
| FSIZE | 70 | 8.11    | 9.70    | 8.96 | 0.50           |

*Note: Computed from Annual Report Data of Sampled Banks using Stata v14*

In Table 2, the mean, minimum, maximum and standard deviation of the study is presented. From the Table, it can be deduced that during the period under study, the performance (ROE) of listed consumer goods firms in Nigeria increased gradually to a maximum of 60 percent from a minimum of -25 percent with an average of 18 percent. Meaning that the performance of listed consumer goods firms improved within the period of the study. ACS of listed consumer goods firms in Nigeria increased gradually to a maximum of 6 audit committee members from a minimum of 3 members with an average of 3.06. Also, ACM of consumer goods firms has average 9.55, with a maximum of 14 audit committee meetings and a minimum of 6 audit committee meetings. It is also revealed that consumer goods firms' size is 8.96

percent on the average, at a maximum of 9.70 and minimum of 8.11 during the period of the study.

## 4.2 Diagnostics Testing

### A. Multicollinearity Test

**Table 3: Multicollinearity Test**

|       | Collinearity Statistics |       |
|-------|-------------------------|-------|
|       | Tolerance               | VIF   |
| ACS   | 0.707                   | 1.415 |
| ACM   | 0.452                   | 2.214 |
| BGD   | 0.306                   | 3.271 |
| FSIZE | 0.264                   | 3.79  |

*Note: Computed from Annual Report Data of Sampled Firms using Stata version 14*

According to the results in Table 3, it shows that the VIF for all the independent variables individually are below 5. ACS (1.415), ACM (2.214), BGD (3.271) and Size (3.79). The tolerance for all independent variables: ACS (0.707), ACM (0.452), BGD (0.306) and FSize (0.264) were all greater than 0.1 or 10%. Therefore, the study concludes that there is no multicollinearity among the variables. This was an indication that the estimators: ACS, ACM, BGD and FSIZE are reliable to estimate the model. Myers (1990) suggested that a VIF value greater than 10 is cause for concern, however, for this study, the VIF values are less than 10.

### B. Heteroscedasticity Tests

**Table 4: Heteroscedasticity Tests**

| Breusch-Pagan/Cook-Weisberg |       |
|-----------------------------|-------|
| Chi <sup>2</sup>            | 41.92 |
| Prob. > Chi <sup>2</sup>    | 0.511 |

*Source: Computed from Annual Report Data of Sampled firms using Stata version 14*

The results in table 4, shows that p-value of the chi-square 41.92 for the ROE model was 0.511 which greater than 0.01 (1%), this also indicates that there is no existence of Heteroscedasticity on residuals of the model.

### C. Normality Test

The study examined the validity of the data and the values of skewness and kurtosis for each variable, as shown in Table 5. Accordingly, all skewness and kurtosis values for the variables were found within the levels determined according to the research results. Therefore, the data are considered to be distributed with a high approximation to normal.

**Table 5: Tests of Normality**

|       | Skewness | Kurtosis |
|-------|----------|----------|
| ROE   | .225     | .913     |
| ACS   | .945     | .374     |
| ACM   | .191     | .550     |
| BGD   | .928     | .793     |
| FSIZE | .672     | .858     |

*Source: Computed using Stata 14, 2024*

### D. Hausman Specification Test

It is also known as M-statistics which is employed to make a choice between fixed and random effects panel regression and to check for exogeneity (Kamau & Oluoch, 2016).

**Table 6: Hausman Specification Test**

| IM-Test                  |        |
|--------------------------|--------|
| Chi <sup>2</sup>         | 40.76  |
| Prob. > Chi <sup>2</sup> | 0.0000 |

*Source: Computed from Annual Report Data of Sampled firms using Stata version 14*

The study found that the null hypothesis of the test cannot be accepted at any conventional level of significance (Chi-sq = 40.76; p-value = 0.0000) therefore, the study adopted the FE approach to control for the time –invariant unobserved characteristics across the listed sample



consumer goods companies. Laiho (2011) argued that the fixed effects model is arguably the best alternative, as it allows the researcher to control for any unobserved characteristics that are likely otherwise influence the results. The results obtained from the GLS, FE, and RE estimations are reported in table 6 for the variables under the study.

### 4.3 Correlation Analysis

Correlation analysis is used to explain the strength and direction of a linear relationship between two variables (Pallant, 2011). Pearson correlation was employed to assess the interrelationship between study variables. Pallant (2011) asserted that a correlation of 0 indicated no relationship at all, a correlation of 1.0 is an indication of positive correlation, and a value of -1 is a pointer of a perfect negative correlation. Cohen (1988) suggested the following guidelines as:  $r = 0.10$  to  $0.29$  small;  $r = 0.30$  to  $0.49$  medium; and  $r = 0.5$  to  $1.0$  large.

**Table 7: Correlation Matrix**

|       | ROE    | ACS    | ACM    | BGD   | Fsize |
|-------|--------|--------|--------|-------|-------|
| ROE   | 1      |        |        |       |       |
| ACS   | .548** | 1      |        |       |       |
| ACM   | .354** | .346** | 1      |       |       |
| BGD   | .694*  | .541** | .594** | 1     |       |
| Fsize | .426** | -.051  | -.142  | 0.131 | 1     |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

*Note: Computed from Annual Report Data of Sampled Banks using Stata version 14*

Table 7 shows the correlation result of the dependent variable: ROE, the independent variable: ACS and ACM, moderating variable: BGD, and the control variable: SIZE. The relationship between ROE and ACS is positive and large, with a coefficient of 0.548, this means that, all things being equal the higher the ACS the higher the ROE. The relationship between ROE and ACM is positive but medium, with a coefficient of 0.354, this means that, all things being equal the higher the ACM the higher the ROE. The relationship between ROE and BGD is positive and large, with a coefficient of 0.694, this means that, all things being equal the higher the BGD the higher the ROE. The relationship between ROE and FSIZE is positive and medium, with a coefficient of 0.426, this means that, all things being equal the higher the FSIZE the higher the ROE.

### 4.4 Regression Analysis

Tables 8 and 9 below show the regression results for testing the moderating effect of board gender diversity on the relationship between corporate governance and financial performance of listed consumer goods companies in Nigeria represented by ROE.

**Table 8: Regression Models**

|                      | (1)<br>OLS         | (2)<br>Fixed       | (3)<br>Random      |
|----------------------|--------------------|--------------------|--------------------|
| ACS                  | 0.824<br>(0.22)    | 0.718<br>(0.36)    | 0.054*<br>(1.93)   |
| ACM                  | 0.386<br>(0.87)    | 0.424<br>(0.80)    | 0.386<br>(0.87)    |
| FSIZE                | 0.000***<br>(3.65) | 0.001***<br>(3.23) | 0.235<br>(1.19)    |
| _CONS                | 0.677<br>(-0.42)   | 0.497<br>(-0.68)   | 0.008***<br>(2.65) |
| No of Obs            | 70                 | 70                 | 70                 |
| R-Squared            | 0.6118             | 0.6118             | 0.6118             |
| F-Statistics         | 55.30***           | 55.30***           | 55.30***           |
| Wald Chi2 Statistics | 43.88***           | 43.88***           | 516.92***          |
| Root MSE             | .11841             |                    |                    |

Note: \*\*\*, \*\*, \* denotes 1%, 5%, and 10% level of significance

Source: *Author Research Data Analysis (2024)*

From the results of the multiple regression analysis of ROE in table 8, the overall R<sup>2</sup> revealed that 61.18% of change in performance of consumer goods firms in Nigeria is explained by the explanatory variables used in the model of the study. Similarly, the F statistics and Wald chi2 are all significant at 1%, showing that the model is fit for the study. Similarly, the explanatory variables results of the firms shows that most of analysed parameters have statistically significant influence on the financial performance of consumer goods firms in Nigeria.

#### 4.4.1 Regression of Moderation Effect Analysis

Table 9 below presents the results of moderating effect model which includes all the coefficients of the variables, their standard errors, z-statistics and the probability value. It also reports the R-square value, Wald test value for joint significant, probability of the Wald test, the type of the panel and correlation among the error terms of the model.

**Table 9: Regression Results**

| Variables                        | Coefficients | Std. Err. | t-Statistics | p-value  |
|----------------------------------|--------------|-----------|--------------|----------|
| ACS                              | .0055        | .0153     | 0.36         | 0.718    |
| ACM                              | .0188        | .0235     | 0.80         | 0.424    |
| BGD                              | .1315        | .0128     | 10.31        | 0.000*** |
| FSIZE                            | .0004        | .0001     | 3.23         | 0.001*** |
| ACS*BGD                          | .1050        | .0794     | 2.46         | 0.014**  |
| ACM*BGD                          | .1223        | .0132     | 9.23         | 0.000*** |
| _cons                            | 1.279321**   | .4496196  | 2.85         | 0.005    |
| R-Squared                        | 0.6118       |           |              |          |
| F-Statistics                     | 55.30***     |           |              |          |
| Wald Chi <sup>2</sup> Statistics | 43.88***     |           |              |          |
| Root MSE                         | .11841       |           |              |          |

Note: \*\*\*, \*\* denotes 1% and 5%, level of significance

Source: *STATA Output, 2024*

From the results of the multiple regression analysis of ROE in table 9, the overall R<sup>2</sup> revealed that 61.18% of change in performance of consumer goods firms in Nigeria is explained by the explanatory variables used in the model of the study. Similarly, the F statistics and Wald chi2 are all significant at 1%, showing that the model is fit for the study. Similarly, the explanatory variables results of the firms shows that most of analysed parameters have statistically significant influence on the financial performance of consumer goods firms in Nigeria.

#### 4.4.2 Test of Research Hypotheses

In this study, five (5) hypotheses were formulated and tested on the moderating role of board gender diversity on the relationship between corporate governance and performance of listed consumer goods firms in Nigeria. In order to decide whether to reject or accept the null hypothesis at 0.05 (5%) level of significant, the rejection point is use which states that. (1) If the p value is equal to or less than 5%, the null hypotheses is rejected and the alternate hypotheses is accepted; (2) If the p value is more than 5%, the null hypotheses is accepted and the alternate hypotheses is rejected.

##### 4.4.2.1 ACS and Performance of Listed Consumer goods Firms in Nigeria

The t-test of ACS is 0.36 with p value of 0.718 which is greater than 0.05. Therefore; the null hypothesis one which states that audit committee size has no significant effect on the performance of listed consumer goods firms in Nigeria is hereby accepted.

#### **4.4.2.2 ACM and Performance of Listed Consumer goods Firms in Nigeria**

The t-test of ACM is 0.80 with p value of 0.424 which is greater than 0.05. Therefore; the null hypothesis two which states that audit committee meeting have no significant effect on the performance of listed consumer goods firms in Nigeria is therefore accepted.

#### **4.4.2.3 BGD and Performance of Listed Consumer goods Firms in Nigeria**

The t-test of BGD is 10.31 with p value of 0.000 which is less than 0.05. Therefore; the null hypothesis two which states that board gender diversity have no significant effect on the performance of listed consumer goods firms in Nigeria is therefore rejected.

#### **4.4.2.4 Moderating Role of BGD on ACS and Performance of Listed Consumer goods Firms in Nigeria**

The t-test of ACS\*BGD is 2.46 with p value of 0.014 which is less than 0.05. Therefore; the null hypothesis three which states that board gender diversity does not moderates the relationship between audit committee size and performance of listed consumer goods firms in Nigeria is therefore rejected, because it proved that board gender diversity strengthen the relationship between audit committee size and performance of listed consumer goods firms in Nigeria as t-value increases from 0.36 to 2.46 and the p-value reduces from 0.718 to 0.014.

#### **4.4.2.5 Moderating Role of BGD on ACM and Performance of Listed Consumer goods Firms in Nigeria**

The t-test of ACM\*BGD is 9.23 with p value of 0.000 which is less than 0.05. Therefore; the null hypothesis three which states that board gender diversity does not moderates the relationship between audit committee meeting and performance of listed consumer goods firms in Nigeria is therefore rejected, because it proved that board gender diversity strengthen the relationship between audit committee meeting and performance of listed consumer goods firms in Nigeria as t-value increases from 0.80 to 9.23 and the p-value reduces from 0.424 to 0.000.

### **4.5 Discussion of Findings**

The first objective of this study is to examine the effect of audit committee size on the performance of consumer goods firms in Nigeria. The result reveals that there is no significant relationship between audit committee size and the performance of listed consumer goods firms in Nigeria, with the coefficient value of 0.0055 and p value of 0.718 which is greater than 0.05. The positive insignificance relationship, mean a unit increase in audit committee size will not leads to an increase in the performance of consumer goods firm in Nigeria and vice versa. The finding is in the support of that of Al-Hamadsheh et al (2020) and contrary with the findings of Al-Matari & Mgammal (2019).

The second objective of this study is to examine the effect of audit committee meeting on the performance of consumer goods firms in Nigeria. The result reveals that there is positive significant relationship between audit committee meeting and the performance of listed consumer goods firms in Nigeria, with the coefficient value of 0.0188 and p value of 0.424 which is greater than 0.05. The positive insignificance relationship, mean a unit increase in audit committee meeting will not leads to an increase in the performance of consumer goods firm in Nigeria and vice versa. The finding is in the support of that of Mandal and Al-Ahdal (2018) and contrary with the findings of Al-Matari & Mgammal (2019).

The third objective of this study is to examine the effect of board gender diversity on the performance of consumer goods firms in Nigeria. The result reveals that there is positive significant relationship between board gender diversity and the performance of listed consumer goods firms in Nigeria, with the coefficient value of 0.1315 and p value of 0.000 which is less than 0.05. The positive significance relationship, mean a unit increase in board gender diversity will leads to an increase in the performance of consumer goods firm in Nigeria by 13.15% and

vice versa. The finding is in the support of that of Huynh, et al., (2022); Ouni, et al., (2022); Marie et al (2021) and contrary with the findings of Ye et al., (2010); Kakabadse et al., (2015). The fourth objective of this study is to examine the moderating role of board gender diversity on the relationship between audit committee size and performance of consumer goods firms in Nigeria. The result reveals that there is strong moderating effect of board gender diversity on the relationship between audit committee size and the performance of listed consumer goods firms in Nigeria, with the coefficient value of 0.1050 and p value of 0.014 which is less than 0.05. The t value increases from 0.36 to 2.46 and the p value decreases from 0.718 to 0.014, this indicated that board gender diversity strengthen the relationship between audit committee size and the performance of listed consumer goods firms in Nigeria.

The fifth objective of this study is to examine the moderating role of board gender diversity on the relationship between audit committee meeting and performance of consumer goods firms in Nigeria. The result reveals that there is strong moderating effect of board gender diversity on the relationship between audit committee meeting and the performance of listed consumer goods firms in Nigeria, with the coefficient value of 0.1223 and p value of 0.000 which is less than 0.05. The t value increases from 0.80 to 9.23 and the p value decreases from 0.424 to 0.000, this indicated that board gender diversity strengthen the relationship between audit committee size and the performance of listed consumer goods firms in Nigeria.

## **5. Conclusion, Recommendation & Policy Implications**

In conclusion, literatures show an inconsistency on the relationship between corporate governance and firm performance and also it could be noted that based on the literature there is ample evidence that suggests that board gender diversity has a positive impact on organizational performance. The finding of this study reveals that there is no significant relationship between corporate governance measures (i.e. audit committee and audit committee meeting) and performance of consumer goods firms in Nigeria. The results also indicated that board gender diversity has strong positive significant effect on performance of consumer goods firms in Nigeria and also moderate the relationship between corporate governance measures (i.e. audit committee and audit committee meeting) and performance of consumer goods firms in Nigeria. Therefore, the study concluded that board gender diversity strengthen the relationship between corporate governance measures (i.e. audit committee and audit committee meeting) and performance of consumer goods firms in Nigeria. Study also recommended that the consumer goods firm managers should consider board gender diversity in their operation process as it effect their performance and strengthen the relationship between firm performance and corporate governance measures (i.e. audit committee and audit committee meeting).

The study's findings have major implications for the advancement of theory. First, the investigation contributes to the advancement of agency theory by shedding light on the reasons for audit committee size, audit committee meetings, board gender diversity and performance in companies. Based on the findings of this paper, the study argue that audit committee size, audit committee meetings and board gender diversity are strategic resources that businesses could utilize to impact firm performance. The findings also have important policy implications for a wide variety of stakeholders due to the central role that corporate governance (i.e. audit committee size, audit committee meetings) and board gender diversity plays in defining how a firm function.

### **5.1 Limitations and Directions for Future Research**

The study has some limitations and recommendations for further research. The study limited the applicability of the investigation to consumer goods sector in Nigeria. Therefore, propose that future study expands the conceptual examination strategy to firms in Nigeria's non-consumer goods sector (i.e. Oil and Gas).

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