

Audit committee characteristics and firm financial performance of quoted industrial goods firms in Nigeria

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Abstract

Purpose: This study examines the effects of audit committee characteristics on the financial performance of listed industrial goods firms in Nigeria.

Research methodology: This study used an ex-post factor research design and utilized secondary data collected from the annual reports and accounts of thirteen (13) sampled industrial goods firms for a period of 10 years (2013-2022). The sample of firms was obtained using a purposive sampling technique. Data were analyzed using descriptive statistics, correlation, and regression analysis (GLS Random Effect) with the aid of Stata 13.

Results: The findings reveal that an insignificant positive effect exists between audit committee size and financial performance (ROA and ROE), while audit committee independence has a significant negative effect on return on assets (ROA) and a negative insignificant effect on return on equity (ROE), and audit committee meetings have a positive significant effect on asset (ROA) and a positive insignificant effect on return on equity (ROE).

Limitations: The research is limited to only those companies in the industrial goods sector listed on the Nigerian Stock Exchange from 2013 to 2022 and only focuses on the effect of audit committee characteristics on firm financial performance. There was also incomplete data, which did not allow for a complete and thorough analysis of the entire sector.

Contribution: This study contributes to the existing body of literature on the effect of audit committees on the financial performance of Nigeria's listed industrial goods sector. It provides insights that can assist the board in formulating appropriate strategies to improve their performance.

Keywords: *Audit Committee Characteristics, Audit Committee Size, Audit committee Independence, Audit Committee meetings*

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1. Introduction

An audit committee in an organization is appointed by the board of directors to assist them in performing their function of oversight with the stakeholders of the company. It is the duty of audit committees to maintain a free and open communication relationship between independent auditors, internal auditors, and management of the company. Audit committees are an effective means of corporate governance that reduces the potential for fraudulent financial reporting. They can be very effective not only in providing objective oversight of the accounting of an organization, but also in helping to set an ethical "tone at the top." To play its role effectively, the audit committee needs substantial director resources in terms of the number of directors, time spent in meetings, financial expertise, and experience ([Sultana, 2015](#)). Therefore, it is argued that audit committee effectiveness is enhanced by the committee's size

(Al-Okaily & Naueihed, 2020), independence (Klein, 2002), and frequency of audit committee meetings (Sultana, 2015). As an intermediary between management and external auditors, an effective audit committee is expected to enhance the independence and professional skepticism of an external auditor. Interestingly, the Board of directors and the audit committees exist in a mutually reinforcing symbiotic relationship

1.1 Statement of the Problem

The inclusion of this committee in the corporate governance mechanism raises the expectations of shareholders and the public for enhanced corporate governance and, by extension, increases confidence in the checkmating role of the audit committees to ensure that the board of directors lives up to expectations in fulfilling the globally accepted pillars of corporate governance, accountability, fairness, responsibility, and transparency. However, the rampant failure of corporate governance in Nigeria, as manifested in corporate collapse and failures, throws strong doubt on the effectiveness of audit committees in carrying out this role. Companies in recent times have gone under alarming rates in Nigeria, as much blame is placed on the absence of a strong commitment to the doctrine of corporate governance, of which audit committee is a critical element. Audit committee members do not always adequately perform their duties. Their performance can be influenced by their independence from management. In other words, members of audit committees, such as affiliated directors, may have personal interests and economic dependence on company management, which could affect their independence.

Conversely, the size of the audit committee, their independence from management, the level of financial accounting knowledge possessed by members, the experience and status of the members, the extent of their involvement and scrutiny of management activities during audit meetings, and the appropriateness of their actions are called into question due to the rising rate of corporate collapse.

1.2 Objectives of the Study

The main objective of this study is to examine the effect of audit committee characteristics on the financial performance of listed industrial goods companies in Nigeria. The specific objectives of this study were as follows:

1. To determine the effect of audit committee size on the financial performance of listed industrial goods firms in Nigeria.
2. To investigate the effect of audit committee independence on the financial performance of listed industrial goods firms in Nigeria.
3. To evaluate the effect of audit committee meetings on the financial performance of listed industrial goods firms in Nigeria.

1.3 Research Hypotheses

The research hypotheses were as follows:

- H₀₁: Audit committee size has no significant effect on the financial performance of Nigerian listed industrial goods firms.
- H₀₂: Audit committee independence has no significant effect on the financial performance of listed industrial goods firms in Nigeria.
- H₀₃: Audit committee meetings have no significant effect on the financial performance of Nigerian listed industrial goods firms.

1.4 Scope of the study

This study focuses on audit committee characteristics, namely, audit committee size, independence, and meetings. This study is limited to listed industrial goods companies in Nigeria. Data on audit committee characteristics and firms' financial performance were extracted from their annual reports, and the sample period in this study was a Ten (10) year period from 2013 to-2022.

2. Literature review

2.1 Audit Committee Characteristics

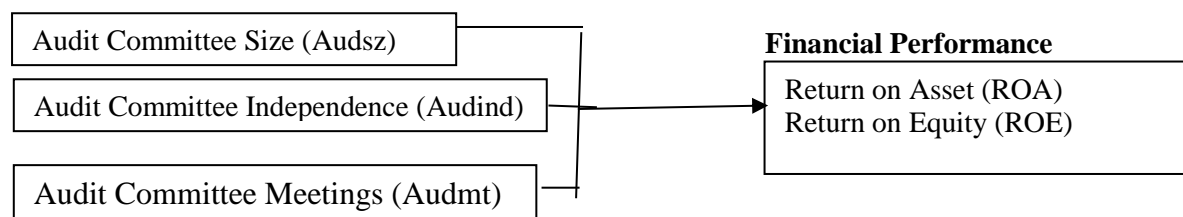


Figure 1: The framework of the study

2.2 Concept of Audit Committee

The most recent concept of audit committees in Nigeria was the one issued by the Nigerian Stock Exchange “Directory of governance rules of companies listed on the Nigerian Stock Exchange 2011, which stipulates that the audit committee should consist of non-executive members of the board of directors who should not be less than three. Two of them should be independent members and one of them should chair the committee. All committee members should be equipped with knowledge of financial and accounting affairs. The decisions of the committee are taken by an absolute majority of members. It should also include written procedures to regulate its duties and commitments with the approval of the board of directors. Audit committees are the most important recent developments in corporate governance structure and are expected to contribute significantly in this respect ([Modum et al., 2013](#)). [Carcello, Hermanson, and Neal \(2002\)](#) posited that an audit committee serves as an important governance mechanism because the potential litigation risk and reputation impairment faced by audit committee members ensure that they discharge their responsibilities effectively. [Al-Thuneibat \(2006\)](#) defined it as a committee that is composed of non-executive directors in the establishment where the major goal for forming the audit committee is to increase audit quality and questioning of the board of directors. [Arens et al. \(2012\)](#) defined it as a group of persons selected from members of the board of directors who are responsible for retaining the auditor’s independence. The audit committee is a corporate governance tool that uses non-executive directors as a means of control and oversight over several managerial roles, such as internal auditing, risk management, compliance, and financial reporting, which includes intervention when a conflict occurs between executive management and the external auditor over financial reporting matters. For an audit committee to operate effectively and achieve its goals, its members must be independent of executive management, have financial knowledge, and meet frequently under a well-defined agenda ([Rezaee, 2008](#)).

2.3 Audit Committee Characteristics

2.3.1 Audit Committee Size and firm financial performance

Audit committee size reflects the amount and diversity of audit committee resources, in terms of skills and knowledge ([Karamanou and Vafeas, 2005](#)). Accordingly, the Code of Corporate Governance (2000) also requires that the audit committee be comprised of at least three members. [Dalton, Daily, Johnson, and Ellstrand \(1999\)](#) found a positive association between the size and the monitoring process of the board that result in higher performance, whereas [Saleh, Iskandar, and Rahmat \(2007\)](#) asserted that audit committee with more members likely to possess diverse skills and knowledge which is likely to enhance monitoring. [Raghunandan and Rama \(2007\)](#) argued that AC size of audit committee increases the number of meetings. It is argued that this increase in meeting frequency provides more effective monitoring and, hence, better firm performance.

2.3.2 Audit Committee Independence and firm financial performance

The audit committee comprises both independent and non-independent members, ensuring better management through transparency and accountability in the operation of a firm. [Jensen and Meckling \(1976\)](#) claimed that the goal of the agency concept is to emphasize the concerns of splitting ownership and control in the company. To address the difference between ownership and management, independent directors should be nominated by shareholders to monitor executives and protect shareholder value ([Fama & Jensen, 1983](#)). AC independence of the audit committee is a critical

component because it has no personal or financial connections to a company's operations. In addition, independent audit committees are effective in managing and monitoring ([W.-Y. Hsu & Petchsakulwong, 2010](#)). [Kallamu and Saat \(2015\)](#) view that an audit committee that comprises a large number of independent members is more efficient in providing oversight due to its capability of fighting managerial influence. Cohen (2011) argued that independence of the audit committee as an important part of audit committee effectiveness may help in ensuring the reliability of the financial reporting process by keeping a check on manipulative, self-centered activities of managers. [Klein \(2002\)](#) is of the opinion that audit committee independence decreases with increase growth tendency of the organisation. They believe that the independence of the audit committee may reduce the growth potential of the organization, as the internal auditors and management focus more on meeting the requirements of the committee, thereby shifting attention from the core business of the organization. If the audit committee is independent and the work of the committee is fair, then fraud occurring in firms could be curbed (Yunos, 2014).

2.3.3 Audit Committee Meeting Frequency and firm financial performance

An Audit Committee must meet its monitoring role. The control function expected from board members has been implemented in the board's frequent meetings ([Al-Daoud, Saidin, & Abidin, 2016](#)). [Ntim and Osei \(2011\)](#) proposed that as decisions released from board meetings are effective in reducing agency costs and conflicts of interest, the frequency of meetings will convert into owners' value maximization. Directors can also analyze and improve their current strategy and executive management performance by holding frequent board meetings ([Vafeas, 1999](#)). A proactive audit committee is expected to meet frequently to discuss performance indicators and enhance firm efficiency in terms of management and monitoring ([Bansal & Sharma, 2016](#)). The number of audit committee meetings held reflects the diligence, extent of commitment, and time spent for monitoring, while fewer meetings are considered a lack of commitment of the audit committee and/or insufficient time spent for monitoring ([Bédard & Gendron, 2010](#)). However, the findings of [Bédard and Gendron \(2010\)](#) regarding the link between the frequency of meetings and audit committee effectiveness on financial performance are mixed. Moreover, recurrent audit committee meetings help audit committees monitor financial reporting actively, and thus firms achieve a lower cost of debt ([Anderson & Reeb, 2003](#)).

Conversely, some studies (e.g., [Alqatamin \(2018\)](#)) find a negative and insignificant impact on a firm's financial performance. In Bangladesh, [M. M. Rahman, Meah, and Chaudhory \(2019\)](#) find negative association between audit committee meeting frequency and firm financial performance. This indicates that a larger number of meetings does not necessarily translate into effective monitoring and sometimes indicates inefficiency of the audit committee. [Al-Mamun, Yasser, Rahman, Wickramasinghe, and Nathan \(2014\)](#) were of the view that regular meetings of audit committees could help reduce agency problems and information asymmetry in a firm by providing fair and timely information to investors.

2.4 Theoretical Framework

The theories underpinning this study are Agency Theory. The separation of ownership and control in modern businesses creates conflicts of interest between managers and stakeholders. Following this conflict between the principal and the agent, companies, such as audit committees, are obliged to use control mechanisms to reduce agency costs and information asymmetry. According to agency theory, to ensure the effectiveness of an audit committee, managers are encouraged to adequately prepare financial statements to specify the returns generated by the companies. Agency theory states that the presence of an audit committee on the board of directors is sufficient to ensure the reliability of financial statements. Furthermore, it is concerned with ensuring that agents act in the best interests of principals. The audit committee plays a major role in ensuring that management (agent) always acts in the best interests of shareholders (principal). Furthermore, by monitoring board activities, audit committees play an essential role in ensuring an accurate assessment of top management decisions, performance, and continuous communication with external auditors ([R. A. Rahman & Ali, 2006](#)). Consequently, it ensures reliable financial reporting by reducing the incidence of errors and other irregularities, as well as the likelihood of accounting fraud, by attesting to external financial reporting ([Peasnell, Pope, & Young, 2001](#)). Thus, it maintains the quality of control systems and financial accounting information disclosure.

Moreover, it enhances the breadth of relevance and reliability of annual reports and improves the information quality conveyed to external parties ([Abbott, Parker, & Peters, 2004](#); [Carcello et al., 2002](#)).

2.5 Empirical Framework

Mohammad and Faudziah (2018) examined the association between audit committee and firm performance of the Jordanian firms. OLS regression was used to test the relationship between the independent and dependent variables, as discussed in the section explaining the study method. The data comprise 228 firms' industries and services. In this study, Jordan attempted to bridge this gap. in the existing literature by investigating the association between audit committees and firm performance in Jordan's emerging market. The findings indicate a positive but insignificant relationship between audit committee size and ROA. On the other hand, audit committee size with EPS is positive and significant. Furthermore, the results indicate committee meetings are significant and positive in terms of ROA. Correspondingly, audit committee meetings with EPS represent a positive direction but are insignificant.

[Osemene and Fakile \(2018\)](#) examine the impact of audit committees on the financial performance of deposit money banks in Nigeria. Return on equity (ROE) was used as a measure of financial performance; independence, financial expertise, and frequency of meetings were identified as possibly having effects on financial performance. Correlation and regression analyses were used to estimate the relationship between audit committee characteristics and financial performance. The findings show that audit committees, financial expertise, and audit committee meetings have a significant influence on the financial performance of deposit money banks in Nigeria.

Mohammad and Chaudhory (2019) explore the impact of audit characteristics on firm performance. In this study, external audit quality (BIG4), frequency of audit committee meetings, and audit committee size are used as proxies for audit characteristics, and firm performance is measured through ROA, profit margin, and EPS. A total of 503 firm-years are considered as sample sizes from the listed manufacturing firms of the Dhaka Stock Exchange (DSE) from 2013 to 2017 to determine the impact of audit characteristics on firm performance. In this study, multivariate regression analysis was conducted using the pooled OLS method. Moreover, the time dummy and lag model of the multivariate analysis were also analyzed as robust checks. The multivariate regression results show that external audit quality (BIG4) and audit committee size are significantly and positively associated with firm performance. This study also found a significant negative relationship between audit meetings and firm performance.

[Oroud \(2019\)](#) investigated the relationship between audit committee characteristics (size, independence, meetings, and financial expertise) and the profitability of industrial companies listed on the Amman Stock Exchange (ASE) from 2013 to 2017. The model of this study is theoretically based on both agency and resource dependence theories. To examine the developed model, data were gathered from the annual reports of the 51 listed industrial firms. To analyze the data, this study utilized panel data methodology for 51 companies with 255 observations. Moreover, this study used company size and leverage as the control variables. Based on the panel data results, the fixed-effects model was used to examine the effect of the experimental variables on profitability, measured by return on investment (ROI) and return on equity (ROE). The results show that the audit committee characteristics have a significant effect on the profitability of industrial companies listed on the ASE.

Muhammad, Umaru and Salisu (2017), examined the effect of audit Committees' Quality (audit committee members, audit committee meetings and audit committee financial expertise) on financial performance with a focus on the Nigerian food and beverages sector. The study population comprised food and beverage companies listed on the Nigerian Stock Exchange. The study samples were selected using purposive sampling. Data were collected from the annual reports and accounts of the selected companies for a period of ten years (2007–2016). The study also employed correlation and structural equation modelling to analyze the data. The results revealed a significant positive relationship between audit committee meetings, audit committee financial expertise, and financial performance. The results

also show an insignificant negative effect between audit committee members and the financial performance of the Nigerian food and beverage sector.

3. Research methodology

The study adopts an ex-post facto design as it is a quasi-experimental study examining how an independent variable, present prior to the study, affects a dependent variable. Essentially, thirteen (13) firms constitute the total population of the study. A purposive sampling technique was used to ensure that firms with adequate data were selected within the period to ensure the accuracy and reliability of data, and through two-filter criteria, a sample size was chosen. First, the criteria for the sampled firms must have been listed on the Nigerian Stock Exchange for more than 10 years. Second, firms must have incomplete information about their financial reports. Following the filter criteria, two (2) firms were listed after 2013: BUA Plc., listed in 2020, Notore Plc., listed in 2018, and Premier paints Plc., which had incomplete data. All these three (3) firms were removed, and the study arrived at 10 firms whose data were analyzed for a period of Ten (10) years from 2013 to 2022, making a 100-observation year. The secondary source of data for this study was the annual reports of the sampled firms for all relevant years. A panel regression model (Random Effect) was used with the aid of Stata 13 to analyze the effect of audit committee characteristics on the financial performance of listed industrial goods firms. The independent variables considered are proxied by audit committee size, audit committee independence, and audit committee meetings, while the dependent variable is proxied by return on assets (ROA) and return on equity (ROE).

3.1 Empirical Model Specification

The empirical result is shown below, based on the following regression model:

$$FP_{it} = \alpha + \beta_1 Audsz_{it} + \beta_2 Audind_{it} + \beta_3 Audmt_{it} + \mu_{it} \dots \dots \dots (1)$$

Given that financial performance is measured using two proxies, the two models in this study are as follows:

$$ROA_{it} = \alpha + \beta_1 Audsz_{it} + \beta_2 Audind_{it} + \beta_3 Audmt_{it} + \mu_{it} \dots \dots \dots (2)$$

$$ROE_{it} = \alpha + \beta_1 Audsz_{it} + \beta_2 Audind_{it} + \beta_3 Audmt_{it} + \mu_{it} \dots \dots \dots (3)$$

Where:

FP = Financial performance

ROA= Return on Asset

ROE = Return on Equity

AUDSZ = Audit committee size

AUDIND= Audit committee independence

AUDMT= Audit committee meeting

α = intercept

$\beta_1, \beta_2, \beta_3$ and β_4 = estimated parameters

i = represents the firm

t = represents the time/year

μ = the error term

Table 1. Variable Measurement and Description

Variables		Measurement
Financial Performance	ROA	Proportion of Net profit to Total assets
	ROE	Proportion of Net profit to shareholders' equity
Audit committee size	Audsz	Total number of audit committee members
Audit committee Independence	Audind	Divide the total number of independent committee members by the total number of audit committee size
Audit committee meetings	Audmt	measured the summation of the proportion of the meetings attendance held by the firm annually

4. Result and discussion

Descriptive statistics, correlation matrices, diagnostic tests such as the test for multicollinearity, the test for heteroskedasticity, the test for normality, the Hausman specification test, and regression analysis were used to analyze the data gathered for the study.

4.1 Descriptive Statistics

The table below shows the descriptive statistics of the model, which summarizes the mean, minimum, and maximum values and standard deviation of the variables.

Table 2. Summary of Descriptive Statistics

	Obs	Mean	Std. Dev.	Min	Max
ROA	100	.0986	.2654	-1.8	1.09
ROE	100	.2185	.4683	-2.66	2.56
Audsz	100	5.71	.6079	4	7
Audind 100	.489	.0373	.4	.6	
Audmt	100	3.62	.7075	1	5

Source: Output from Stata 13.

From the results of the descriptive statistics in Table 2 above, return on assets (ROA) has a mean of .0986, indicating that listed industrial goods firms in Nigeria have an average of 9.86% as their returns on assets invested. The minimum and maximum values for return on assets (ROA) are -1.8 (180% loss) and 1.09 (109%) profit, respectively, while the standard deviation is 0.2654. This shows that there is a wider variation between the sampled firms with regard to return on asset because the standard deviation is higher than the mean value. The result also reveals that return on equity had a mean value of .2185 (21.8%), indicating that sampled firms have an average of 21.8% of their returns on equity. The minimum and maximum values are -2.66 and 2.56 respectively, while the value of the standard deviation is .4683 which reveals that there is a wider variation between listed sampled firms with respect to returns on equity.

As shown in Table 2, audit committee size (Audsz) has an average mean of 5.71 (five members), a minimum of four members, and a maximum of seven members, while the standard deviation is .6079, which shows a small variation between the sampled firms in the study. Audit committee independence (Audind) has a mean value of .489, indicating 48.9% independence of audit committee members, while the minimum and maximum value are .4 (two independent committee members) and .6 (three independent committee members), respectively, as it reveals that sampled firms adhere to the Code of Corporate Governance, which enjoins a considerable number of independent audit committee members. Audit committee meetings have a mean value of 3.62, showing that the sampled firms meet three times per year, with minimum and maximum values of 1 and 5, respectively.

4.2 Correlation Matrix

Table 3 shows the test for multicollinearity among variables and relationships between the dependent and independent variables in the study, and Pearson correlation analysis was used.

Table 3. Correlation matrix (Model 1)

Variable	ROA	Audsz	Audind	Audmt
ROA	1.0000			
Audsz	-0.0326	1.0000		
Audind	-0.3392*	0.3032*	1.0000	
Audmt	0.2150*	-0.1649	-0.1216	1.0000

Source: Output from Stata 13

From Table 3, audit committee size (Audsz) has a negative relationship with firm performance (ROA), while audit committee independence has a significant negative association with ROA, which is significant at the 5% level. This implies that audit committee size and audit committee independence

move in the opposite direction to ROA, meaning that as audit committee size and audit committee independence increase, firm performance (ROA) decreases. Audit committee meetings have a positive and significant relationship with firm performance, meaning that, as audit committee meetings increase, firm performance (ROA) increases.

Table 4. Correlation matrix (Model 2)

Variable	ROE	Audsz	Audind	Audmt
ROE	1.000			
Audsz	0.0180	1.0000		
Audind	-0.1819	0.3032*	1.0000	
Audmt	0.0537	-0.1649	-0.1216	1.0000

Source: Output from Stata 13

From Table 4, the variables of both audit committee size and audit committee meetings have a positive relationship with firm performance (ROE), which means that as both audit committee size and audit committee meetings increase, firm performance also increases. Audit committee independence has a negative relationship with firm performance (ROE), meaning that as audit committee meetings increase, firm performance (ROE) decreases.

4.3 Diagnostic Test

4.3.1. Variance Inflation Factor

The table below presents the results of another collinearity test using the variance inflation factor, which implies the presence of multicollinearity if the VIF is higher than 10.

Table 5. Variance Inflation Factors (Models 1 and 2)

Variable	VIF	1/VIF
Audsz	1.12	0.8914
Audind 1.11		0.9028
Audmt	1.03	0.9671
Mean VIF	1.09	

Source: Output from Stata 13

The test for multicollinearity among independent variables was performed using the variance inflation factor (VIF). Table 5 presents the results. The criterion for VIF is that there is multicollinearity where the mean VIF and tolerance value are greater than four and one, respectively. From Table 5, the mean VIF was 1.09, and the tolerance values were less than 4 and 1, respectively. Therefore, the results in Table 5 suggest the absence of multicollinearity.

4.4 Test for Heteroskedasticity

The test was conducted to show the stability of the residual variance in the model using the Breusch-Pagan/ Cook test for heteroskedasticity.

Table 6. Test for Heteroskedasticity

	variables	chi2 (1)	prob>chi2
Model 1	ROA	68.09	0.0000
Model 2	ROE	41.14	0.0000

Source: Output from Stata 13

As observed from Table 6, the test for heteroskedasticity or the constant variance assumption of Model 1 and Model 2 have p-values less than 0.05 (5% significance level). Thus, we rejected the null hypothesis that the residuals are homoscedastic.

4.5 Test for Normality of Data

The test was conducted to determine whether a dataset was symmetrical with a p-value higher than 0.05, or asymmetrical (abnormally) distributed with a p-value lower than 0.05 around the expected mean. The Shapiro-Wilk test was used to test the normality of the variables.

Table 7. Test for Normality

Variable	Obs	W	V	z	Prob>z
ROA	100	0.56129	36.222	7.963	0.00000
ROE	100	0.61700	31.622	7.662	0.00000
Audsz	100	0.89347	8.795	4.823	0.00000
Audind	100	0.96380	2.989	2.429	0.00757
Audmt	100	0.97716	1.886	1.407	0.07966

Source: Output from Stata 13

From Table 7, the results reveal that return on assets (ROA), return on equity (ROE), audit committee size (Audsz), and audit committee independence (Audind) have p-values less than 0.05; therefore, they are abnormally distributed, while audit committee meetings have a p-value higher than 0.05; therefore, they are normally distributed.

4.6 Hausman Specification Test

The Hausman specification test was conducted in order to select the most appropriate model between the fixed- and random-effects techniques. Table 8 presents the results.

Table 8. Hausman Specification Test

	variables	chi2(3)	Prob>chi2
Model 1	ROA	1.62	0.6553
Model 2	ROE	1.68	0.6409

Source: Output from Stata 13

From Table 8, the null hypothesis that the random effect estimation is more consistent cannot be rejected, because both p-values are greater than 5%. This confirms the appropriateness of the random effects estimation techniques; therefore, it is preferable to draw conclusions on the considered hypotheses.

4.7 Regression Analysis

Table 9. Regression Result

<i>MODEL 1: ROA</i>				<i>MODEL 2: ROE</i>		
variable	Coeff.	t	P>t	Coeff.	t	P>t
Audsz	.02532	0.56	0.573	.06251	0.75	0.451
Audind	-2.5056	-3.72	0.000*	-2.3906	-1.85	0.065
Audmt	.07995	1.98	0.048*	.01187	0.17	0.868
Constant	.88976	2.11	0.035	.98756	1.27	0.202
Obs.	100			100		
Wald chi2 (3)	19.54			3.56		
Prob > chi2	0.0002			0.3133		
R ²	0.1529			0.0402		

Source: Output from Stata 13

As shown in Table 9, the p-value for Model 1 was significant. The results also indicate that, in Models 1 and 2, only about 15% and 4.02% of the variables in ROA and ROE, respectively, were explained by the explanatory variables.

4.8 Test of Hypotheses

The results in Table 9 show that in Model 1, the audit committee size (Audsz) has a coefficient value of .02532 and t-statistic value of 0.56, while the t-significant value is 0.573, which is not significant at the 5% level. The positive value of the coefficient .02532 signifies that audit committee size (Audsz) and ROA are positively related, which implies that every 1% increase in the audit committee size of listed industrial goods firms will lead to an increase in the ROA by 2.5%. In model 2, the audit committee size (Audsz) has a coefficient value of .06251, t-statistics of 0.75, and a t-significant value of 0.451. The positive value of the coefficient .06251 signifies that audit committee size and ROE are positively related, implying that every 1% increase in the audit committee size of industrial goods firms leads to an increase in ROE by 6.25%. We accept the null hypothesis that audit committee size does not have a significant effect on the financial performance of industrial goods firms in Nigeria.

Table 9 also reveals that in model 1 audit committee independence (Audind) has a coefficient value of -2.5056, a t-statistic value of -3.72, and a t-significant value of 0.000, which is significant at the 5% level of significance. The negative coefficient value of -2.5056 indicates that audit committee independence (Audind) and ROA are negatively related, which implies that every 1% increase in audit committee independence in listed industrial goods firms will lead to a decrease in ROA by 250%. We reject the null hypothesis that audit committee independence has a significant effect on the financial performance of Nigerian industrial goods firms. Model 2 also revealed that audit committee independence has a coefficient value of -2.3906, a t-statistic value of -1.85, and a t-significant value of 0.065, which is not significant at the 5% level of significance. The negative coefficient value of -2.3906 signifies that audit committee independence and ROE are negatively related, implying that every 1% increase in audit committee independence in listed industrial goods firms will lead to a decrease in ROE by 239%. We accept the null hypothesis that audit committee independence does not have a significant effect on the financial performance of Nigerian industrial goods firms.

Finally, in Model 1, audit committee meetings (Audmt) show a coefficient of .07995, a t-statistic value of 1.98, and a t-significant value of 0.048, which is significant at the 5% level of significance. The positive value of the coefficient .07995 signifies that audit committee size and ROA are positively related, implying that every 1% increase in audit committee meetings of listed industrial goods firms will lead to an increase in the ROA by 7.99%. We reject the null hypothesis that audit committee meetings have a significant effect on the financial performance of industrial goods firms in Nigeria. In Model 2, audit committee meetings have a coefficient value of .01187, t-statistics of 0.175, and a t-significant value of 0.868. The positive value of coefficient .01187 signifies that audit committee meetings and ROE are positively related, implying that every 1% increase in audit committee meetings of listed industrial goods firms will lead to an increase in ROE by 1.18%. We accept the null hypothesis that audit committee meetings do not have a significant effect on the financial performance of Nigerian industrial goods firms.

Table 10. Summary of Hypotheses Test (Models 1 and 2)

Hypotheses	Model 1 (ROA)	Decision	Model 2 (ROE)	Decision
H ₀₁ : Audit committee size has no significant effect on firm performance of quoted industrial goods firm in Nigeria.	Positive, insignificant	Accept null	Positive, insignificant	Accept null
H ₀₂ : Audit committee independence has no significant effect on firm performance of quoted industrial goods firm in Nigeria.	Negative, significant	Reject null	Negative, insignificant	Accept null

H ₀₃ : Frequency of audit committee meetings have no significant effect on firm performance of quoted industrial goods firm in Nigeria.	Positive, significant	Reject null	Positive, insignificant	Accept null
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Source: Researcher's compilation 2023

4.9 Discussion of Findings

From the findings of the study on the effect of audit committee size on financial performance, the results of model one and model two showed insignificant positive coefficients at the 5% level of significance. Thus, hypothesis one was accepted in both model one and model two. The results of this study agree with those of [Bauer et al. \(2010\)](#) and [H.-E. Hsu \(2010\)](#); [Reddy, Locke, and Scrimgeour \(2010\)](#); [Al-Matari, Fadzil, and Al-Swidi \(2014\)](#); [Aanu, Odianonsen, and Foyeke \(2014\)](#); [Alqatamin \(2018\)](#); [Al-Okaily and Naueihed \(2020\)](#) who found a positive and insignificant effect of audit committee size on firm financial performance (ROA and ROE). This study is in contrast with [Wobo and Ofurum \(2021\)](#), [Juhmani \(2017\)](#); [Mollah and Talukdar \(2007\)](#); [Qeshta, Alsoud, Hezabr, Ali, and Oudat \(2021\)](#), [Bazhair \(2022\)](#), [Bin and Mohammed \(2022\)](#) and [Amer, Ragab, and Shehata \(2014\)](#) whose studies found negative insignificant effect of audit committee size on firm financial performance.

Regarding the variable of audit committee independence variable, the result in model one showed a negative significant coefficient, while that of model two was negative and insignificant at the 5% level of significance. This result agrees with that of [Dar, Naseem, and Rehman \(2011\)](#) who found a negative significant effect of audit committee independence with firm performance (ROA). This is in contrast with the findings of [Aanu e and al. \(2014\)](#), [Ibrahim, Ouma, an \(2019\)](#) who found effect of firms'ence on firm financial performance. In model two, the negative insignificant effect of audit committee independence on financial performance (ROE) is similar to the result of [Gurusamy \(2017\)](#), who finds the same negative insignificant effect. However, this is contrary to the results of [Bazhair \(2022\)](#), [Amer et al. \(2014\)](#), and [Aanu et al. \(2014\)](#), who find a positive insignificant effect of audit committee independence on firm financial performance.

Audit committee meetings, which have a positive significant relationship in model one, are in agreement with the study of [Carcel et al., n, and; Ehiedu,nand d and Toria \(2022\)](#); [Osevwe-Okoroyibo and Emek,a,Nwokeji \(2021\)](#) who found a positive and significant effect of committee meetings with the meetings on firm performance of beverage and ononrages firms in the Nigerian Stock Exchange. The findings contrast with [Qeshta et al. \(2021\)](#), who found a negative significant effect of audit committee meetings on firm performance. In Model 2, audit committee meetings have a positive and insignificant effect on financial performance (ROE). This is in line with the study by [Aanu et al. \(2014\)](#), who found that audit committee meetings have a positive and insignificant effect on financial performance (ROE), but in disagreement with the findings of [Qeshta FuruFurumOand, FuruFurumOand significantt nsignifiandant negative](#) effects of audit committee meetings on financial performance.

5. Conclusion

The main objective of this study is to examine the relationship between the characteristics of the audit committee, such as audit committee size, audit committee independence, and audit committee frequency of meetings, and the financial performance of the listed industrial goods sector on the Nigerian Stock Exchange (NSE). The study finds a positive and insignificant relationship between audit committee size and financial performance (ROA). This implies that the presence of an audit committee on the board has a positive effect on financial performance measured by both return on assets (ROA) and return on equity (ROE), and holding all other independent variables constant, a unit increase in the number of audit committees of listed industrial good firms will lead to an insignificant increase in financial performance.

Furthermore, the findings revealed a significant negative relationship between audit committee independence and financial performance, measured by return on assets (ROA). This implies that holding other independent variables constant, a unit increase in audit committee independent members leads to a decrease in financial performance. Moreover, the study revealed that a negative and insignificant relationship exists between audit committee independence and financial performance measured by the return on equity (ROE), which implies that holding other independent variables constant, a unit increase in the number of independent committee members will lead to a decrease in financial performance. Finally, the findings reveal a positive and significant relationship between the frequency of audit committee meetings and financial performance measured by return on assets (ROA). While holding other independent variables constant, a unit increase in the frequency of audit committee meetings leads to a significant increase in financial performance. A positive and insignificant relationship was found to exist between the frequency of audit committee meetings and financial performance measured by return on equity (ROE), implying that holding other independent variables constant, a unit increase in the frequency of audit committee meetings of listed industrial goods firms leads to an insignificant increase in financial performance (ROE).

5.1 Recommendations

Based on these findings, this study recommends the following.

1. The audit committee size, on average, has about five (5) members, which is in accordance with the Nigerian Corporate Governance Code and reflects performance improvements. Hence, the size of the audit committee should be such that the accounting and finance processes in firms are protected and firm performance is increasing.
2. The audit committee's independent members should revert to the specified members of three (3) independent non-executive members, as our study's findings show that too many independent directors negatively impact financial performance.
3. Audit committee meetings, numbers, timings, and durations should be appropriate to ensure a more positive impact on the financial performance of firms.

5.2 Limitations

The Research Is Limited To Only Those Companies In The Industrial Goods Sector Listed On The Nigerian Stock Exchange from 2013 to 2022, and only focuses on the effect of audit committee characteristics on firm financial performance. There was also incomplete data, which did not allow for a complete and thorough analysis of the entire sector. Finally, not all audit committee characteristics were considered in the study.

5.3 Contribution

This study contributes to the existing body of literature on the effect of audit committees on the financial performance of Nigeria's listed industrial goods sector. It provides insights that can assist the board in formulating appropriate strategies to improve their performance.

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