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The Moderating Effect of Vertical Agency Crisis on the Relationship Between Corporate Governance and Financial Performance in Nigeria

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Abstract

This study examines the moderating effect of vertical agency crises on the relationship between corporate governance mechanism and financial performance in Nigeria covering 2013 to 2022. To achieve this purpose, this study used precise proxies for the dependent, independent and moderator variables of interest. Based on a descriptive and ex-post facto research design, this study analyzed a set of panel data sourced from annual financial reports of eighteen (18) consumer goods firms drawn from a population of twenty-five (25) listed consumer goods firms in Nigeria. Mixed effect multi-level regression analysis estimator together with moderated regression analysis technique were employed to test the hypotheses after meeting necessary conditions for obtaining non-spurious least square regression estimates. The findings show that board ownership has a statistically significant relationship with financial performance, but board size, board independence and board gender diversity have insignificant relationship. Further, the findings from this study reveals among others that vertical agency crises have an insignificant moderating effect on the relationship between board independence and financial performance, the moderating effect is significantly positive in relation to board gender diversity for listed consumer goods firms in Nigeria . But for the variable of board size and board ownership, the moderating effect of vertical agency crises was seen to be statistically insignificant. Therefore, on the bases of the findings, this study suggests that managers should focus on mitigating vertical agency crises while concurrently strengthening board independence.

Keywords: Corporate Governance Mechanism, Financial Performance, Vertical Agency Crises, Board Size.

1.0 Introduction

The vertical agency crisis refers to the interaction between managers and shareholders. Managers might run the business for their personal advantage, at the expense of shareholders. Vertical agency crises are also known as a conflict-of-interest dilemma that can lead to the failure of business management. It is a circumstance in which agents (managers) may not operate in the best interests of their principals (shareholders). Under this contract, the principal delegate authority to the agent to act on their behalf, which frequently leads in agency costs because, in the face of asymmetric information, the agent may pursue objectives that differ from those of the principal. Agency costs include monitoring, bonding, and residual loss that shareholders may bear in an agency partnership. Agency costs emerge from the separation of ownership and control, as well as the misalignment of managers' and shareholders' interests (Jensen & Meckling 1976; Jensen, 1986). According to Core et al., (1999), organizations are more likely to experience higher levels of agency cost when there is a bad corporate governance framework; a system in which powerful management teams might act in ways that are detrimental to shareholders' interests in order to achieve managerial goals.

Corporate governance as a corporate mechanism is employed in monitoring the parties who control the resources owned by investors within a company for the purpose of promoting corporate

performance and accountability. In the views of Hermuningsih et al. (2020); Sarpong-Danquah et al., (2018) The lack of effective corporate governance is a major reason for business failure and this perspective has been supported by various existing studies that suggest that good corporate governance has a favorable impact on organizational performance (Clessens et al., 2002; Gompers et al., 2003; Organization for Economic Corporation and Development (OECD) (2009); Ahmad et al., 2024).

Firm performance is critical for survival, expansion, and diversification in a competitive market (Hashai, 2015). On the contrary, the collapse of a company's outstanding performance causes the appearance of a number of challenges, including labour turnover, stakeholder unhappiness, and liquidation. To improve the company's performance, the many key managerial personnel and critical stakeholders must work together regularly and diligently. Corporate governance measures, such as accounting standards and legislation governing financial transparency, shareholdings, board size, makeup, and independence, all have an impact on firm performance (Shafique et al., 2021; Khan, et al., 2022; Bilal et al., 2022). Similarly, Shunu, (2017), argue that board size proxy of corporate governance significantly contributes to firm performance while Korolo, (2023) showed that board size has no significant effect on financial performance.

Concerns have been expressed concerning boards of directors' ability and effectiveness to successfully manage and improve company performance in the aftermath of high-profile corporate failures and scandals like Enron and Worldcom (Rashid, 2011). If the size of the board of the directors increases, it may lead to a decrease in agency crisis (Sanjaya & Christianti, 2012). This study investigates the impact of the vertical agency crisis on corporate governance and firm performance of consumer products companies listed on the Nigerian Exchange Group (NGX Group) from 2013 to 2022. All explanatory factors were chosen based on available empirical literature. However, the empirical evidence from earlier studies analyzed did not yield a consensus. While some studies (Yegon et al., 2014; Ain et al., 2020; Yadav & Yadav 2021; Agarwal & Singh 2020; Jardi et al., 2021), a positive and substantial link was established, and others (Nuhu et al., 2020; Calapa et al., 2020; Nwonyuku 2016; Kweh et al., 2019), whose results proved otherwise. As a result, the current study tried to bridge this contradiction.

Furthermore, to the best of the researchers' knowledge, no study has examined how vertical agency crises influence the relationship between corporate governance and company financial performance among Nigerian listed companies. As a result, there was a research gap, which this study filled by looking into the impact of vertical agency crisis in the relationship between corporate governance and firm performance of Nigerian listed consumer goods companies. Therefore, the pertinent research questions for this study are: What is the relationship between corporate governance proxies of interest and financial performance; And to what degree does vertical agency crises moderate the relationship between corporate governance and listed consumer goods companies' financial performance in Nigeria?

The broad goal of this study is to examine whether agency crisis/cost has a detrimental effect on the relationship between corporate governance structure and financial performance in Nigeria. However, the main objectives of this study are to: Assess the relationship between board size and financial performance of listed consumer goods companies in Nigeria; Examine the relationship between board gender diversity and financial performance of listed consumer goods companies in Nigeria; Ascertain the relationship between board independence and financial performance of listed consumer goods companies in Nigeria; Investigate the relationship between board ownership and financial performance of listed consumer goods companies in Nigeria; And evaluate the moderating effect of vertical agency crises on the relationship between corporate governance and financial performance of listed consumer goods companies in Nigeria.

2.0 Literature Review and Hypotheses Development

The study conducted by Premananda et al., (2022) investigates the corporate governance, vertical agency crisis, and firm performance of Indian listed businesses. Using data from a panel of 771 non-financial companies included in India's 500 National Stock Exchange Index, the study examined the years 2009 to 2020. A panel regression model is presented in the study to examine the information gathered from the sample firms. According to the study, there is a statistically significant correlation between vertical agency cost and board size that is positive. Additionally, the study finds a negative correlation between agency cost and board independence. Additionally, the study reveals a negative association between non-executive directors and agency cost, but there is no significant relationship between corporate governance characteristics and business performance.

Yadav and Yadav (2021) used econometric tests such as fixed effect and random effect models to determine whether gender diversity has a significant impact on reducing agency costs in Indian corporations. They looked at 75 companies from 2006 to 2019 and concluded that there is no significant effect of female directors on agency costs. Jadi et al., (2021) investigated the effects of board independence on business performance. They analyzed 860 Chinese enterprises between 2010 and 2019. Running panel data regression analysis indicated a positive association between board independence and firm performance. Chaudhary (2021) claimed that board size had a negative impact on agency costs. In other words, board size worsens the agency problem of the sampled companies under consideration, namely the National Stock Exchange and the Indian 500 non-financial corporations from 2010 to 2019. Ain et al., (2020) evaluated how female directors reduced agency costs for 23,340 Chinese enterprises from 2004 to 2017. The asset utilization ratio is used as a proxy for measuring agency costs. The results demonstrate that having a female director on the board saves agency costs.

Agarwal and Singh (2020) evaluated the impact of board size on reducing the agency cost of 30 firms of the National Stock Exchange Index, Indian between 2007 and 2019. They use return on assets as a proxy for agency cost. The findings indicate a positive association between board size and agency costs. Calopa et al., (2020) used panel data regression analysis to investigate the impact of board size on agency cost mitigation for 219 Croatian enterprises between 2014 and 2018. The study discovered a substantial negative association between board size and asset utilization ratio, which is utilized as a proxy for agency cost. Nuhu et al., (2020) investigate the influence of agency costs on the financial performance of publicly traded consumer products companies in Nigeria. The study used documented data acquired from Nigerian consumer products companies' annual reports from 2007 to 2016. The panel data regression technique used demonstrates an inverse link between agency costs and financial performance, implying that agency expenses will lead to a drop in financial performance if not controlled appropriately.

Kweh et al., (2019) focused on how board independence affected the performance of 200 Malaysian companies that were traded on Bursa Malaysia between 2010 and 2015. Through the use of generalized method of moments (GMM) estimation, two stages least square (2SLS), and ordinary least squares (OLS), the study concludes that there is a strong negative link between independent directors and business performance. In Nigeria, Nwonyuku (2016) examined the connection between corporate governance and profitability of businesses by using eight food and beverage companies that were listed between 2004 and 2014 on the Nigerian Exchange Group. In a panel data context, the data were analyzed using multiple regression employing ordinary least squares and standard descriptive and inferential statistics. The findings showed a favorable correlation between net assets per share and return on equity and board size. Nonetheless, there is a positive correlation between board composition and net assets per share, but a negative correlation with return on

equity. The net assets per share and return on equity are negatively correlated with board competencies.

Solakoglu and Demir (2016) in their study, examined the relationship between gender diversity and firm performance for businesses operating in emerging markets, as well as the impact of certain firm-specific factors. The study collected firm-level financial data and firm-level characteristics for businesses listed on the BIST100 index of Borsa Istanbul between 2002 and 2006; endogeneity of gender diversity and business performance led to the use of unbalanced panel data with 2SLS specification and the sensitivity of results across performance measures, including two accounting-based and one market-based measure. Overall, the authors found mixed evidence regarding the relationship between gender diversity and firm performance. In particular, the findings suggest a strong correlation between gender diversity and firm performance for businesses targeting local markets, financial institutions, and family- or block-owned businesses. Moreover, Abdulazeez et al., (2016) examined the impact of corporate governance on the financial performance of all listed deposit money banks in Nigeria during a seven-year period (after consolidation). Data for the study were gathered quantitatively from the analyzed banks' annual reports and accounts. The study indicated that higher board sizes have a positive and significant impact on the financial performance of deposit money banks in Nigeria. Yegon et al., (2014) evaluated the impact of board independence on agency cost, which was measured using the asset utilization ratio. The study looks at nine corporations listed on the Nairobi Securities Exchange from 2008 to 2012. Using a multivariate fixed effect regression model, the study finds a positive relationship between board independence and agency costs.

Lubabah and Bawa (2013) used regression analysis to analyze the corporate governance and financial performance of twelve Nigerian banks over the course of five years, from 2006 to 2010. The study discovered a negative correlation between bank profitability and board size. Al-Matari et al., (2012) investigated the connection between the performance of Kuwaiti non-financial listed companies and the qualities of their boards. In order to fulfill the study's goals, information for the 2009 fiscal year was gathered from 136 companies. A number of variables, including board composition, size, audit committee tenure, CEO duality, and COE duration, were thought to be predictive of the firm's performance as assessed by return on total assets (ROA). Using multiple linear regression analysis with SPSS 18.0, the study's assumptions were tested, and the results showed that the CEO tenure had a negative and substantial impact on business performance. The study's findings support the positive impact of CEO duality and audit committee size on overall asset return. Other data indicate that board size has no statistically meaningful association with return on total asset.

Abosede and Kajola (2011) evaluated the link between corporate ownership structure and financial performance in Nigeria, using a sample of thirty (30) publicly traded companies from 2021 to 2008. Using pooled OLS as an estimation method and controlling for four (4) business-specific factors, we find a negative and significant association between ownership structure (director shareholding) and firm financial performance (ROE). Singhchawla et al., (2011) studied whether an independent board of directors overseeing corporate management improves firm performance in Australia. The study detailed the effects on performance in a sample of 250 listed businesses of the degree of independence of the main board and its subcommittees on audit, compensation, and nomination. The results of the study indicate that better outcomes are obtained with an independent main board. It has also been observed that independent directors' shareholding has a detrimental effect on their performance, indicating that shareholding limits their ability to act as impartial arbiters. It's interesting to note that the benefits of independence for firm performance did not extend to subcommittee composition, as the participation of outside directors had no discernible effect on

performance. Uchida (2006) uses Japanese data to show that managerial ownership has a positive and statistically significant association with company performance, even after correcting for managerial ownership endogeneity.

Theoretical Review

This research is based on the well-known agency theory that was created by Berles and Means in 1939. Within the framework of agency theory, the relationship between corporate governance mechanisms and firm financial performance is examined through the prism of the principal-agent relationship, in which managers (agents) make decisions for shareholders (principals) and use corporate governance mechanisms as control mechanisms to reduce potential conflicts of interest and opportunistic behavior (Thompson, 2023; Pouryousefi & Frooman, 2017). These methods, which aim to guarantee that managers operate in the best interest of the company and to align managers' interests with shareholders', include but are not limited to board monitoring, executive compensation schemes, shareholder activism, and transparency requirements. The link becomes more complex when vertical agency costs function as a moderator variable, which affects how well corporate governance practices align the interests of managers and shareholders. Conflicts of interest between various organizational management levels can lead to vertical agency crises. Top-level executives and lower-level managers or staff members may have disagreements, which can result in agency issues like moral hazard, in which managers prioritize their own interests over those of shareholders (Sethi et al., 2022; Al-Faryan, 2024; Jiang & Kim, 2020) or adverse selection, where managers are not the most qualified or competent individuals to run the firm (Buck & Wright, 1998). High levels of vertical agency costs have the potential to compromise the efficacy of governance mechanisms in regulating managerial behavior and result in suboptimal firm performance when they function as moderator variables in the relationship between corporate governance mechanisms and firm financial performance. (Bektas & Kaymak, 2009). For instance, lower-level managers may act in ways that are harmful to the company's financial interests if they believe that senior executives have alienated them or undervalued them. In the event of vertical agency crises, the organization's internal conflicts, inefficiencies, and misalignment of interests may lead to a decline in the firm's financial performance. Sharma and Singh (2018) argue that in extreme circumstances, it can result in managerial misconduct, fraud, or value destruction. However, an efficient corporate governance framework is required to mitigate these crises and ensure that managers behave in the best interests of shareholders, ultimately improving the firm's financial performance.

3.0 Methodology

The research design used in this study is ex-post factor research. This study's population consists of twenty-five (25) consumer products businesses that were listed on the Nigerian Exchange Group (NGX) on December 31, 2022. Purposive sampling was utilized to choose eighteen (18) publicly traded consumer goods companies from the Nigerian Exchange Group (NGX) for the study's sample. That is all the consumer goods companies that consistently filed their annual reports and accounts with Nigerian Exchange Group (NGX) during the study period. The study runs from 2013 until 2022. The study mostly relied on secondary data taken from the annual reports and statements of accounts of the sampled listed consumer goods companies. To test the hypotheses, we used a mixed effect multi-level regression analysis estimator using a moderated regression analysis approach.

Model Specification

Based on the theoretical literature and earlier reviewed empirical studies, this study modifies the model of Ngatno et al. (2021), Phan and Duong, (2021) and express the econometric form of the model as:

$FFP = \beta_0 + \beta_1 BSIZE_{it} + \beta_2 BGEN_{it} + \beta_3 BIND_{it} + \beta_4 BOWN_{it} + \mu_{it}$ ..... (1)

$FFP = \beta_0 + \beta_1 BSIZE*VAC_{it} + \beta_2 BGEN*VAC_{it} + \beta_3 BIND*VAC_{it} + \beta_4 BOWN*VAC_{it} + \mu_{it}$ ..... (2)

Where equation (1) clearly represents the linear relationship between corporate governance and firm financial performance, equation (2) represents the non-linear/moderated relationship between corporate governance and firm financial performance for listed consumer goods firms in Nigeria; where:

FFP = Firm Financial Performance
BSIZE = Board Size
BGEN= Board Gender Diversity
BIND = Board Independence
BOWN = Board Ownership
VAC = Vertical Agency Cost
μ = Error (Stochastic term).

Operationalization of Study Variables

Table 1 : Variable Definition and Measurement

Variables	Variable Acronym	Measurement
Dependent:		
Firm Financial Performance	ROA	Net Profit/Total Assets
Independent:		
Board Size	BSIZE	Total number of board of directors
Board Gender Diversity	BGEN	The total number of female directors on the board
Board Independence	BIND	The ratio of number of independent directors to the total board of directors
Board Ownership	BOWN	Is computed as directors direct and indirect shares divided by outstanding shares.
Moderator:		
Vertical Agency Crisis	VAC	Ratio of net sales to total assets

Source: Researcher's Compilation, 2024.

4.0 Results and Discussion

Descriptive Statistics Analysis

In the descriptive statistics table, each variable is examined based on its mean, standard deviation, maximum and minimum values. Hence, table 2 displays the results obtained from the descriptive statistics.

Table 2: Descriptive Statistics Result

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	160	5.335	7.747	-19.660	26.490
BSIZE	160	10.350	2.890	4.000	18.000
BGEN	160	1.613	1.127	0.000	4.000
BIND	160	70.999	13.646	38.460	93.330
BOWN	160	7.481	16.261	0.000	74.740

Source: Authors' Computation 2024 Stata Version14 Output

Table 2 describes the independent and dependent variables in relation to the variables' arithmetic mean, standard deviation, maximum and minimum values for the period under discussion. Looking at financial performance; return on total asset (ROA), the table reveals that the mean value of return on total asset is 5.335 corresponding to a standard deviation of 7.747. The positive mean

value of return on total asset is suggestive of growth potential of the average consumer goods firm. The result indicates that on average, the sampled consumer goods firms generated profit and delivered favorable results in relation to return on total asset to shareholders. The result shows that on average managers of consumer goods firms in Nigeria were able to effectively utilize assets to generate profits. Reporting a positive return on asset will benefit various stakeholders, such as employees, customers, suppliers, and lenders whereby employees could benefit from greater job security and potential pay rise, customers could experience improved products or services delivery, suppliers might feel more confident in their transactions with the company, and lenders could view the company as a reliable borrower. For the variable of board size, the descriptive statistics result shows a mean value of 10.350 with a standard deviation of 2.890 indicating a more than 8-member board size for consumer goods firms in Nigeria during the period under consideration. The descriptive statistics result also shows that the mean value of board independence is 70.999 corresponding to a standard deviation of 13.646 indicating a more than 70%, board independence for listed consumer goods firms in Nigeria during the period under consideration. Further, a cursory look at the variable of board gender diversity, shows a mean value of 1.613 implying that on average, only 1 female representative is sitting on the board of listed consumer goods firms in Nigeria during the period under investigation.

Data Normality Test

In this study normality of data test using Shapiro Wilk test procedure was conducted as shown in the Table 3.

Table 3. Shapiro-Wilk W test

Variable	Obs	W	V	Z	Prob.
ROA	160	0.961	4.676	3.509	0.000
BSIZE	160	0.988	1.470	0.877	0.190
BGEN	160	0.984	1.952	1.522	0.064
BIND	160	0.967	4.035	3.173	0.000
BOWN	160	0.521	58.862	9.270	0.000

Source: Authors' Computation 2024 Stata Version14 Output

The Table 3 shows the result obtained from the Shapiro-Wilk normality test for the data employed in this study. It is observed that firm performance; return on total asset ROA (z = 3.509; Prob>z = 0.000) variable is not normally distributed due to its statistically significant probability value. Board size BSIZE (z = 0.877; Prob>z = 0.190) is seen to be normally distributed due to its statistically insignificant probability value. The variable board gender diversity shows that BGEN (z = 1.522; Prob>z = 0.064), is also normally distributed as seen from the statistical insignificant probability value during the period under discussion. Board ownership (BOWN) (z = 9.270; Prob>z = 0.000), and board independence BIND (z = 3.173; Prob>z = 0.000) are not normally distributed as seen from their z probabilities which show statistically significant values. However, regression estimation technique was still employed to test the hypotheses of this study noting that the probabilities of the t-statistics is more reliable in judging the statistical significance of each variable coefficients.

Table 4: Correlation Analysis Result

Variable	ROA	BSIZE	BGEN	BIND	BOWN
ROA	1.000				
BSIZE	-0.143	1.000			
BGEN	0.108	0.277	1.000		
BIND	-0.209	0.045	-0.032	1.000	
BOWN	-0.074	-0.133	-0.380	0.084	1.000

Source: Authors' Computation 2024 Stata Version14 Output

Particularly, the analysis from the spearman rank correlation analysis in table 4 showed that the independent variables to include board size (BSIZE) (-0.143/14%) board independence (BIND) (-0.209/21%) and managerial ownership (INEQ) (-0.074/7%) are negatively correlated with the dependent variable return on total asset. Further, investigation showed that the board size (0.277/28%) showed positive association with board gender diversity variable during the period under review. The association between the independent variable of board gender diversity and managerial equity holding (BOWN) is revealed to be negative (-0.380). Also, the variable of board size (BSIZE) shows a negative relationship with board ownership BOWN (-0.133/13%) during the period under review. Particularly, it is seen that all positive and negative associations presented in table 4, are seen to be relatively weak (less than 80%) hence there is less room to suspect the presence of multicollinearity in the resulting regression estimates.

Regression Analyses

In particular, panel data estimations with fixed and random effects analysis were utilized to investigate the link between the independent variables and the dependent variable of this study, and the Hausman specification test was employed to identify which of the two models was most appropriate. It is worthy to note that the model that was determined by the Hausman Specification test statistics was adequately diagnosed for normality of residua error (heteroscedasticity) hence the specification test result determined the final econometric analysis technique (Mixed Effect ML regression) which was employed to test the hypotheses. The absence of multicollinearity in the specified model was established, and the results are presented in the Table 5

Table 5: Return on Total Asset (ROA) Regression Analysis Result

	ROA MODEL (FIXED EFFECT)	ROA MODEL (RANDOM EFFECT)	ROA MODEL (MIXED EFFECT)	ROA MODEL (MODERATED REGRESSION)
CONS	1.586	-19.306	-0.374	0.0401
	(0.375)	(0.003)	(0.713)	(0.703)
BSIZE	-0.174	0.321	0.023	-0.002
	(0.177)	(0.335)	(0.691)	(0.821)
BIND	0.003	0.009	-0.0009	0.004
	(0.867)	(0.586)	(0.941)	(0.027) **
BGEN	-0.026	-0.023	0.076	-0.049
	(0.921)	(0.393)	(0.613)	(0.074)
BOWN	0.040	-0.004	0.042	0.002
	(0.019)	(0.873)	(0.000)	(0.328)
BSIZEVAC				0.007
				(0.539)
BINDVAC				-0.004
				(0.006)
BGENVAC				0.079
				(0.016)
BOWNVAC				0.002
				(0.172)
F-Stat/Wald Stat	2.130	18.310	27.960	2.210
	(0.080)	(0.001) **	(0.000) **	(0.021) **
R- Squared	0.057	0.035	0.058	0.118
Hausman Test **Chi² = 4.420, Probability = 0.351**		**Test for Fixed Effects Errors** = F-test 0.580, Prob > F = 0.883	**Test for Random Effects Errors** = 0.000 (1.000)	**Joint test for Normality e: =**10.070 (0.006) ** **u:** = 76.630 (0.000) ***

Source: Authors' Computation, 2024 Stata Version14 Output**.**

Table 5 present the results obtained from return on total asset model. As observed from the table, the fixed effect regression analysis result revealed an R-squared value of 0.057 which indicate that about 6% of the systematic variations in earnings per share for the sampled consumer goods firms is jointly explained by the independent variables in the model.

The models' statistical significance is indicated by the F-statistic and Wald-statistic values for the fixed and random effect regression models, respectively, which are {2.13 (0.080)} and 18.31 (0.001)}. The independent variables jointly explain approximately 4% of the systematic fluctuations in return on total asset, according to the coefficient of determination (R-squared) values of 0.035. In this study, Hausman specification test reveals a statistically insignificant probability value [0.351] indicating the adoption of the random effect model over the fixed effect model. However, following the test for normality of error for the random effect model the result show a 5% statistically significant idiosyncratic error, e: = 10.07(0.006) and u: = 76.63(0.000) which presents heterogeneity issues indicating that the assumption of homoscedasticity of the error term has been violated. Therefore, panel mixed effect multi-level regression technique was employed to control for the unobserved heterogeneity and consequently used to test the study hypotheses. The results obtained from the mixed effect regression model presented in table 5, revealed that board size [BSIZE, coef. = 0.023 (0.691)] has an insignificant effect on financial performance of consumer goods firms in Nigeria. In line with the ceteris paribus axiom (all things been equal) the result indicates that on average a one board member increase relates to about 0.023 insignificant effect on return on total asset. This outcome is in line with those of Al-Matari et al., (2012). Additionally, Lubabah and Bawa (2013) found a similar negative correlation between bank profitability and board size. It deviates, nevertheless, from the conclusions of Abdulazeez et al. (2016), who found that board size had a favorable impact on financial performance. Consequently, the analysis adopts the null hypothesis, which states that there is no meaningful correlation between board size and the performance of listed consumer products companies in Nigeria.

Based on the data, board gender diversity [BGEN, coef. = 0.076 (0.613)] has a statistically negligible connection with return on total asset of consumer goods firms in Nigeria, according to the mixed effect regression model shown in table 5. The result indicates that, on average, a ratio increase in board gender diversity translates to an inconsequential association with return on total asset throughout the period under review, based on the ceteris paribus assumption. This result is consistent with the findings of Solakoglu and Demir (2016). As a result, the study adopts the null hypothesis, which claims that there is no meaningful correlation between the financial success of listed consumer goods companies in Nigeria and board gender diversity.

The results obtained from the mixed effect regression model presented in table 5, revealed that board independence [BIND, coef. = 0.001 (0.941)] has an insignificant relationship with return on total asset of consumer goods firms in Nigeria. In line with the ceteris paribus axiom (all things been equal) the result indicates that on average a ratio increase in board independence insignificantly relates to return on total asset. This outcome is in line with those of Singhchawla et al., (2011). Additionally, the outcome confirms the findings of Kweh et al., (2019), who discovered that board independence had a detrimental effect on the success of the company. The outcomes, however, are not the same as those published by Jadi et al., (2021), whose research showed that board independence had a favorable impact on financial performance. As a result, the null hypothesis—that board independence has no discernible bearing on the business performance of Nigerian listed consumer products companies—is accepted by this study.

Further, the results obtained from the mixed effect regression model presented in table 5, revealed that managerial equity holding [BOWN, coef. = 0.042 (0.000)] has a statistically significant positive

relationship with firm performance of consumer goods firms in Nigeria. Based on the ceteris paribus assumption, the result implies that, on average a one percent increase in managerial shareholding translate to about 0.042unit increase in return on total asset during the period under consideration. This finding is consistent with Uchida's (2006) finding that managerial ownership and business performance are positively and statistically significantly correlated. contrast, however, the results of Abosede and Kajola (2011), who found a substantial correlation between the financial success of the company (ROE) and the ownership structure (director shareholding). Consequently, the null hypothesis—which contends that there is no meaningful correlation between managerial ownership and the financial performance of Nigerian listed consumer products companies—is rejected by this study.

The results obtained from the moderated regression model revealed that vertical agency cost significantly moderates the relationship between corporate governance and financial performance. Specifically, the result implies that vertical agency cost significantly influences the relationship that exist between corporate governance proxies board independence (BINDVAC) Coef. = -0.004 (0.006) and board gender diversity (BGENVAC) Coef. = 0.079 (0.016) and financial performance. The link between board size (BSIZEVAC) Coef. = 0.007 (0.539) and board ownership (BOWNVAC) Coef. = 0.002 (0.172) and financial performance, however, is not significantly moderated by vertical agency cost. Therefore, the analysis disproves the null hypothesis, which holds that vertical agency cost modifies the link between corporate governance and financial performance of Nigerian listed consumer goods companies in a meaningful way.

5.0 Conclusion and Recommendations

This study explores the relationship between corporate governance and financial performance by employing a litany of panel data estimators, to include, fixed and random effect regression analysis, multi-level mixed effect regression analysis. It has been demonstrated in this study that corporate governance has a mixed relationship with firm performance such that while some variables carry the potentials to achieve better/higher financial performance, other variables show no significant relationship with financial performance. Further, this study conclude that vertical agency crises have a strong influence (positive and negative) on the relationship between corporate governance and firm performance among listed consumer goods firms in Nigeria. Based on the results above, and since it is generally preferable for researchers to focus policy recommendations on statistically significant findings (Kretser et al., 2019) this study follow suit and provide the following recommendations.

Given the positive relationship between managerial shareholding and return on total assets among consumer goods firms in Nigeria, one key recommendation for managers is to actively encourage and incentivize managerial equity ownership. This can be achieved by implementing equity ownership programs that provide managers with opportunities to acquire shares in the company. Offer stock options, restricted stock units, or performance-based equity awards as part of executive compensation packages. These programs should be designed to align the interests of managers with those of shareholders by tying equity grants to performance metrics such as return on total assets, earnings per share growth, and shareholder value creation.

Given the unexpected finding that vertical agency cost positively moderates the relationship between board gender diversity and return on total assets in consumer goods firms, managers should focus on leveraging this interaction to enhance firm performance. This objective can be achieved by maximizing the benefits of gender diversity through enhanced governance practices, noting that consumer goods firms can leverage the positive moderating effect of vertical agency cost to drive sustainable performance and competitive advantage. This approach not only enhances

board effectiveness and decision-making but also fosters a culture of inclusion, innovation, and resilience that positions firms for long-term success in dynamic market environments.

Given the finding that vertical agency cost negatively moderates the relationship between board independence and return on total assets among consumer goods firms in Nigeria, this study recommends that managers should focus on mitigating vertical agency costs while concurrently strengthening board independence. Following this route, managers must recognize that vertical agency costs often stem from inefficiencies, conflicts of interest, and information asymmetries along the supply chain. Hence, establish transparent governance mechanisms to enhance visibility, accountability and alignment of interests among stakeholders within the supply chain.

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