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## EFFECT OF AUDIT FIRM ATTRIBUTES ON AUDIT QUALITY OF QOUTED INSURANCE COMPANIES IN NIGERIA

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### Abstract

Audit quality is a fundamental pillar of financial reporting and corporate governance, essential for maintaining investor confidence and ensuring efficient capital markets. This study investigates the effect of audit firm attributes (audit tenure, audit fees and auditor industry specialization) and audit quality of listed insurance companies in Nigeria. Using a longitudinal research design and secondary data extracted from annual reports and accounts of sixteen insurance companies over a ten-year period (2014-2023), logistic regression and longitudinal balanced panel models were employed for analysis. The findings reveal a significant negative effect of audit tenure on audit quality. The analysis further revealed a significant positive effect of audit fees on audit quality. While auditor industry specialization positive insignificant effect on audit quality of listed insurance companies in Nigeria. Based on the findings, the study recommends among others that the companies should ensure that audit fees are sufficient to cover the resources and expertise required for a thorough audit. Higher audit fees can incentivize auditors to invest more effort and time into the audit process, leading to improved audit quality.

**Keywords:** Audit Firm Attributes, Audit Quality, Audit Tenure, Audit Fees, Auditor Industry Specialisation

### 1. Introduction

Audit quality is fundamental to capital market effectiveness, providing reliable financial information and minimizing stakeholder risk. Recent corporate scandals, including Enron, WorldCom, Lehman Brothers, Cadbury Nigeria, Toshiba, and Wirecard, have emphasized the consequences of insufficient audits, sparking demand for improved audit quality (Lee et al., 2020).

The relationship between audit firm attributes—such as tenure, fees, and industry specialization and audit quality are a focal point in research. Longer audit tenure can lead to familiarity and knowledge of a client's operations, enhancing quality (Garcia-Blandon et al., 2020; Alareeni, 2019; Singer & Zhang, 2018), although

prolonged tenure may impair auditor independence (Qawqzeh et al., 2018). Audit fees are another factor, with higher fees potentially enabling better resources for audits, yet also risking auditor independence due to client expectations (Yahaya & Onyabe, 2022; Ayoola, 2022). Industry specialization, in which audit firms focus on a particular sector, may also boost audit quality by increasing auditors' expertise in sector-specific risks (Ananda & Faisal, 2023; Garcia-Blandon & Argiles-Bosch, 2018).

Studies examining the link between these attributes and audit quality show mixed results across different contexts, methodologies, and timeframes (Alareeni, 2019; Rijal et al., 2019; Trianjani et al., 2023; Salehi et al., 2022). In Nigeria, there are gaps in understanding

how audit characteristics affect audit quality, particularly concerning industry specialization (Okechukwu & Ene, 2023; Lamido, 2022). As the financial sector plays a crucial role in Nigeria's economy, research focusing on audit quality within this sector is essential to address these gaps and understand the factors influencing audit quality comprehensively.

### 2. Literature Review

### 2.1 Conceptual Definitions

### 2.1.1. Audit Quality

Audit quality is defined as the likelihood that an audit will accurately detect and report material misstatements in financial statements, relying on both technical and service dimensions. Benzouai and Tiar (2020) identify technical quality encompassing reputation, expertise, experience, and independence and service quality, which includes responsiveness and empathy, as core components. Furiady and Kurnia (2015) further describe audit quality as the probability that an auditor identifies and reports accounting violations.

#### 2.1.2. Audit Tenure

Audit tenure, or the duration an audit firm has worked with a particular client, is a key factor in the auditor-client relationship as it affects the auditor's understanding of the client's business (van et al., 2013). Kammenga (2018) argues that extended tenures can negatively impact audit quality due to familiarity threat, where auditors may grow overly comfortable with clients, reducing their skepticism and thoroughness. Additionally, prolonged tenure may compromise independence, as close relationships with client management can influence auditors' objectivity and professional judgment (Dodgson et al., 2020).

### 2.1.3. Audit Fees

Audit fees represent the compensation paid by organizations to external audit firms for assessing their financial statements, controls, and regulatory compliance, covering the costs of expertise, time, and resources involved. The fee structure is shaped by various factors, including the size, complexity, and nature of the company's operations (Huang, 2016),

along with regulatory demands, geographic reach, risk exposure, and audit scope (Cho et al., 2021). Usman et al. (2022) propose that higher audit fees generally lead to improved audit quality by enabling more resources and experienced auditors to conduct thorough examinations. However, other studies caution that high fees do not always equate to high quality, as fees can also reflect complexities unrelated to quality, such as regulatory demands or litigation risks. Moreover, high fees may jeopardize auditor independence if firms prioritize client interests to retain profitable arrangements (Kim et al., 2024).

### 2.1.4. Auditor Industry Specialization

Auditor industry specialization is the extent to which an audit firm concentrates its resources and expertise within a particular industry, allowing it to acquire deep sector-specific knowledge that can enhance audit quality. Specialization enables auditors to refine industry-specific audit methods, potentially resulting in more efficient and targeted audits. However, studies examining the impact of industry specialization on audit quality have shown mixed results, suggesting that the relationship may vary based on different contexts and factors.

### 2.2. Empirical Review

Minutti-Meza (2013) examines whether auditor industry specialization, measured using the auditor's within-industry market share, improves audit quality and results in a fee premium. The matched sample results are confirmed by including client fixed effects in the main models, examining a sample of clients that switched auditors, and using an alternative proxy that aims to capture the auditor's industry knowledge. Rochmatilah et al (2021) analyzed the influence of audit fee, audit switching, audit firm reputation and auditor specialization on audit quality. Data in the current research were secondary data obtained from the financial statements of consumer good industry companies listed on the Indonesia Stock Exchange in the period 2017-2019. This study used purposive sampling method to select sample from the population. Based on method, obtained 26 companies with 78 samples. Data was analyzed using the multiple regression analysis. Proxy measurements for audit quality is using discretionary accruals Kaznik model (1999). The result showed that the audit switching give impact on audit quality. While audit fee, audit firm reputation and auditor specialitation do not impact on audit quality. Ananda and Faisal, (2023) examined determinants of audit quality in companies listed on the Indonesia Stock Exchange (IDX). The audit quality determinants tested in this study are audit fees, audit tenure, auditor industry specialization and audit firm size. Using purposive sampling method, a total of 240 companies listed on IDX between 2018 and 2020 (720 observations) were selected as the research samples. The panel regression analysis with a random effect model was applied to test the hypotheses. The results of this study show that audit fees and auditor industry specialization have a negative effect on audit quality proxied by discretionary accruals, while audit tenure and audit firm size have a positive influence on audit quality. These results indicate that audit tenure and audit firm size are crucial factors for maintaining audit quality.

Tin, (2021) examine how auditor rotation and auditor reputation influence audit quality moderated by audit specialization. The population of this study is using a Consumer Goods Inventory manufacturing company listed on the Indonesia Stock Exchange (IDX) from 2014-2019. This study was using logistics regression analysis to see the influence of auditor rotation, auditor reputation on audit quality, with auditor specialization as a moderating variable. The results showed that auditor rotation had no influence on audit quality; auditor reputation had an influence on audit quality; and auditor specialization could not strengthen the relationship between auditor rotation and audit quality, but could strengthen the relationship between auditor reputation and audit quality.

## 2.3. Theoretical Framework Agency Theory

Agency Theory offers a framework for examining how audit firm characteristics influence audit quality by addressing the dynamics between principals (shareholders) and agents (management). Introduced by Jensen and Meckling (1976), the theory explores conflicts of interest that arise when agents possess more information than principals, creating information asymmetry. In auditing, shareholders depend on audit firms to act as intermediaries, using independent expertise to verify the accuracy of financial reports and reduce information asymmetry.

### 3. Methodology

### 3.1 Research Design

This study uses a longitudinal research design to analyze the relationship between audit firm attributes and audit quality, allowing for examination of changes and influences over time. The research focuses on listed insurance companies in Nigeria, with data from 16 of the 22 companies listed on the Nigerian Exchange Group as of December 31, 2023 (NGX Fact Book, 2023). Selection criteria required companies to be listed since January 1, 2014, with continuous data available through December 2023.

### 3.2. Data and Sources

Secondary data for this study were sourced from annual reports spanning 2014 to 2023, a period marked by multiple updates in Nigeria's corporate governance codes and Insurance Act regulations.

### 3.3. Model Specification

In order to analyze the effect of audit firm characteristic on audit quality of quoted insurance companies in Nigeria, the study modified the model used by Enofe et al (2013).

$$AQ = \beta_0 + \beta_1 AT + \beta_2 AF + \beta_3 AIS + \beta_4 FS \beta_4$$
 (i)

Where:

AQ = Audit Quality.

 $\beta_0$ = Constant

AT = Auditor Tenure

AF = Audit Firm Fees

AIS= Auditor Industry Specialisation

Fs = Firm Size

 $\beta_0$ ...,  $\beta_k$  is the regression model coefficients of the independent variables

€it is the random error

### 3.4. Method of Data Anaylsis

Table 1: Variables and Measurement

In this study, logistic regression was employed as the primary data analysis technique to examine the relationship between audit firm attributes and audit quality. Logistic regression is a powerful statistical method used to model the probability of a binary outcome based on one or more predictor variables. This technique is particularly suited for exploring relationships where the dependent variable is categorical and often binary.

### 3.5 Variable and Measurement

12	Table 1: Variables and Measurement							
S/N	Variables	Definition	Measurement	Authors				
1.	AQ	Audit Quality	Dichotomous variable for 1 firm audited by Big4, and 0 otherwise	Hundal, 2016				
2.	AF	Audit Fees paid to the firm	Natural log of total audit fees	Enofe et al., 2013; Adeniyi et al., 2013				
3.	AT	auditor tenure	1 if an auditor spends more than three years on the audit assignment otherwise 0	Enofe et al., 2013; Adeniyi et al., 2013; Babatolu et al., 2016				
4	AIS	Auditor Industry Specialization	1 if the auditor has industry specialization, 0 otherwise	Ananda and Faisal (2023)				

Source: Researcher's Compilation, 2024

### 4. Results and Discussions

In this section, the results are presented and discussed in light of the research findings. First, a set of descriptive statistics and correlation results are presented, followed by the logistic regression results.

**Table 2: Descriptive Statistics** 

Variables	Mean	Std. Dev.	Min	Max
$\mathbf{AQ}$	.4708333	.5001917	0	1
AT	.7875	.4116577	0	1
$\mathbf{AF}$	3.99544	.8642244	2.3483	5.7315
AIS	.2666667	.4446941	0	1
ACI	.2197918	.0825954	.166667	.5
FS	9.99319	.6850116	7.81954	10.9683

Source: STATA Output, 2024

Table 2 provides detailed descriptive statistics for the dependent and independent variables used in the study. For the dependent variable, Audit Quality (AQ), measured by whether the audit firm is one of the Big 4, the mean value is 0.4708 with a standard deviation

of 0.5002. This indicates that approximately 47.08% of the firms in the sample are audited by a Big 4 firm, with a standard deviation reflecting the variability in the proportion of such audits across the sample. Min 0 Max 1. This indicates that, on average, audit quality,

as determined by the involvement of Big Four audit firms, is around 47.08% across the dataset.

The results also show that Audit Tenure (AT), being a dichotomous variable, has a minimum value of 0 and a maximum value of 1. The average Audit Tenure is 0.7875, indicating that, on average, a substantial portion of the audit engagements in the dataset have a longer tenure. The standard deviation of 0.4117 reflects variability in Audit Tenure, suggesting that while some engagements have shorter tenures, others have longer tenures.

For Audit Fees (AF), the average fee is 3.9954, with a standard deviation of 0.8642. The minimum and maximum values for audit fees are 2.3483 and 5.7315, respectively. These statistics reveal that the average audit fee across the dataset is approximately 3.9954. The standard deviation indicates variability in audit fees, with some fees being significantly higher or lower than the average. The range from 2.3483 to 5.7315 highlights the diversity in audit fees observed, with some engagements incurring relatively lower fees while others are charged higher fees.

The mean value of Auditor Industry Specialization (AIS) is 0.2667, with a standard deviation of 0.4447. The minimum value is 0, and the maximum value is 1. This indicates that, on average, approximately 26.67% of the audit engagements in the dataset are conducted by auditors with industry specialization. The standard deviation reflects a considerable variability in industry specialization among the auditors, with some audits being performed by specialized auditors and others not.

The average Firm Size (FS) is 9.9932 billion Naira, with a standard deviation of 0.6850 billion Naira. The minimum firm size is 7.8195 billion Naira, and the maximum is 10.9683 billion Naira. This indicates that, on average, firms in the dataset have a size of approximately 9.9932 billion Naira. The standard deviation suggests that there is some variability in firm size, with a range from 7.8195 billion Naira to 10.9683 billion Naira, reflecting a broad spectrum of firm sizes within the dataset.

Table 3 Correlation Result							
Variables	AQ	AT	AF	AIS	FS		
AQ	1.0000						
AT	-0.15	1.0000					
AF	0.35	0.26	1.0000				
AIS	0.036	0.11	0.012	1.0000			
FS	0.251	-0.12	0.013	0.013	1.0000		

Source: STATA Output, 2024

The correlation coefficient of -0.15 indicates a weak negative relationship between Audit Tenure and Audit Quality. This suggests that longer audit engagements are associated with a slight decrease in audit quality. While the correlation is weak, it implies that extended audit tenures might be linked to less rigorous auditing practices, potentially due to reduced audit challenge or familiarity bias.

The correlation coefficient of 0.35 indicates a moderate positive relationship between Audit Fees and Audit Quality. This suggests that higher audit fees are associated with better audit quality. Firms that pay higher audit fees may benefit from more thorough and comprehensive audit services, which can enhance the overall quality of the audit.

The correlation coefficient of 0.036 reflects a very weak positive relationship between Auditor Industry Specialization and Audit Quality. This indicates that having an auditor with industry specialization has a minimal effect on audit quality in the dataset. Although the relationship is positive, it is not strong enough to significantly influence audit quality.

The correlation coefficient of 0.251 indicates a weak to moderate positive relationship between Firm Size and Audit Quality. This suggests that larger firms tend to have slightly higher audit quality. Larger firms may have more complex operations and financial transactions, which could lead to more rigorous audit procedures and, consequently, higher audit quality.

Table 4: Hosmer and Lemeshow's goodness-of-fit.

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S	tep	Chi-square				Sig	
1	3	Hosmer–Lemeshow 12.491	chi2(8)	=	1	Prob chi2 =	0.5010

The Hosmer-Lemeshow test results, with a chi-square value of 12.491 and a p-value of 0.5010, suggest that the logistic regression model fits the data well. The high p-value implies that the model's predicted

probabilities align closely with the observed outcomes, validating the model's adequacy for explaining the variation in the dependent variable.

**Table 5: Summary of Logistic Regression** 

Table 5. Summary of Logistic Regression						
	Odds Ratio	Std. Err.	Z	P> z		
AT	2707129	.0847846	-3.19	0.002		
$\mathbf{AF}$	.3869542	.1742462	2.22	0.030		
AIS	.0090978	.0208428	0.44	0.664		
FS	.0070586	.0023127	3.05	0.003		
Pseudo R2	51.790					
<b>LR</b> chi2(5)	=					
45.00						
Prob > chi2	=					
0.0007						

Source: STATA Output, 2024

The Pseudo R<sup>2</sup> value of 51.790 indicates that the logistic regression model, which includes independent variables such as audit tenure, audit fees, auditor industry specialization, and firm size, explains approximately 52% of the variation in audit quality among insurance companies in Nigeria. This measure provides insight into how well the model accounts for differences in audit quality based on the predictors included in the study.

The logistic regression model's fit is further evaluated using the likelihood-ratio (LR) chi-square statistic. In this study, the LR chi2(5) statistic is reported as 45.00, with a p-value of 0.007. This indicates that the model fits the data significantly well.

The logistic regression model in table reveals that audit tenure has a significant negative effect on audit quality of listed insurance companies in Nigeria. The odd ratio of -.2707129 and p-value of 0.003. The negative coefficient indicates that longer audit tenures are associated with a decrease in audit quality. In other words, as the duration of the auditor's engagement increases, the quality of the audit tends to decline. This could suggest that prolonged relationships between auditors and clients might lead to complacency or conflicts of interest, thereby impacting effectiveness and thoroughness of the audit. The observed negative effect of longer audit tenures on audit quality can be explained through Agency Theory. Prolonged auditor-client relationships might lead to complacency or conflicts of interest. Over time, auditors may become too familiar with the client's operations, potentially leading to a weakened ability to challenge and scrutinize the company's financial practices critically. This relationship can reduce the auditor's effectiveness and thoroughness, increasing the risk of biased or insufficient auditing.

The logistic regression in table further reveals that audit fees has a significant positive effect on audit quality of listed insurance companies in Nigeria. The odd ratio of .3869542 and p-value of 0.030. positive coefficient for audit fees indicates that higher audit fees are associated with improved audit quality. Specifically, as audit fees increase, the quality of the audit tends to improve. This suggests that higher fees may enable auditors to allocate more resources, time, and effort towards the audit process, thereby enhancing the thoroughness and accuracy of the audit. This finding suggests that increased audit fees enable auditors to enhance their audit processes, leading to more reliable and thorough audits for listed insurance companies in Nigeria. According to Agency Theory, the agent's compensation and incentives play a crucial role in aligning their interests with those of the principal. Higher audit fees can be seen as a way to enhance the auditor's motivation and capability to deliver high-quality audits. By providing adequate compensation, principals can incentivize auditors to allocate more resources, perform more thorough examinations, and avoid shortcuts that might compromise audit quality.

The logistic regression results indicate that auditor industry specialization has an insignificant positive effect on audit quality among listed insurance companies in Nigeria, with a p-value of 0.664 and a very small odds ratio of 0.0090978. This suggests that, in this context, industry specialization does not

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significantly influence audit quality, pointing to the need to focus on other factors such as audit fees and tenure to improve audit outcomes.

### 5. Conclusion and Recommendations

This study investigated the impact of audit firm attributes audit tenure, audit fees, and auditor industry specialization on audit quality among listed insurance companies in Nigeria. The results revealed a significant negative effect of audit tenure on audit suggesting that longer auditor-client quality, relationships may lead to complacency or conflicts of interest, reducing audit effectiveness. Conversely, a significant positive effect of audit fees on audit quality was found, indicating that higher fees allow auditors to allocate more resources and time, improving the thoroughness of the audit. However, the study found that auditor industry specialization had an insignificant effect on audit quality, suggesting that, in this context, its impact may not be substantial.

Based on the findings, the following recommendations are made:

To mitigate the risks associated with lengthy audit tenures, regulatory bodies and companies should consider implementing term limits for auditor appointments, reducing potential complacency and conflicts of interest to maintain audit objectivity. Additionally, companies should ensure audit fees are adequate to support the resources and expertise necessary for a thorough audit, as higher fees can motivate auditors to allocate more effort, enhancing audit quality. Given the minimal impact of auditor industry specialization observed in this study, further research across diverse sectors or contexts is recommended to better understand its potential influence on audit quality.

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