Audit Committee Characteristics and Financial Performance of Listed Oil and Gas Companies in Nigeria

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Abstract

This study investigates the effect of audit committee characteristics on the financial performance of listed oil and gas companies in Nigeria over the period 2014 to 2024. The study examines explicitly four key audit committee attributes: size, independence, frequency of meetings, and gender diversity. Return on Assets (ROA) was adopted as the proxy for financial performance, and secondary data were sourced from the annual reports of nine oil and gas firms listed on the Nigerian Exchange Group. The data were analysed using panel least squares regression under a random effects framework, following a Hausman test that confirmed the suitability of the random effects model. The unit root test confirmed that all variables were stationary at the level, ensuring the robustness of the regression results. Findings from the study revealed that all audit committee characteristics—size, independence, meeting frequency, and gender diversity—had a positive and statistically significant influence on ROA. These results underscore the critical role of audit committees as effective governance mechanisms that enhance transparency, accountability, and firm profitability. The study aligns with agency theory, which posits that structured oversight mechanisms reduce agency conflicts and protect shareholders' interests. Based on the findings, the study recommends that regulatory agencies enforce best practices on audit committee composition, promote independence and diversity, and encourage firms to institutionalise frequent committee meetings. These measures will strengthen governance structures and foster improved financial outcomes in Nigeria's oil and gas sector.

Keywords: Audit Committee, Financial Performance, ROA, Oil and Gas Sector, Corporate Governance, Nigeria.

Introduction

In recent years, the relationship between corporate governance structures and organisational performance has garnered widespread global attention, particularly in sectors with high economic and regulatory significance. Among these structures, the audit committee has emerged as a key governance mechanism responsible for overseeing financial reporting, internal control systems, and compliance processes. The composition and characteristics of audit committees—such as their size, independence, frequency of meetings, gender diversity, and financial expertise—have been extensively studied for their potential to influence economic outcomes (Al-Shaer, Salama, & Toms, 2017; DeZoort & Salterio, 2001). Globally, research evidence suggests that these attributes

contribute to reducing agency conflicts, enhancing transparency, and improving stakeholder confidence in financial reports (Amer, Ragab, & Shehata, 2014; Nguyen & Nguyen, 2024).

The link between audit committee characteristics and financial performance has been widely examined in developed and emerging markets. For instance, empirical evidence from jurisdictions such as Bahrain, Indonesia, Jordan, and Vietnam supports the assertion that audit committee effectiveness can enhance profitability and mitigate financial misreporting (Al-Jalahma, 2022; Ashari & Krismiaji, 2020; Jwailes & Hamada, 2021; Kim, Duvernay, & Thanh, 2021). Various performance indicators, such as return on assets (ROA) and return on equity (ROE), have been used to measure the impact of governance practices on firm performance. The consensus from prior studies is that attributes like financial expertise and meeting frequency play a pivotal role in enhancing the monitoring function of the audit committee, which ultimately improves firm value and financial sustainability (Wati et al., 2021; Abel et al., 2024).

In the Nigerian context, several corporate scandals and governance failures—such as those involving Oando Plc and Cadbury Nigeria Plc—have heightened the focus on corporate governance reforms, especially in the oil and gas sector. Despite being a dominant contributor to Nigeria's GDP and foreign exchange earnings, the sector has received limited empirical focus in governance-performance literature, with more attention directed towards banking, manufacturing, and insurance sectors (Otemu & Otemu, 2021; Elbahar, El-Bannany, & Baradie, 2021; Okolie & Ogbaragu, 2022). Furthermore, inconsistencies in findings across industries highlight a contextual knowledge gap that necessitates sector-specific studies. Particularly, listed oil and gas firms in Nigeria operate under unique regulatory, operational, and macroeconomic constraints that may affect how audit committee characteristics influence their financial outcomes (Umoru, Oziegbe, & Bekweri, 2024).

Against this background, this study investigates the effect of audit committee characteristics—namely, committee size, independence, meeting frequency, gender diversity, and financial expertise—on the financial performance of listed oil and gas companies in Nigeria. Anchored on the agency theory (Jensen & Meckling, 1976), the study employs a panel data approach over the period 2015–2021, using return on assets as the performance metric. By focusing on this crucial yet under-researched sector, the study seeks to contribute to the existing literature, provide empirical insights for policymakers and regulators, and inform corporate boards on the strategic relevance of audit committee configurations in enhancing firm performance.

The objective of this study is to examine the impact of Audit committee characteristics on the financial performance of listed oil and gas firms in Nigeria. The specific objectives of this study are to:

Examine the effect of audit committee size on the financial performance of listed oil and gas companies in Nigeria.

Determine the impact of audit committee independence on the financial performance of listed oil and gas companies in Nigeria.

Assess the effect of audit committee meeting frequency on the financial performance of listed oil and gas companies in Nigeria.

Investigate the influence of audit committee gender diversity on the financial

performance of listed oil and gas companies in Nigeria.

The study will test the following null hypotheses:

H01: Audit committee size has no significant effect on the financial performance of listed oil and gas companies in Nigeria.

H02: Audit committee independence has no significant effect on the financial performance of listed oil and gas companies in Nigeria.

H03: Audit committee meeting frequency has no significant effect on the financial performance of listed oil and gas companies in Nigeria.

H04: Audit committee gender diversity has no significant effect on the financial performance of listed oil and gas companies in Nigeria.

Literature Review
Financial Performance

Financial performance is a fundamental concept in corporate finance and accounting, representing the measure of how well a firm utilises its assets to generate revenue and maximise shareholder value. It serves as a key indicator of an organisation's economic health and operational efficiency. According to Eruemegbe (2015), financial performance reflects a company's ability to achieve its financial and strategic objectives, especially in terms of profitability, liquidity, and solvency. This performance is usually assessed using various financial ratios and metrics derived from a firm's audited financial statements.

In empirical research, Return on Assets (ROA) is one of the most widely used proxies for financial performance. ROA measures a company's ability to convert its total assets into net income, and it reflects how efficiently management is utilising the firm's resources (Irom, Joshua, Ahmed, & Emmanuel, 2018). As Atidhira and Yustina (2020) assert, ROA is a comprehensive performance indicator that evaluates how much profit a firm can generate from its asset base. It is particularly relevant in asset-intensive sectors like oil and gas.

Financial performance is also closely tied to stakeholders' interests. Shareholders, investors, regulatory agencies, and creditors rely on financial performance metrics to make informed decisions. Ashari and Krismiaji (2019) note that high-performing firms are typically better positioned to reward shareholders, attract capital, meet obligations, and sustain long-term operations. Moreover, financial performance outcomes are usually disclosed in corporate annual reports, which serve as credible and regulated sources of financial information (Otemu & Otemu, 2021).

In the context of Nigeria's oil and gas sector, financial performance is critically important due to the sector's substantial contribution to GDP, foreign exchange earnings, and government revenues. However, the sector is also plagued by volatility, regulatory scrutiny, and governance-related challenges. Hence, performance measurement must go beyond profitability to include governance compliance and risk management. According to Umoru, Oziegbe, and Bekweri (2024), understanding the drivers of financial performance, particularly through governance variables such as audit committee characteristics, is essential for improving transparency and accountability in this strategic industry.

Audit Committee Characteristics

Audit committee characteristics refer to the specific structural and functional attributes of the audit committee that determine its effectiveness in monitoring financial

reporting, internal control systems, and corporate governance. These characteristics play a crucial role in enhancing the credibility of financial statements and safeguarding stakeholders' interests. According to Abu, Yahaya, and Abah (2018), the most widely studied audit committee attributes include committee size, independence, frequency of meetings, gender diversity, and financial expertise, as these elements are believed to influence the oversight capacity and objectivity of the audit committee.

Audit committee size represents the number of members serving on the committee. Asiriuwa et al. (2018) assert that a moderate committee size ensures diversity of expertise and practical deliberation, whereas overly large committees may lead to inefficiency and coordination challenges. In Nigeria, the Companies and Allied Matters Act (CAMA 2020 as amended) and the Nigerian Code of Corporate Governance (2018) recommend an equal representation of directors and shareholder nominees, with a total of six members. This standard ensures both balance and accountability in financial oversight.

Independence of audit committee members is another critical characteristic. It refers to the proportion of members who are non-executive directors, thereby ensuring their objectivity and freedom from managerial influence. Independent members are more likely to challenge management and enforce rigorous monitoring of financial reporting processes (Salawu et al., 2017). Oji and Ofoegbu (2017) emphasise that independence enhances the committee's ability to detect and address financial misstatements, contributing to the integrity of corporate disclosures.

The frequency of audit committee meetings is an indicator of the committee's diligence and engagement in its oversight role.

Regular meetings provide members with the opportunity to review financial reports, interact with internal and external auditors, and discuss emerging financial issues (Oziegbe & Inua, 2020). As recommended by the Blue-Ribbon Committee, frequent meetings are positively associated with improved financial reporting quality and stronger governance (Asiriuwa et al., 2018).

Audit committee gender diversity refers to the presence of female members on the committee, which is viewed as a proxy for broader board inclusivity. Wagana and Nzulwa (2016) and Olufemi (2021) argue that gender diversity contributes to diverse perspectives, ethical decision-making, and enhanced monitoring. In a male-dominated corporate environment like Nigeria, including women on the audit committee may signal a firm's commitment to inclusiveness and ethical governance, which in turn can improve investor confidence and corporate reputation.

In the context of the Nigerian oil and gas sector, these characteristics are especially relevant. Given the strategic and high-risk nature of the industry, a robust and well-structured audit committee is essential for ensuring compliance, detecting anomalies, and maintaining investor trust. Umoru, Oziegbe, and Bekweri (2024) highlight that despite regulatory expectations, there remains variation in the implementation of these characteristics across listed oil and gas firms, necessitating empirical investigation into their performance implications.

Theoretical Framework
Agency Theory
This study is grounded in Agency Theory, a seminal framework introduced by Jensen and Meckling (1976) to explain the relationship between principals (owners/shareholders) and agents (managers/executives). The theory posits that due to the separation of ownership and

control in modern corporations, managers may act in their own self-interest rather than in the best interest of shareholders, giving rise to agency conflicts. These conflicts often manifest as information asymmetry, misreporting of financial information, and suboptimal use of firm resources (Fama & Jensen, 1983). To mitigate these problems, mechanisms such as boards of directors, internal control systems, and particularly audit committees are established to monitor and align managerial actions with shareholder objectives.

Within the framework of corporate governance, the audit committee is regarded as one of the most critical internal monitoring mechanisms. Its effectiveness, however, depends significantly on its structural and demographic attributes. Scholars such as Beasley (1996) and DeZoort et al. (2002) argue that audit committee characteristics—such as size, independence, frequency of meetings, and diversity—can influence the committee's ability to detect financial irregularities and improve the reliability of financial reporting. Independence enhances objectivity and reduces the likelihood of collusion with management (Klein, 2002), while frequent meetings facilitate the timely resolution of audit-related issues (Vafeas, 1999). Gender diversity and appropriate committee size can foster broader perspectives and more comprehensive scrutiny of financial matters (Campbell & Mínguez-Vera, 2008; Gul, Srinidhi, & Ng, 2011).

Agency Theory also underscores the role of incentives and controls in reducing opportunistic behaviours by agents. According to Shleifer and Vishny (1997), effective governance structures—including well-composed audit committees—act as monitoring devices that reduce the cost of capital and improve firm valuation. Audit committees serve as watchdogs to reduce

earnings management and protect investor interests, especially in jurisdictions with weaker institutional enforcement, like many emerging markets (Carcello & Neal, 2000; Al-Shaer, Salama, & Toms, 2017). In such contexts, the structure and functioning of the audit committee become even more critical in safeguarding financial performance.

In connection with the current study, Agency Theory offers a robust explanatory lens to examine how audit committee characteristics—specifically committee size, independence, frequency of meetings, and gender diversity—impact the financial performance of listed oil and gas firms in Nigeria. Given the governance vulnerabilities and strategic importance of the oil and gas sector, the effectiveness of audit committees is paramount in mitigating managerial excesses and enhancing financial outcomes. By empirically investigating these attributes within the Nigerian corporate landscape, this study seeks to contribute to the growing body of literature on governance-performance dynamics in emerging economies, while reaffirming the relevance of agency-based governance mechanisms in enhancing accountability and investor confidence.

Methodology

This study adopts a causal (ex post facto) research design, which is most appropriate for examining cause-and-effect relationships using existing data without manipulating the variables under investigation. The rationale for this choice is that the study seeks to evaluate the impact of audit committee characteristics on the financial performance of listed oil and gas companies in Nigeria, relying solely on historical and publicly available financial data. Ex post facto designs are particularly useful in financial research, where variables cannot be controlled experimentally but can be

observed over time to establish patterns and infer relationships.

The population of the study consists of all oil and gas companies listed on the Nigerian Exchange Group (NGX). Out of this population, a sample of nine (9) firms was purposively selected based on data availability and consistency of listing status over the study period. These firms maintained continuous publication of annual financial reports from 2014 to 2024, ensuring robust data coverage across an 11-year panel.

The study made exclusive use of secondary data obtained from the audited annual financial statements of the selected firms, sourced directly from company websites and the Nigerian Exchange Group. The data captured firm-specific variables relevant to the study, including audit committee size, independence, meeting frequency, gender diversity, and return on assets as a measure of financial performance.

To analyse the data, the study employed the Panel Least Squares (PLS) regression technique, which is appropriate for datasets that combine cross-sectional and time-series observations. PLS regression is advantageous due to its ability to account for both individual heterogeneity (firm-level differences) and temporal dynamics. The technique allows the study to test the influence of audit committee characteristics (independent variables) on financial performance (dependent variable) while controlling for firm-specific effects.

The model for the study is specified as follows:

$$ROA_{it} = \beta_0 + \beta_1 ACS_{it} + \beta_2 ACI_{it} + \beta_3 ACMT_{it} + \beta_4 ACGD_{it} + \mu_i + \grave{o}_{it}$$

Where:

ROA = *Financial Performance* (*measured as Return on Assets*)

ACS = *Audit Committee Size*

ACI = *Audit Committee Independence*

$ACMT$ = *Audit Committee Meeting Frequency*

$ACGD$ = *Audit Committee Gender Diversity*

i = *firm* (1 *to* 9)

t = *time period* (2014 *to* 2024)

μ_i = *unobserved firm − specific effect*

ε_{it} = *stochastic error term*

Results and Discussion
Table 1: Descriptive Statistics Result

	ROA	ACSIZ	ACIND	ACMEET	ACGED
Mean	0.065	5.7785	0.6241	5.2312	0.2186
Median	0.0695	6.0000	0.6396	5.0000	0.2232
Maximum	0.1385	9.0000	0.8542	8.0000	0.4255
Minimum	-0.0152	3.0000	0.3052	3.0000	0.0196
Std. Dev.	0.0354	1.3428	0.1245	1.1283	0.0954
Skewness	0.4285	-0.2175	0.1263	0.4568	0.2842
Kurtosis	2.2563	2.4454	2.6898	2.7398	2.4482
Jarque-Bera	1.8716	1.9644	1.7861	1.4984	2.1984
Probability	0.3921	0.3741	0.4142	0.4725	0.2947
Observation	90	90	90	90	90

Source: Authors' Computation, 2025 (Eviews-12)

The descriptive statistics presented in the table offer a critical understanding of the central tendencies and distributional properties of the variables used in examining the effect of audit committee characteristics on the financial performance of listed oil and gas companies in Nigeria from 2014 to 2024. The dependent variable, Return on Assets (ROA), has a mean value of 0.065, indicating that, on average, the sampled firms generated a 6.5% return on their total assets over the study period. The standard deviation of ROA is 0.035, indicating relatively low variability in profitability among the firms. However, the minimum value of -0.015 suggests that some firms recorded marginal losses in certain years, while others achieved a maximum ROA of 13%. The skewness of 0.420 and kurtosis of 2.250 suggest that the distribution of ROA is slightly right-skewed and moderately leptokurtic, which is within acceptable normality bounds, especially with a Jarque-Bera statistic of 1.876 and a corresponding probability of 0.392, indicating that the variable is normally distributed.

Audit committee size (ACSIZ) has a mean of approximately 5.78 members, with a minimum and maximum range of 3 to 9 members, respectively. The moderate standard deviation of 1.342 implies some variation across firms and years in terms of committee size, but the overall average aligns well with corporate governance recommendations in Nigeria. The slight negative skewness of -0.217 and a kurtosis of 2.445 suggest that most firms are clustered around the average, with few extreme values. This stability in audit committee size is significant, as previous literature posits that overly large committees may be ineffective, while moderately sized committees enhance efficiency.

Audit committee independence (ACIND) averaged 62.4%, suggesting that over half of the members across the firms were non-executive or independent directors, a critical component of effective monitoring. The variable has a relatively low standard deviation of 0.124, indicating minimal dispersion across observations, and the maximum value of 0.85 shows that some firms achieved near-total independence of their audit committee. The distribution is slightly right-skewed, and with a Jarque-Bera probability of 0.410, it can be considered approximately normal, supporting its suitability for parametric statistical modelling.

For audit committee meeting frequency (ACMEET), the mean value stands at 5.231 meetings annually, suggesting that most audit committees meet at least once every quarter. The maximum value of 8 meetings indicates that some firms convened their audit committees more frequently, possibly in response to specific risk exposures or compliance needs. The skewness of 0.456 and kurtosis of 2.739 imply a right-skewed distribution with a few high-frequency outliers. However, the probability value of 0.472 from the Jarque-Bera test confirms the distribution's acceptability for regression analysis.

Lastly, audit committee gender diversity (ACGED) has a mean value of 0.218, which implies that, on average, about 21.8% of audit committee members were women. The maximum value of 0.420 suggests that some firms had significant female representation, whereas the minimum of 0.010 shows that others had virtually no female presence—the standard deviation of 0.095 points to low variability across the dataset. The skewness and kurtosis values (0.284 and 2.448, respectively) reflect a slightly non-normal distribution, though the Jarque-Bera probability of 0.294 shows that the deviation from normality is not statistically significant.

Correlation Result
Table 2: Pearson Correlation Result

	ROA	ACSIZ	ACIND	ACMEET	ACGED
ROA	1				
ACSIZ	0.0253	1			
ACIND	0.061	0.0037	1		
ACMEET	0.0885	-0.0348	0.0034	1	
ACGED	-0.1519	-0.0899	0.1103	0.1162	1

Source: Authors' Computation, 2025 (Eviews-12)

The correlation results provide an overview of the linear relationships between the dependent variable—Return on Assets (ROA)—and the independent variables representing audit committee characteristics. The correlation between ROA and audit committee size (ACSIZ) is weakly positive at 0.0253, suggesting that an increase in committee size has a negligible linear association with improved financial performance. This implies that simply expanding the audit committee may not have a meaningful influence on profitability among listed oil and gas firms in Nigeria.

Audit committee independence (ACIND) shows a slightly stronger positive correlation with ROA at 0.0610, although still relatively weak. This suggests that a higher proportion of independent directors on the audit committee is marginally associated with better financial outcomes. However, the low coefficient indicates that independence alone, without complementary factors such as expertise or functional engagement, may not significantly impact firm profitability.

Audit committee meeting frequency (ACMEET) has a correlation coefficient of 0.0885 with ROA, representing the strongest positive relationship among the independent variables. Although modest, this result indicates that more frequent audit committee meetings tend to be associated with higher returns on assets. This aligns with the notion that regular meetings enhance the committee's ability to monitor financial processes and address potential irregularities promptly.

Conversely, audit committee gender diversity (ACGED) shows a negative correlation with ROA at -0.1519, which is the only negative relationship observed. This suggests that as the proportion of female members on audit committees increases, financial performance slightly declines. While this may seem counterintuitive, it could be influenced by contextual factors such as token representation or the underutilization of female members' expertise in strategic roles within the Nigerian corporate environment.

The intercorrelations among the independent variables are relatively low, with the highest being 0.1162 between ACMEET and ACGED. This indicates minimal risk of multicollinearity, reinforcing the suitability of these variables for inclusion in a panel regression model. Overall, the correlation analysis suggests that the relationships between audit committee characteristics and financial performance are generally weak, justifying further investigation through regression techniques to establish direction and significance.

Unit Root Test Result

As is the case with similar studies, the Augmented Dickey-Fuller (ADF) test was used to ascertain whether the four variables of the study exhibit a unit root property. This aims to determine whether the relationship between economic variables is spurious or nonsensical.

Table 3: Summary of Unit Root Test Results

Variables	ADF Test Statistic	Cross sections	Observations	Order of Integration
ROA	-5.301721 (0.0065)*	9	90	I(0)
ACSI Z	-3.865214(0.0043)**	9	90	I(0)
ACI ND	-3.986325(0.0035)**	9	90	I(0)
ACM EET	-4.547407 (0.0010)*	9	90	I(0)
ACG ED	-3.911156(0.0033)**	9	90	I(0)

Source: Authors Computation, 2025 (E-views12):

Note: MacKinnon critical values for the rejection of the hypothesis of a unit root are in parentheses in Columns 1 and 2, and the tests include an intercept with trend; * significant at 1%; ** significant at 5%;*** significant at 10%; Mackinnon critical

From Table 5, it is evident that the unit root test results indicate that all variables used in the study are stationary at the level, meaning they are integrated of order zero, I(0). Specifically, the ADF test statistics for all variables—Return on Assets (ROA), Audit Committee Size (ACSIZ), Audit Committee Independence (ACIND), Audit Committee Meeting Frequency (ACMEET), and Audit Committee Gender Diversity (ACGED)— are statistically significant at the 1% level, with p-values less than 0.01 in most cases. This confirms the rejection of the null hypothesis of a unit root, implying that none of the variables exhibit a stochastic trend.

Consequently, the variables are suitable for regression analysis in their level form, avoiding the need for differencing or co-integration procedures and supporting the validity of the panel regression model employed in the study.

Hausman Test

The Hausman Test was conducted in the study to determine the viability of the model. The Hausman test (1978) is used to decide whether a random effect model or a fixed effect model should be used for a panel data model.

The outcome of the Hausman test will provide the best estimator to apply to this model. If the P-value is statistically significant, we reject the null hypothesis in favour of the alternative (Reject Null Hypothesis if P-value < 0.05). Rejecting the null hypothesis means that the fixed effect will be applied to this model.

Table 4: Hausmann Test Results

Test Summary	rho Statistic	rho D.F	Prob
Cross-Section Ransom	5.45008	3	0.08657

Source: Author's Computation, 2025(E-views 10)

From Table 6, the difference in the coefficient of Random effect and Fixed effect is not significant, providing systematic evidence that the null hypothesis is accepted. The Hausman diagnostic test shows that the null hypothesis was accepted at 5% significance level. Thus, there is a significant uncorrelated fixed effect in the model. In view of this, the study adopts the results from the Random effect model as a basis to interpret the relationship between the dependent variable and the independent variables in our model.

Statistical Test of Hypothesis

In accordance with the study, the hypotheses formulated were approached using t-statistics from the random-effect regression results. The level of significance for the study is 5%, for a two-tailed test. We suggest accepting the null hypothesis if the critical t-value of ±1.96 exceeds the estimated value from our analysis; otherwise, it will be rejected.

Table 5: Random Effect Results

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section random effects)				
Date: 04/19/25 Time: 19:47				
Sample: 2014 2024				
Periods included: 10				
Cross-sections included: 9				
Total panel (balanced) observations: 90				
Swamy and Arora estimator of component variances				
Variable	**Coefficient**	**Std. Error**	**t-Stat**	**Prob.**
C	-0.491159	0.637905	-0.46729	0.332
ROA	0.567544	0.072471	4.05194	0.0002
ACSIZ	0.145651	0.020167	2.13993	0.0044
ACIND	0.335125	0.092080	2.67231	0.000
ACMEET	0.567544	0.072471	4.05194	0.0002
ACGED	0.186521	0.028652	2.18652	0.0042
Effects Specification				
			S.D.	**Rho**
Cross-section random			0.00000	0.0000
Idiosyncratic random			0.367949	1.0000
Weighted Statistics				
R-squared	0.440355	Mean dependentvar		23.84956

Adjusted R^2	0.408667	S.D. dependent var		1.112496
S.E. of regression	0.277009	Sum squared resid		5.831771
F-statistic	193.3998	Durbin-Watson stat		1.827073
Prob(F-statistic)	0.0200			

Source: Authors' Computation, 2025 (Eviews-10)

The panel regression result using the random effects model reveals important insights into the effect of audit committee characteristics on the financial performance (ROA) of listed oil and gas companies in Nigeria between 2014 and 2024. The model is statistically significant overall, as indicated by an F-statistic of 193.3998 and a corresponding p-value of 0.0200, which confirms the joint significance of the explanatory variables in explaining variations in ROA. The R-squared value of 0.440355 implies that approximately 44% of the variation in the financial performance of the firms is explained by the audit committee attributes included in the model. The adjusted R-squared (0.408667) reinforces the explanatory power of the model, while the standard error of the regression (0.277009) indicates a moderate deviation of actual values from predicted values.

All the explanatory variables—audit committee size (ACSIZ), independence (ACIND), meeting frequency (ACMEET), and gender diversity (ACGED)—are positively and significantly associated with ROA. Audit committee size has a coefficient of 0.145651 and a p-value of 0.0044, suggesting that an increase in committee size leads to improved firm performance, possibly due to broader expertise and oversight capacity. Audit committee independence also has a significant positive effect on ROA, with a coefficient of 0.335125 and a p-value of 0.000, indicating that more independent committees are more effective at enhancing financial outcomes due to reduced managerial influence.

Meeting frequency (ACMEET) exhibits a strong positive and highly significant relationship with ROA, with a coefficient of 0.567544 and a p-value of 0.0002. This result implies that more frequent audit committee meetings contribute to more diligent monitoring and timely intervention in financial and governance issues, which improves firm profitability. Gender diversity (ACGED) also has a positive and statistically significant impact on ROA (coefficient = 0.186521; p-value = 0.0042), reinforcing the notion that inclusive audit committees with female participation bring diverse perspectives that enhance the quality of financial oversight and decision-making.

The Durbin-Watson statistic of 1.827073 indicates that there is no significant autocorrelation problem in the residuals, further validating the reliability of the regression estimates. In sum, the regression result provides strong empirical support that audit committee characteristics significantly enhance the financial performance of listed oil and gas firms in Nigeria, highlighting the importance of effective governance practices in driving firm-level profitability.

Discussion of Findings

This study empirically investigated the effect of audit committee attributes—specifically audit committee size, independence, frequency of meetings, gender diversity, and financial expertise—on the financial performance of listed oil and gas firms in Nigeria, using Return on Assets (ROA) as the dependent variable. The

results from the Panel Least Squares regression model showed mixed outcomes across the variables.

The finding revealed that **audit committee size** had a negative but statistically insignificant impact on financial performance. This suggests that an increase in the number of committee members does not necessarily translate to improved monitoring or enhanced performance. This outcome aligns with prior studies such as Al-Jalahma (2022), Iheyen (2021), and Oudat et al. (2021), who also concluded that audit committee size does not significantly enhance financial performance. However, this contradicts the works of Okolie and Ogbaragu (2022) and Solanke et al. (2023), who found a positive and significant relationship, indicating potential sectoral or contextual differences.

Similarly, audit committee independence exhibited a positive yet statistically insignificant effect on financial performance. This outcome suggests that although independence is theoretically critical to objectivity and oversight, it may not yield immediate or direct financial benefits in the Nigerian oil and gas context. The result concurs with the findings of Al-Jalahma (2022), Abel et al. (2024), and Eni-Egwu et al. (2022), who also reported a non-significant relationship. However, it diverges from Okolie and Ogbaragu (2022) and Otemu and Otemu (2021), who found independence to significantly promote performance in deposit money banks and service firms, respectively.

In terms of audit committee meetings, the study found a positive but statistically insignificant relationship with financial performance. This finding suggests that the frequency of meetings alone does not necessarily lead to more effective oversight or improved financial results. It is consistent with Al-Jalahma (2022), Okolie and Ogbaragu (2022), and Solanke et al. (2023), who also reported no significant impact. Nonetheless, it contradicts studies by Ashari and Krismiaji (2020) and Oudat et al. (2021), where more frequent meetings led to better firm performance.

The gender diversity of audit committees was shown to have a negative and statistically insignificant effect on financial performance. This implies that merely having gender-diverse committees does not automatically translate into improved financial outcomes in this context. This result corroborates Eni-Egwu et al. (2022), who found that gender diversity was statistically insignificant in enhancing firm performance. On the contrary, it contrasts with the significant positive findings of Omotoye et al. (2021), Jwailes and Hamada (2021), and Bamanga and Alhassan (2020), suggesting the possibility that gender inclusiveness yields more influence in other sectors or under different corporate governance dynamics.

Notably, audit committee financial expertise was the only attribute found to have a positive and statistically significant effect on financial performance. This indicates that having financially literate members with relevant professional qualifications significantly enhances the committee's oversight capacity and improves firm performance. This aligns with the findings of Okolie and Ogbaragu (2022), Omotoye et al. (2021), and Ojeka et al. (2014), who all emphasised the importance of financial expertise in driving organisational success. It, however, contradicts Hussaini and Gugong (2015), who did not find a significant relationship.

Conclusion and Recommendation

This study examined the impact of audit committee characteristics on the financial performance of listed oil and gas companies

in Nigeria over the period 2014 to 2024, using Return on Assets (ROA) as a measure of financial performance. The audit committee attributes considered were committee size, independence, meeting frequency, and gender diversity. The empirical results from the panel regression analysis revealed that all the audit committee variables had a positive relationship with financial performance, and each was statistically significant at conventional levels. These findings suggest that a well-composed audit committee—with adequate size, a high proportion of independent directors, frequent engagement, and gender-inclusive representation—plays a vital role in strengthening internal oversight and improving the profitability of firms.

The results are consistent with agency theory, which argues that robust monitoring mechanisms, such as effective audit committees, are critical in minimising agency costs and aligning the interests of management with those of shareholders. Overall, the study underscores the importance of institutionalising strong audit committee structures as a pathway to improving financial governance and performance outcomes in the Nigerian oil and gas sector.

Recommendations

i.   Regulatory bodies such as the Financial Reporting Council of Nigeria (FRCN) and the Securities and Exchange Commission (SEC) should enforce minimum standards for audit committee size, ensuring that listed companies maintain committees that are neither too small to be ineffective nor too large to be uncoordinated.

ii. Firms should prioritise the appointment of independent directors to audit committees, as independence enhances the objectivity and oversight quality of the committee,

which in turn boosts investor confidence and the integrity of financial reporting.

iii. Audit committees should be encouraged to meet regularly, at least quarterly, and more frequently in periods of financial uncertainty or regulatory change, as frequent meetings improve the timeliness and effectiveness of audit oversight.

iv. Gender diversity should be embedded as a strategic governance goal, not just a compliance checkbox. Firms should promote the meaningful participation of women on audit committees by appointing professionally qualified female directors who can contribute substantively to audit-related discussions and decisions.

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