



AUDIT COMMITTEE CONTROL MECHANISMS AND FINANCIAL REPORTING QUALITY: EVIDENCE FROM LISTED INDUSTRIAL GOODS COMPANIES IN NIGERIA

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<https://doi.org/10.63725/majaf.v7.i1.13>

Abstract

There is a persistent concern about the credibility of financial reporting quality of industrial goods companies given the nature of their operations. This study examines whether audit committee control mechanisms affect the financial reporting quality (FRQ) of industrial goods companies quoted on the Nigerian Exchange Group. The study employs the ex post facto design, using panel data from 14 industrial goods firms over from 2015 to 2024. The analysis employs panel regression with corrected standard errors to address heteroscedasticity and firm-specific effects. The findings reveal that ACG ($\beta = 0.024$, $p = 0.004$) and tenure ($\beta = 0.0080$, $p = 0.0000$) have significant positive influence on FRQ, indicating that diverse and experienced audit committees enhance control effectiveness and constrain opportunistic reporting behavior. In contrast, ACS ($-\beta = -0.0127$, $p = 0.740$) and meeting frequency ($\beta = -0.0006$, $p = 0.605$) exert insignificant effect. The study concludes that audit committee gender diversity and tenure significantly impact the financial reporting quality of the industrial goods companies in Nigeria, while the activity as represented by meetings and expertise do not impact the financial reporting process. The study recommends, among other things, that regulatory authorities should strengthen corporate governance codes by encouraging greater gender diversity on Audit committee of listed industrial goods companies, as female representation has been shown to significantly improve FRQ.

Keywords: audit committee, financial reporting quality, industrial goods, panel corrected standard error

1. Introduction

Financial reporting quality (FRQ) remains a central concern in corporate governance discourse due to its role in enhancing transparency, accountability, and investor confidence. The industrial goods sector, which is part of manufacturing, is prone to financial statements' manipulation because of the nature of their operation. These companies rely on heavy machinery which are depreciated over their useful life giving rise to the possibility of using depreciation to manipulate earnings (Kohlbeck & Wang, 2025). In addition, Nigerian industrial goods companies like their counter parts in other emerging markets operate in a weak governance structures, where weak enforcement mechanisms contribute to lower reporting quality, thereby increasing the likelihood of opportunistic reporting behavior (Safari et al., 2021; Mardessi, 2022). Consequently, understanding the governance mechanisms that can enhance FRQ in this sector is of both academic and practical importance.

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Financial reports that are of high-quality enhancing transparency, reducing information asymmetry, and supporting efficient decision-making by investors and other stakeholders. In empirical research, FRQ is often proxied by accrual quality, earnings quality, or the absence of earnings management practices (Islam et al., 2023). Studies in emerging markets suggest that weak governance structures and enforcement mechanisms contribute to lower reporting quality, thereby increasing the likelihood of opportunistic reporting behavior (Safari et al., 2021; Mardessi, 2022). In the Nigerian context, Ibrahim et al. (2024) document that firm-level governance mechanisms, including audit committee attributes, play a significant role in shaping FRQ among listed non-financial firms. Given the operational complexity and capital intensity of industrial goods companies, ensuring high-quality financial reporting is particularly important for maintaining investor confidence and regulatory compliance.

Prior studies suggest that specific audit committee control mechanisms influence the effectiveness of this oversight function. Gender diversity on audit committee has been associated with enhanced control, ethical sensitivity, and more rigorous questioning of management, which may constrain opportunistic financial reporting practices (Amara et al., 2025; Ahmed et al., 2024). In addition, Audit committee tenure (ACT) reflects accumulated experience and firm-specific knowledge, which can improve members' ability to detect reporting irregularities, although excessively long tenure may weaken independence (Kohlbeck & Wang, 2025). ACS aligns members' interests with those of shareholders, potentially motivating stronger oversight, but it may also create self-interest threats that impair objectivity. Meeting frequency reflects the level of effort and diligence exerted by the committee, with more frequent meetings providing greater opportunities to review financial reports and interact with auditors, thereby enhancing reporting quality (Lutfi et al., 2022; Safari et al., 2021).

Despite the growing body of literature, several practical, theoretical, and methodological gaps remain unresolved. Practically, many prior studies focus on aggregate non-financial firms (Safari et al., 2021; Musa et al., 2025) or financial institutions (Ibe et al., 2025), providing limited sector-specific evidence for industrial goods companies. The findings from these studies may not be generalized to the industrial firms, which face unique operational and reporting complexities. Related to this problem is the methodological focus of much of the empirical evidence on pooled samples across industries and countries (Taleb et al., 2025). This approach also limits the contextual relevance of findings for specific sectors and institutional environments such as the industrial goods companies in Nigeria. Furthermore, several Nigerian studies emphasize earnings management to proxy FRQ, while neglecting broader quality measures that capture accrual quality and compliance with standards (Ibrahim et al., 2024; Mardessi, 2022). These limitations create uncertainty about the level to which audit committee characteristics affect FRQ in the context of Nigeria's industrial goods sector.

Responding to these gaps, this study examines whether audit committee control mechanisms, including ACG, ACT, ACS, and ACM affect the FRQ. The specific objectives are to examine the effect of audit committee control mechanisms (ACG, ACT, ACS, ACM) on FRQ. Based on these objectives, the study hypothesized that audit committee control mechanisms (ACG, ACT, ACS meeting frequency) have no significant effect on FRQ of listed industrial goods companies in Nigeria. Thus, this study addresses the identified gaps in prior studies and providing focused evidence from the industrial goods sector, which deepens the understanding of audit committee control mechanisms contribute to improving FRQ in an emerging market context.

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2. Literature Review

Conceptual Review

Financial Reporting Quality

“FRQ refers to the extent to which financial statements faithfully represent a firm’s economic performance and position, are free from material misstatements, and comply with applicable accounting standards” (Song, 2022). Financial reporting that are of high-quality enhancing transparency, reducing information asymmetry, and supporting efficient decision-making by investors and other stakeholders. The most popular proxy for financial reporting quality is discretionary accruals from accrual-based and real earnings management models. The accrual based earnings management models include the Jones (1991) model, the Modified Jones Model by Dechow et al. (1995) and the Kothari et al Model (2005). In empirical research, FRQ is often proxied by accrual quality, earnings quality, or the absence of earnings management practices (Islam et al., 2023). Studies in emerging markets suggest that weak governance structures and enforcement mechanisms contribute to lower reporting quality, thereby increasing the likelihood of opportunistic reporting behavior (Safari et al., 2021; Mardessi, 2022). In the Nigerian context, Ibrahim et al. (2024) document that firm-level governance mechanisms, including audit committee attributes, play a significant role in shaping FRQ among listed non-financial firms. Given the operational complexity and capital intensity of industrial goods companies, ensuring high-quality financial reporting is particularly important for maintaining investor confidence and regulatory compliance.

Audit Committee Gender Diversity

ACG refers to the presence and proportion of female directors on the audit committee (Bananuka & Nkundabanyanga, 2023). The literature suggests that gender-diverse committees benefit from varied perspectives, enhanced ethical sensitivity, and improved monitoring intensity, which can constrain aggressive financial reporting practices. Empirical evidence from developed and emerging markets indicates that female audit committee members are associated with higher earnings quality and lower levels of earnings management (Amara et al., 2025; Ahmed et al., 2024). Gender diversity is also linked to greater diligence and more robust discussions during committee deliberations, thereby strengthening oversight of the financial reporting process. However, findings are not entirely consistent across contexts, as some studies such as Lutfi et al. (2022) report insignificant effects, attributed to tokenism or weak institutional support. Despite these mixed results, the growing emphasis on board and committee diversity in corporate governance codes underscores the relevance of examining how ACG influences FRQ in Nigerian industrial goods firms.

Audit Committee Tenure

ACT captures the length of time members have served on the committee and reflects accumulated experience and firm-specific knowledge. It is the average number of years that the audit committee members serve (Mardessi, 2022). Longer tenure can enhance members’ understanding of the firm’s operations, accounting policies, and risk profile, thereby improving their ability to detect misstatements and challenge management (Kohlbeck & Wang, 2025). Empirical studies provide evidence that moderate ACT is positively associated with FRQ, as experienced members are better positioned to oversee complex reporting issues (Safari et al., 2021). However, excessively long tenure may impair independence and reduce professional skepticism due to familiarity with management. This dual effect suggests a non-linear relationship between ACT and reporting quality, which remains underexplored in emerging markets. In Nigeria, limited

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empirical attention has been given to ACT as a determinant of FRQ, particularly within sector-specific contexts such as industrial goods companies.

Audit Committee Shareholding

ACS refers to the extent to which committee members own equity stakes in the firm. It is proxied by the total equity holding of the audit committee members divided by the total issued share capital (Sobhan et al., 2025). Share ownership is expected to align the interests of audit committee members with those of shareholders, motivating stronger monitoring of financial reporting and reducing opportunistic behavior by management. Prior studies suggest that audit committee members with shareholdings are more likely to demand high-quality financial reports to protect their investment value (Al-Ahdal & Hashim, 2022; Bazhair, 2022). However, opposing arguments suggest that significant shareholding may compromise independence if members prioritize personal wealth considerations over objective oversight. Empirical evidence on the relationship between ACS and FRQ remains mixed, with variations across institutional environments. In emerging economies such as Nigeria, where ownership concentration is common, understanding how ACS influences reporting quality is particularly important for evaluating the effectiveness of governance mechanisms.

Audit Committee Meeting Frequency

ACM reflects the level of effort, diligence, and time commitment devoted to oversight activities. It is typically proxied by the number of meetings that the committee holds during a financial year. Frequent meetings provide opportunities for thorough review of financial statements, engagement with auditors, and timely resolution of reporting issues. Empirical studies consistently document a positive association between ACM and FRQ, as increased interactions enhance monitoring effectiveness and reduce information gaps (Lutfi et al., 2022; Bananuka & Nkundabanyanga, 2023). In emerging markets, meeting frequency is often used as a proxy for audit committee activity and seriousness in fulfilling oversight responsibilities. However, some studies caution that frequent meetings without substantive engagement may not necessarily improve outcomes. In the Nigerian context, examining ACM offers insight into whether compliance with governance codes translates into meaningful improvements in FRQ among listed industrial goods companies.

Theoretical Framework

Agency theory propounded by Jensen and Meckling (1976) explains the relationship between principals, typically shareholders, and agents, usually managers, in situations where ownership and control are separated. The theory assumes that managers are self-interested, leading to agency problems such as opportunistic behavior and manipulation of financial reports. To mitigate these conflicts, governance mechanisms are established to monitor managerial actions and align interests, with the audit committee serving as a key internal control mechanism. An effective audit committee reduces information asymmetry by overseeing the financial reporting process, reviewing accounting policies, and ensuring the credibility of published financial statements. Within this framework, audit committee control mechanisms such as ACG, ACT, shareholding, and meeting frequency enhance monitoring effectiveness by improving independence, expertise, incentive alignment, and diligence, thereby constraining earnings manipulation and improving FRQ.

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Empirical Studies

Audit Committee Gender Diversity and Financial Reporting Quality

Empirical studies such as Amara et al (2025) and Ahmed et al. (2024) provide growing evidence that ACG influences FRQ through enhanced monitoring and ethical oversight, although the strength of the relationship varies across institutional settings. On his part, Amara et al. (2025) document that female audit committee characteristics significantly reduce earnings management among UK firms, suggesting higher reporting discipline and transparency. Similarly, Ahmed et al. (2024) find that ACG strengthens the governance role of audit committee in Egypt by improving oversight outcomes, implying better FRQ. In emerging market contexts, Safari et al. (2021) report that audit committee composition, including diversity-related attributes, improves FRQ by constraining managerial discretion. Evidence from Africa is more limited but indicative. Bananuka and Nkundabanyanga (2023) show that audit committee effectiveness, which incorporates diversity dimensions, positively influences internet FRQ. However, some studies note that the impact of ACG may be muted where female representation is minimal or symbolic, reducing substantive participation in oversight activities (). Overall, the empirical literature suggests that ACG is associated with improved FRQ, but contextual factors such as institutional strength and actual influence within committees condition this relationship. Thus, this study states the following hypotheses:

H₀₁: Audit committee gender diversity has no significant effect of FRQ of listed in Nigeria

Audit Committee Tenure and Financial Reporting Quality

Empirical findings on ACT indicate that experience accumulated over time can enhance FRQ, though excessive tenure may pose independence concerns. Kohlbeck and Wang (2025) provide strong evidence that longer ACT improves FRQ and auditor independence, attributing this to deeper firm-specific knowledge and better oversight capability. Safari et al. (2021) also find that experienced audit committee members contribute positively to FRQ in an emerging market setting by strengthening monitoring of the reporting process. Mardessi (2022) reports that effective audit committee structures, which include experience-related attributes, reduce financial reporting manipulation, particularly when supported by high audit quality. In the African context, Kalembe et al. (2024) show that audit committee effectiveness mitigates earnings quality deterioration even in the presence of powerful CEOs, implying that experienced committees can counterbalance managerial influence. Nigerian evidence remains limited, as most studies (Bawuah, 2024) focus on overall audit committee effectiveness rather than isolating tenure effects, although Ibrahim et al. (2024) acknowledge the importance of committee experience in improving FRQ. These mixed but complementary findings suggest that ACT is an important determinant of FRQ, with its effectiveness depending on a balance between experience and independence. The study, therefore develops the following hypotheses:

H₀₂: Audit committee tenure has no significant effect of FRQ of listed in Nigeria

Audit Committee Shareholding and Financial Reporting Quality

Empirical evidence on ACS and FRQ reveals mixed findings, reflecting the dual role of ownership in aligning incentives and potentially impairing independence. Al-Ahdal and Hashim (2022) report that ownership-related audit committee characteristics enhance governance outcomes and firm performance in India, suggesting that equity ownership motivates stronger monitoring of financial reporting. Similarly, Bazhair (2022), using evidence from Saudi Arabia, finds that audit committee attributes linked to ownership incentives are positively associated with firm outcomes, implying improved oversight and reporting discipline. However, other studies caution that ACS may weaken independence, particularly in environments characterized by concentrated

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ownership and weak investor protection. In emerging and developing economies, this concern is more pronounced, as ownership ties can increase familiarity threats and reduce objectivity in monitoring management. Although Ibrahim et al. (2024) document that ownership-related corporate attributes influence FRQ in Nigerian non-financial firms, they do not isolate ACS effects. The absence of focused Nigerian evidence, especially within the industrial goods sector, underscores the need to empirically examine whether ACS enhances or undermines FRQ in this context. Thus, this study tests the following null hypotheses:

H₀₃: Audit committee shareholding has no significant effect of FRQ of listed in Nigeria

Audit Committee Meeting Frequency and Financial Reporting Quality

Empirical studies identify ACM frequency as a key indicator of diligence and oversight intensity, with significant implications for FRQ. Lutfi et al. (2022) provide evidence that more frequent ACM improve FRQ by facilitating deeper engagement with financial statements and auditors. Bananuka and Nkundabanyanga (2023) similarly find that active *audit committee*, measured partly by meeting frequency, positively influence financial reporting and disclosure practices in African firms. In emerging market settings, Safari et al. (2021) report that audit committee activity strengthens monitoring and reduces reporting irregularities. Nigerian-based evidence further supports this relationship; Theno et al. (2024) show that frequent ACM significantly improved reporting quality of the oil and gas sector. However, some studies note that meeting frequency alone may not guarantee effectiveness if meetings are routine and lack substantive engagement (Saleh & Mansour, 2024). Despite this limitation, the weight of empirical evidence supports ACM frequency as an important determinant of FRQ, justifying its examination within Nigerian listed industrial goods companies. Thus, the following hypothesis is developed:

H₀₄: Audit committee meeting frequency has no significant effect of FRQ of listed in Nigeria

3. Methodology

This study adopts a quantitative research design with an *ex post facto design* to examine the effect of audit committee control mechanisms on the FRQ of listed industrial goods companies in Nigeria. The correlational design is appropriate because the study seeks to establish the nature and direction of the relationship between audit committee control mechanisms and FRQ without manipulating the study variables. The design allows for objective measurement of relationships using historical firm-level data and is consistent with prior empirical studies on audit committee effectiveness and financial reporting outcomes. Given the longitudinal nature of corporate governance data, a panel data framework is employed to capture both cross-sectional and time-series variations among the sampled firms.

The population of the study consists of all industrial goods companies listed on the Nigerian Exchange Group between 2015 and 2024. As at the end of the period under review, there were 18 listed industrial goods companies. However, not all firms had complete and consistent data required for the analysis. Consequently, the study employed a purposive sampling technique to use a sample of 14 companies. Four (4) companies were excluded due to incomplete financial statements or missing governance disclosures. The final sample provides a balanced panel of firm-year observations, which is considered adequate for panel regression analysis and consistent with similar governance studies conducted in emerging markets.

The study relies exclusively on secondary data obtained from published annual reports and accounts of the sampled companies. Additional information was sourced from the Nigerian Exchange Group Factbook and corporate governance disclosures contained in the firms' financial

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statements. Secondary data were considered appropriate because audit committee characteristics and FRQ indicators are formally disclosed and subject to regulatory scrutiny, thereby enhancing data reliability. The use of audited financial statements also ensures consistency and comparability across firms and over time.

FRQ is measured using the modified Jones (1991) model, which is widely applied in accounting research to capture managerial discretion in accrual-based earnings and serves as a proxy for FRQ. Under this approach, total accruals are first computed as the difference between net income and operating cash flows. The model is stated as follows:

$$\frac{TA_t}{A_{t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{\alpha_{t-1}} \right) + \alpha_2 \left(\frac{\Delta REV_t}{\alpha_{t-1}} \right) + \alpha_3 \left(\frac{PPE_t}{\alpha_{t-1}} \right) + \varepsilon_t$$

Where TA is total accruals, ΔREV is change in revenue, PPE is property, plant and equipment, and ε_t is abnormal accruals (residuals from the regression, representing potential earnings management). α_1 to α_3 are the estimated coefficients. The higher, the value of the residuals the greater the presence of earnings management and the lower the FRQ and vice versa.

The independent variables are ACG, ACT, ACS, and ACM. ACG is measured as the proportion of female members on the audit committee relative to total committee size (Mardessi, 2022). ACT is measured as the average number of years audit committee members have served on the committee (Ibrahim et al., 2024). ACS is measured as the proportion of shares held by audit committee members relative to total outstanding shares (Sobhan et al., 2025). Audit committee meeting frequency is measured as the number of ACM held within a financial year (Yahaya, 2025). These measurements are consistent with prior empirical studies and reflect both structural and behavioral dimensions of audit committee effectiveness.

The study controls for two firm-specific characteristics, firm size and leverage, that may influence FRQ. Firm size is measured as the natural logarithm of total assets, reflecting the effect of scale and complexity on reporting practices (Ahmed et al., 2023). Leverage is measured as the proportion of total liabilities to total assets and captures the influence of debt monitoring and contractual pressures on the behavior of financial reporting (Bawuah, 2024). Including these controls helps isolate the effect of audit committee characteristics on FRQ.

The technique of data analysis employed in the study is panel regression analysis. Panel data estimation is preferred because it controls for unobserved firm-specific heterogeneity that may bias results if ignored. Prior to estimation, diagnostic tests were conducted to assess normality, multicollinearity, heteroscedasticity, and model specification. The study employed the Hausman test determine the best regression model, and the results supported the use of a fixed effects model. Given the presence of heteroscedasticity, panel corrected standard errors were applied to ensure robust and reliable statistical inference.

Based on the agency theory and empirical studies such as Song (2025) and Bawuah (2024), the functional form of the regression model is specified as follows:

$$FRQ_{it} = \alpha_0 + \beta_1 ACG_{it} + \beta_2 ACT_{it} + \beta_3 ACS_{it} + \beta_4 ACM_{it} + \beta_5 FSZ_{it} + \beta_6 LEV_{it} + \varepsilon_{it}$$

Where FRQ represents Financial Reporting Quality, measured by discretionary accruals for firm i at time t ; ACG denotes audit committee gender diversity; ACT represents audit committee tenure; ACS denotes audit committee shareholding; ACM represents audit committee meeting frequency; FSZ denotes firm size; LEV represents leverage; β_0 is the intercept; β_1 to β_6 are the coefficients of the explanatory variables; and ε_{it} is the error term.

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Overall, the methodological approach adopted in this study is robust and consistent with established empirical practices in corporate governance research. By combining a panel research design, reliable secondary data, and a widely accepted measure of FRQ, the study provides credible evidence on the effect of audit committee characteristics on FRQ of listed industrial goods companies in Nigeria.

4. Results and Discussion

This section discusses the empirical findings of the study based on the results. The discussion begins with an overview of the descriptive characteristics of the variables, followed by interpretations that link the observed patterns to the study objectives and existing literature. The descriptive statistics in Table 1 provide initial insights into the distribution, central tendency, and variability of FRQ, audit committee control mechanisms, and control variables among listed industrial goods companies in Nigeria over the study period.

Table 1: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
FRQ	140	0.0557	0.013952	0.028	0.09
ACG	140	0.1737467	0.1335426	0	0.408671
ACT	140	4.342857	1.023265	2	6
ACS	140	0.0466911	0.0265134	0.00132	0.09828
ACM	140	4.585714	0.6568479	4	6
FSZ	140	26.9722	0.972121	23.6732	29.6039
LEV	140	0.5204155	0.1879199	0.206503	0.795779

Source: Authors' Computation (2026)

Table 1 shows that FRQ has a mean value of 0.0557, with relatively low dispersion, indicating moderate but stable reporting quality among the sampled industrial goods firms. ACG records a low average of 0.1737, suggesting limited female representation on *audit committee*, although the wide range implies variation across firms. ACT has a mean of approximately 4.34 years, indicating that committee members generally possess moderate experience, which may enhance oversight effectiveness. ACS is relatively low, with a mean of 0.0467, reflecting limited equity participation by committee members and suggesting that incentive alignment through ownership is weak. ACM averages about 4.59 meetings per year, indicating compliance with governance guidelines and a reasonable level of diligence. Firm size shows moderate variation across firms, while leverage indicates that industrial goods companies rely substantially on debt financing. Overall, the descriptive results suggest that while audit committees in Nigerian industrial goods firms exhibit reasonable experience and activity levels, ACG and ownership participation remain relatively limited, with potential implications for FRQ.

The normality test results presented in Table 2 assess whether the distributions of the study variables conform to the normality assumption using the Shapiro-Wilk test.

Table 2: Normality Test (Shapiro-Wilk)

Variable	Obs.	W	V	Z	Prob>z
FRQ	140	0.98515	1.629	1.102	0.13518
ACG	140	0.92006	8.768	4.904	0.00000

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ACT	140	0.99342	0.722	-0.737	0.76954
ACS	140	0.96763	3.550	2.862	0.00210
ACM	140	0.97270	2.995	2.478	0.00661
FSZ	140	0.93737	6.870	4.353	0.00001
LEV	140	0.92815	7.881	4.663	0.00000

Source: Authors' Computation (2026)

From the table, FRQ and ACT have probability values greater than 0.05, suggesting that their distributions do not significantly deviate from normality. In contrast, ACG, ACS, ACM, firm size, and leverage exhibit probability values below 0.05, indicating departures from normal distribution. These mixed results imply that while some variables are normally distributed, others are not, which is common in firm-level panel data drawn from emerging markets. Importantly, the presence of non-normality justifies the use of robust estimation techniques, such as panel corrected standard errors, to ensure reliable and unbiased statistical inference. Thus, the normality test outcomes support the methodological choice adopted in the study and do not undermine the validity of the regression results.

Table 3 presents the correlation matrix, which provides preliminary evidence on the strength and direction of the relationships among FRQ, audit committee control mechanisms, and the control variables.

Table 3: Correlation Matrix

Variable	FRQ	ACG	ACT	ACS	ACM	FSZ	LEV
FRQ	1.0000						
ACG	0.4798	1.0000					
ACT	0.6921	0.3902	1.0000				
ACS	-0.0601	-0.1141	-0.0498	1.0000			
ACM	0.1473	0.1319	0.2128	-0.0033	1.0000		
FSZ	0.2683	0.1189	0.1400	0.1176	0.1340	1.0000	
LEV	-0.0230	0.1032	-0.0470	0.0043	-0.0883	-0.1617	1.0000

Source: Authors' Computation (2026)

The correlation analysis reveal that FRQ correlates positively with ACG and ACT, with the strongest association observed between FRQ and ACT. A weaker positive correlation is also observed between FRQ and ACM, while the relationship between FRQ and ACS is negative but very weak, indicating no strong linear association at the bivariate level. Firm size exhibits a modest positive correlation with FRQ, whereas leverage shows a negligible negative association. Overall, the correlation coefficients are relatively low, indicating the absence of strong pairwise relationships among the explanatory variables.

The diagnostic tests conducted to validate the regression estimates focus on multicollinearity and heteroscedasticity, as reported in Table 4 and the heteroscedasticity test results.

Table 4: Multicollinearity Test

Variable	VIF	1/VIF
ACG	1.23	0.811674

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ACT	1.23	0.811819
FSZ	1.08	0.922195
ACM	1.07	0.936614
LEV	1.06	0.946252
ACS	1.03	0.967657
Mean VIF	1.12	

Source: Authors' Computation (2026)

The test for multicollinearity was done using the VIF, shows that all explanatory variables have VIF values below 10, with a mean value of 1.12. This indicates a very low degree of correlation among the regressors. This confirms that multicollinearity does not threaten the reliability of the estimated coefficients. However, the heteroscedasticity test reveals a statistically significant chi-square value with a probability of 0.0192, meaning heteroscedasticity is present in the model. To address this issue and ensure robust inference, the study adopts panel corrected standard errors, which correct for heteroscedasticity and potential contemporaneous correlation across panels. Overall, the diagnostic results confirm that while multicollinearity is not a concern, corrective measures were appropriately applied to address heteroscedasticity, thereby strengthening the validity of the regression findings.

The Hausman test (the result is not presented for brevity) yields a chi-square of 89.97, which is significant at the 5 percent level. This shows that the random effects estimator is consistent and efficient. The implication is that unobserved firm-level characteristics, such as managerial practices or internal governance culture, systematically influence both audit committee control mechanisms and FRQ. By adopting the fixed effects approach, the study effectively controls for these time-invariant firm-specific factors, thereby enhancing the reliability and validity of the estimated relationships between audit committee control mechanisms and FRQ of listed industrial goods companies in Nigeria.

Table 5 presents the results of the panel regression analysis estimated using panel corrected standard errors, following evidence of heteroscedasticity and the Hausman test outcome.

Table 5: Regression Analysis (Panel Corrected Standard Errors)

Variable	Coef.	Std. Err.	Z	P>z
CONS	-0.0442	0.0261	-1.69	0.091
ACG	0.0245	0.0085	2.85	0.004
ACT	0.0080	0.0011	7.17	0.000
ACS	-0.0127	0.0383	-0.33	0.740
ACM	-0.0006	0.0012	-0.52	0.605
FSZ	0.0024	0.0010	2.47	0.013
LEV	0.0004	0.0055	0.07	0.948
R-Squared		0.5571		
Wald Chi 2(6)		206.54		
Prob > Chi(2)		0.0000		

Source: Authors' Computation (2026)

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The Wald chi-square value of 206.54 ($p = 0.0000$), suggests the independent and control variables jointly explain variations in FRQ. The 0.5571 R-squared value suggests about 56 percent of the variations in FRQ are explained by audit committee control mechanisms and the control variables included in the model, reflecting a good explanatory power for firm-level panel data. Overall, the regression results provide a robust basis for testing the study's hypotheses and assessing the individual effects of ACG, ACT, ACS, and meeting frequency on FRQ.

The regression coefficients show that ACG positively affects FRQ ($\beta = 0.0245$, $p = 0.004$), hence the null hypothesis that ACG has no significant effect on FRQ is rejected. ACT also exhibits a positive and highly significant relationship with FRQ, as indicated by a coefficient of 0.0080 and a p-value of 0.000. Accordingly, the null hypothesis relating to ACT is rejected, implying that longer-serving audit committee members contribute positively to improved FRQ through accumulated experience and firm-specific knowledge.

In contrast, ACS has a negative but statistically insignificant coefficient of -0.0127 with a p-value of 0.740. This finding implies that ACS does not significantly influence FRQ in the sampled firms, leading to the acceptance of the null hypothesis that ACS has no significant effect on FRQ. Similarly, ACM negative but insignificant affects FRQ ($\beta = -0.0006$, $p = 0.605$). As a result, the null hypothesis that ACM has no significant effect on FRQ is also accepted. These findings suggest that while the presence and experience of audit committee members matter, ownership incentives and meeting frequency alone may not be sufficient to influence reporting quality without substantive engagement.

Regarding the control variables, firm size has a positive and statistically significant effect on FRQ, indicating that larger industrial goods firms tend to produce higher-quality financial reports, possibly due to better internal controls and greater regulatory scrutiny. Leverage, however, shows a positive but insignificant effect, suggesting that the level of debt financing does not significantly influence FRQ in the sampled firms. Overall, the hypothesis testing results reveal that ACG and ACT are key determinants of FRQ in Nigerian listed industrial goods companies, while ACS and meeting frequency do not exert significant influence within the study context.

Discussion of Findings

The findings of this study show that ACG and ACT have positive and significant effects on FRQ, while ACS and meeting frequency do not exert significant influence. The positive effect of ACG on FRQ is consistent with prior empirical evidence which emphasizes the monitoring and ethical benefits of female participation audit committee. Studies by Amara et al. (2025) and Ahmed et al. (2024) similarly document that ACG are associated with improved FRQ in both developed and emerging economies. The result also aligns with evidence from Safari et al. (2021) and Bananuka and Nkundabanyanga (2023), which suggests that diversity-related audit committee attributes enhance reporting quality by constraining managerial discretion. From an agency theory perspective, the presence of female members strengthens the monitoring function of the audit committee, reduces information asymmetry, and limits opportunistic managerial behavior, thereby improving FRQ. The significance of ACT further supports the agency framework, as longer-serving members accumulate firm-specific knowledge and expertise that enhance their ability to effectively monitor management. This finding is consistent with Kohlbeck and Wang (2025), Safari et al. (2021), and Mardessi (2022), who show that experience-related audit

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committee attributes improve FRQ and mitigate earnings manipulation, particularly in environments where managerial power may otherwise weaken oversight.

In contrast, the insignificant effects of ACS and meeting frequency suggest that incentive alignment and activity levels alone may not be sufficient to improve FRQ in Nigerian industrial goods companies. While prior studies such as Al-Ahdal and Hashim (2022) and Bazhair (2022) report positive governance outcomes associated with ownership-related audit committee attributes, the current findings lend support to the alternative view that ACS may impair independence, especially in countries with weak investor protection and concentrated ownership. This interpretation is consistent with agency theory, which warns that excessive alignment through ownership may reduce objectivity and weaken monitoring effectiveness. Similarly, although the empirical literature generally finds a positive association between ACM and FRQ, as documented by Lutfi et al. (2022), Bananuka and Nkundabanyanga (2023), and Theno et al. (2024), the insignificant result in this study suggests that the quality and substance of meetings may matter more than their frequency. From an agency theory perspective, this implies that formal compliance with governance requirements, such as holding regular meetings, does not automatically translate into effective monitoring unless audit committee members actively challenge management and engage substantively with the financial reporting process.

5. Conclusions and Recommendations

This study examined the effect of audit committee control mechanisms on the FRQ of listed industrial goods companies in Nigeria, with particular focus on ACG, ACT, ACS, and meeting frequency. The findings reveal that ACG and ACT significantly enhance FRQ, indicating that diverse perspectives and accumulated experience strengthen monitoring effectiveness and constrain opportunistic reporting behavior. In contrast, ACS and meeting frequency were found to have no significant effect, suggesting that ownership incentives and the number of meetings alone do not automatically translate into improved reporting quality without substantive independence and engagement. The study therefore underscores the importance of focusing on the qualitative aspects of audit committee composition rather than mere formal compliance with governance requirements.

The study recommends as follows:

- i. Regulatory authorities should strengthen corporate governance codes by encouraging greater gender diversity on *Audit committee* of listed industrial goods companies, as female representation has been shown to significantly improve FRQ.
- ii. Firms should maintain optimal audit committee tenure by retaining experienced members while avoiding excessively long tenures that may impair independence, thereby balancing expertise and objectivity in oversight functions.
- iii. Beyond meeting frequency, firms should emphasize the quality and substance of audit committee meetings by ensuring adequate agenda depth, access to relevant information, and active engagement with auditors and management to enhance the effectiveness of financial reporting oversight.

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