

An Econometric Appraisal of the Determinants of Audit Quality: A perspective on External Auditor Independence

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ABSTRACT

Ensuring the independence of external auditors is fundamental to achieving trustworthy and dependable audit reports. When auditors operate without bias, they present an honest view of an organization's finances, giving shareholders confidence that their assets are being used efficiently to create value. This research explores the factors influencing audit quality, with a primary focus on auditor independence. Employing an ex-post facto design, the study relied on secondary data extracted from the audited financial reports of 14 Deposit Money Banks (DMBs) listed on the Nigerian Stock Exchange. To ensure methodological rigor, dynamic panel regression analysis was utilized, as it offers advantages over traditional regression approaches. Additionally, the Hausman specification test was conducted to validate the selection of a fixed effects model. The findings revealed that when audit quality was evaluated through the lens of earnings management, factors such as audit firm rotation, financial leverage, and client size had significant impacts. However, when audit quality was assessed using the Big Four audit firm affiliation, variables like audit tenure, audit fees, non-audit services, and client size were positively linked to better audit quality. The research concludes that the variables influencing audit quality differ depending on the specific criteria used to define and measure it.

Keywords: *Audit Quality, Audit Rotation, Financial Leverage, Audit Tenure, Audit Fee, Non-Audit Service.*

Introduction

Heightened scrutiny over financial transparency has intensified global interest in audit quality, especially following high-profile accounting scandals that eroded trust in financial reporting. These controversies revealed a persistent disconnect between what stakeholders expect from auditors and the actual limitations of audit responsibilities commonly known as the "expectation gap. One commonly discussed factor is the length of time auditors remain engaged with a single client, as extended relationships are believed to potentially weaken auditors' objectivity and critical judgment. Although this issue has been widely examined, research results have been inconsistent. For instance, Almutairi et al. (2022) observed that longer auditor tenure might compromise independence, thereby elevating the likelihood of audit shortcomings due to excessive

familiarity. In contrast, Rahim and Ismail (2023) reported that prolonged auditor-client relationships could actually enhance audit quality, as auditors develop a deeper understanding of the client's operations and control systems. Supporting this nuanced view, Okolie (2022) argued that the effect of auditor tenure on audit outcomes may vary depending on the surrounding institutional framework and regulatory policies, especially within developing economies. Auditor independence is central to ensuring the credibility of financial audits. However, several factors may threaten this independence, including regulatory inefficiencies, financial incentives, and the provision of non-audit services to audit clients. In Nigeria and other jurisdictions, past audit failures have weakened investor trust and prompted institutional reforms aimed at bolstering both independence and audit performance

(Babatolu, Aigienohuwa, & Uniamikogbo, 2016). As a result, the banking sector has seen the introduction of stricter corporate governance codes and revised reserve requirements in efforts to restore public and investor confidence.

An auditor's independence refers to their ability to evaluate financial statements with impartiality and professional integrity. Nonetheless, this objectivity can be questioned when business interests or long-term relationships appear to influence judgment. One well-known example is the Enron debacle, where Arthur Andersen, the firm's auditor earned \$27 million from consulting services, a sum that surpassed the \$25 million received for audit work. The lack of clear boundaries between audit and non-audit functions compromised the credibility of Andersen's audit opinion (Buntara & Adhariani, 2019).

Recent literature also suggests that independence is just one of several variables influencing audit quality. Akintaju, Ojo, and Alawode (2023) identified additional factors such as audit firm affiliation with global networks (e.g., Big Four firms), audit fees, and engagement tenure. Although some researchers link prolonged engagements to biased auditing or earnings manipulation, other studies highlight the potential for improved audit quality over time. For example, while Emmanuel and Segun (2015), Wiyantoro and Usman (2018), Zvi and Jing (2018), and Muslim et al. (2020) associate long tenures with lower audit effectiveness, contrasting findings from Julia et al. (2018) and Buntara and Adhariani (2019) suggest positive audit outcomes under similar conditions.

The connection between audit fees and the quality of audits remains a subject of scholarly debate. Several studies (Sacid & Maryam, 2017; Onaolapo et al., 2017; Mohammed & Ibrahim, 2018; Tanzina et al., 2019) suggest that increased audit fees are associated with more thorough and stringent audit procedures. In contrast, others (Aliu et al., 2018; Gladness & Ester, 2020) caution that elevated fees may threaten auditor impartiality, particularly when fee dependency becomes significant. These conflicting perspectives underscore a lack of consensus, especially within the Nigerian banking sector. Moreover, to date, there appears to be no comprehensive empirical analysis focused exclusively on how audit fees relate to audit quality among all listed Deposit Money Banks (DMBs) in Nigeria.

Audit firm rotation has also attracted significant international attention. While some scholars

(Stakebrand, 2016; Leposo, 2019; Abata & Abuh, 2019) support periodic auditor changes to prevent familiarity risks and uphold independence, others such as Kriti, Bahaswa, and Abhishek (2019) found only a weak and statistically insignificant link between rotation and audit quality. The conflicting findings, along with a scarcity of region-specific studies in Nigeria, underscore the importance of conducting additional empirical research to clarify the effect of audit firm rotation on audit quality within the Nigerian banking sector.

The Enron scandal in the United States served as a pivotal event that led to extensive global reforms in auditing standards and regulations. In contrast, scholarly exploration of the link between corporate governance and audit quality in Nigeria is still gaining momentum. One prominent issue in this discourse is the engagement of audit firms in non-audit-related services. Researchers such as Nopmanee and Ling (2015), Betty and Yunsheng (2017), and Onulaka, Shubita, and Combs (2019) argue that these additional services may compromise auditor objectivity and contribute to a broader expectation gap between auditors and financial statement users. Conversely, Holland and Lane (2012) contend that non-audit services do not inherently diminish audit reliability. Echoing this view, Nicolas and Reiner (2021) found that the application of uniform audit fee structures could enhance audit quality.

Another important variable that may influence audit quality is the delay in issuing audit reports, commonly referred to as audit report lag. While extended reporting periods might reflect a more detailed and cautious audit process, they could also affect the relevance of financial information by making it less timely. At times, prolonged delays may signal underlying tensions or unresolved differences between auditors and a company's leadership, potentially prompting stakeholders to question the accuracy and openness of the firm's financial reporting. Despite the potential importance of this factor, research in Nigeria has rarely examined how audit report delays influence audit quality, making this an important gap that this study aims to address. In addition, Ojo (2022) identified other control variables such as company size, financial leverage, and board independence as factors that may indirectly affect audit outcomes. These variables are also included in the current study to provide a broader view of the elements shaping audit quality, particularly in connection with external auditor independence.

A review of existing literature shows that there is no single study that comprehensively investigates all listed Deposit Money Banks in Nigeria using a wide range of

audit quality indicators. Most previous research tends to focus on only one measure, such as earnings management, the number of audit staff, or membership in a Big Four firm. Unlike these earlier works, this study incorporates all three of these metrics to evaluate how auditor independence relates to audit quality. By addressing these gaps, the research contributes new empirical insights into the factors influencing audit quality within the Nigerian banking sector.

Literature Review

This section examines scholarly literature pertinent to the present research and is organized into three key parts: the conceptual review, the theoretical foundation, and the empirical review.

Conceptual Review

Determinant of Audit Quality

Auditors Independence

Auditor independence has been interpreted by researchers and professionals from various conceptual angles. According to Muhammad and Anwar (2015), it refers to the auditor's ability to exercise unbiased judgment and carry out audit responsibilities without being swayed by external factors. They caution that independence is compromised when auditors maintain personal relationships, such as family ties, with key personnel or stakeholders within the client organization. Such connections could interfere with the auditor's objectivity. In a related view, Onaolapo, Ajulo, and Onifade (2017) describe independence as a core principle that reinforces both ethical standards and professional capability within the auditing field.

Mohammed and Ibrahim (2018) further define independence as the mental neutrality that an auditor must uphold during the audit process. This neutrality allows the auditor to evaluate financial evidence and draw conclusions without bias. It reflects an internal mindset that enables objective analysis and honest reporting, which are vital for credible audits.

Abdullahi et al., (2020) highlight the importance of auditors in reducing the information gap often found in financial reporting. They argue that the cost of producing audited reports is far less than the potential consequences of relying on unaudited financial data. In the same line of thought, Gladness and Ester (2020) emphasize that auditors serve as independent validators of financial information, enhancing transparency and building trust in reported figures. The degree of

independence they maintain directly affects the value and acceptance of the audit by stakeholders.

Mohammed and Ibrahim (2018) also stress that both internal and external auditors must operate free from any financial entanglements or conflicting interests related to the client. Muslim, Syamsuri, and Muhammad (2020) support this by defining auditor independence as the capacity to remain impartial throughout the audit process, including during the evaluation and disclosure of financial information. This objectivity is essential in ensuring that auditors assess the client's records honestly and without compromise.

Reiterating this stance, Onaolapo, Ajulo, and Onifade (2017) argue that independence goes beyond neutrality; it requires a heightened sense of accountability and consistent application of professional skepticism. Auditors must detach themselves from the interests of clients and other external influences to assess financial statements with fairness and integrity. In doing so, they serve the broader public interest by providing reliable audit opinions grounded in fact rather than client preference.

The absence of true independence significantly weakens the audit process, making the auditor's judgment questionable in the eyes of users and investors. Mohammed and Ayoib (2016) observe that independence is fundamental to high audit quality and essential in sustaining users' confidence in financial reports. The degree of independence an auditor demonstrates directly influences how much users trust the audited statements. When independence is evident, stakeholders are more likely to rely on the reports for informed decision making. In contrast, compromised independence undermines the reliability and usefulness of financial disclosures.

Audit Report Lag (ARL)

Audit report lag is commonly recognized as a key indicator for evaluating auditor independence. The time lapse between the end of a firm's financial year and the publication of its audit report can indicate the level of auditor independence and the thoroughness of the audit process. This metric is essential for preserving the trustworthiness and efficiency of the auditing process. Chang and Yong (2015) describe the audit report as an independent evaluation and formal statement that reflects an auditor's opinion on an entity's financial performance, typically included in its annual report. The audit function is primarily intended to offer objective confirmation that the financial statements comply with

applicable standards, legal frameworks, and regulatory guidelines (Mohammed and Ayoib, 2016). As a result, the timeliness of releasing audited financial information has become increasingly vital for stakeholders, including investors, company executives, regulators, and both internal and external auditors.

According to Yakubu and Musa (2022) define audit report lag as the period between the conclusion of a firm's financial year and the point at which the auditor formally signs and releases the audit report. Within the realm of financial reporting, timeliness is regarded as a vital attribute that contributes significantly to the overall quality of the information presented. Stakeholders rely on up to date and dependable information to make informed economic decisions. When there are delays in making financial data available, its relevance and practical value may be diminished (Egbunike and Abiahu, 2017). Accounting literature has consistently stressed the importance of timeliness, reinforcing the need for financial information to be accessible when it can still influence decisions.

In the same context, Okoye and Uchenna (2022) define audit report lag as the time gap between the conclusion of a company's financial year and the official release of the auditor's report. Extending this idea, Bello and Sulaimon (2023) identify three major forms of audit report lag. The first, known as preliminary lag, refers to the period from the financial year end to the submission of unaudited financial statements to the stock exchange. The second, called signature lag, represents the interval from the end of the fiscal year to the date the auditor signs the report. The third, total lag, covers the entire timeframe from the year end to when the audited financial statements are officially filed with regulatory agencies. Generally, audit report lag, sometimes called audit delay, is widely recognized as a key indicator for measuring how efficient and timely the audit process is in delivering accurate financial information.

Audit Fee

Audit fees are often used as an indicator when evaluating the degree of auditor independence. According to Gladness and Ester (2020), these fees represent the payment auditors receive in exchange for examining and verifying a company's financial records. The amount charged typically reflects the scale and depth of the audit, as well as the potential legal exposure faced during the engagement. Muhammad and Anwar (2015) further explain that the pricing of audit services is shaped by multiple factors. Factors influencing this include the intricacy of the audit

assignment, the anticipated risk level, the reputation and trustworthiness of the auditing firm, the degree of specialized knowledge needed, and other technical aspects related to the audit engagement.

Auditor's Tenure

Auditor tenure describes the period usually measured in years, during which an audit firm maintains a continuous engagement with the same client. According to Melya and Friska (2017), this duration can vary from brief to extended terms. While a longer period of auditor engagement may enhance the auditor's knowledge of a client's internal operations and financial procedures, it can also compromise independence and reduce the level of critical scrutiny due to growing familiarity (Okoye and Uche, 2022). Conversely, shorter audit engagements might limit the auditor's understanding of the client's financial framework, potentially diminishing the depth and quality of the audit process.

Companies often change auditors for a variety of reasons, such as seeking lower audit costs. In some cases, new audit firms may offer reduced fees to attract new clients (Buntara and Adhariani, 2019). Wiyantoro and Usman (2018) define auditor tenure as the continuous service an audit firm provides to a client across multiple reporting years. Similarly, Aprilia, Zaki, and Aulia (2019) describe it as the cumulative number of years an auditor has examined the financial statements of a specific organization.

The purpose of financial reporting is to supply reliable and high quality information that supports users, such as investors and lenders, in making informed economic choices. As noted by Melya and Friska (2017), the trustworthiness of financial statements is essential for stakeholders when considering investment options, offering credit, or evaluating the financial health of a business.

Auditor's Rotation

The public accounting profession holds a significant position in the corporate sector by serving as an independent and skilled authority responsible for providing assurance services. One of its fundamental responsibilities involves carrying out financial statement audits, also referred to as general audits. The primary objective of these audits is to enhance the trustworthiness of financial statements by collecting sufficient and dependable evidence to determine if the reports are materially accurate and adhere to relevant accounting standards. Through this evaluation, public

accountants are able to form a professional judgment on whether the financial statements fairly reflect the organization's financial condition, performance, and cash flow for the specified reporting period (Astro, Taufiq, & Tertiarto, 2019).

To support professional ethics and maintain impartiality, public accountants are required to adhere to a code of conduct that includes periodically rotating the engagement partner and relevant audit team members assigned to a client's engagement (Abata and Abuh, 2019). This measure is intended to minimize the risk of overfamiliarity, which could affect the objectivity of the audit.

According to Leposo (2019), audit rotation involves changing the lead external auditor assigned to a company after a defined service period. In many regulatory systems, these rules apply specifically to the lead partner, requiring a replacement after serving for a limited time. Often, only this individual is rotated, while other members of the audit team may continue working with the same client. However, in certain instances, the replacement of the lead partner may prompt a complete switch in the audit firm, a process known as audit firm rotation.

Non-Audit Fee (NAF)

According to Hassan and Ezeani (2023), non audit fees are payments made by firms for professional services rendered by auditors that are unrelated to the statutory audit, including tax advisory, consulting, and other management support services. These services often involve hiring external experts or firms to provide strategic guidance to executives or to support the development and implementation of managerial decisions. Although internal staff may be capable of handling these functions, Caroline and Sofie (2016) observed that organizations frequently opt to contract external professionals for such assignments due to their specialized expertise.

Expanding on this concept, Nopmanee and Ling (2015) define non audit fees as the payments made to an audit firm for services that do not fall under the scope of statutory financial audits. These services may be provided not only to the main company but also to its subsidiaries or other affiliated entities, as long as they are unrelated to the independent examination of financial reports.

Audit Quality

An audit involves an objective assessment of a company's financial statements, carried out to determine

the extent to which the reported financial data accurately reflects the organization's true financial standing. This examination is designed to ensure the financial data presented is accurate and trustworthy (Zayol, Kukeng, and Iortule, 2017). As outlined by Pradipta and Zalusku (2020), audit quality is based on several foundational elements, including the auditor's capacity to recognize substantial misstatements, the probability that critical errors are not ignored without being addressed, the minimization of bias or intentional distortions, and the overall improvement in the dependability and usefulness of financial information.

Egbunike and Abiahu (2017) describe audit quality as the level to which the audit process generates precise and reliable financial reports for stakeholders such as investors, regulators, and management. The key aim of auditors is to support the development of financial reports that are free from material falsehoods and provide a credible reflection of a firm's financial status. Furthermore, Abdullahi and Okafor (2022) highlight that the standard of an audit is demonstrated through the auditor's ability to identify and disclose significant errors or inconsistencies in the financial statements, which in turn strengthens the trustworthiness of financial reporting. This concept has become increasingly critical in recent years, particularly following the failures of major corporations like Enron and Lehman Brothers, which exposed serious deficiencies in auditing standards and practices.

Measurement of Audit Quality

BIG 4

The phrase "Big Four" is commonly used to describe the four largest international professional service networks: Ernst and Young, Deloitte, KPMG, and PricewaterhouseCoopers. These firms are often grouped together because they operate on a similar scale in terms of global revenue, workforce size, and the breadth of services they offer. They are highly respected within the accounting and auditing fields and are frequently regarded as top employers for individuals pursuing careers in auditing, tax advisory, and consulting. This reputation is reinforced by their consistent efforts in recruiting and training professionals.

These firms offer a wide spectrum of services, including financial auditing, assurance, tax planning, management consulting, actuarial analysis, legal advisory, and corporate finance. Collectively, they dominate the global audit market, particularly by handling the majority of audits for publicly listed corporations as

well as many private companies. Their widespread influence and high volume of audit assignments place them at the center of discussions surrounding audit quality and industry standards.

Earnings Management

A company's earnings are widely recognized as a vital indicator of its financial performance. As such, it is not surprising that management closely monitors how these earnings are reported. In this context, it becomes increasingly important for corporate leaders to fully grasp the consequences of accounting choices, as these decisions directly impact how financial outcomes are presented. This understanding can give rise to a practice commonly referred to as earnings management, where executives intentionally influence the way financial results appear (Trimisiu, Wasiu, Peter, and Festus, 2020).

In recent years, concerns about the independence of auditors have intensified, particularly among users of financial reports. Key stakeholders including investors, regulatory bodies, lenders, and government institutions, have expressed unease over the growing reliance on earnings management within corporate reporting practices. Jacqueline and Denny (2021) describe earnings management as a collection of legitimate and acceptable managerial actions and reporting techniques aimed at delivering stable and predictable financial figures. On the other hand, Ching Chieh (2020) interprets it as a deliberate adjustment of the financial reporting process by management, often employed to achieve certain private gains or fulfill specific organizational goals.

Size of Audit Firm

The size of an audit firm significantly influences the extent to which an auditor can uphold independence during engagements. According to Bassy, Uni, Olatunbosun, Asi, and Emmanuel (2020), larger audit firms tend to exhibit greater resistance to pressure from clients than smaller firms. This ability to remain impartial is often linked to their broad client portfolios, strong financial standing, and well established reputations, which they are generally unwilling to risk by compromising professional standards. On the other hand, smaller audit firms, which typically operate with fewer clients, may be more susceptible to conflicts of interest. In efforts to preserve their limited revenue streams, these firms might face difficulties in maintaining strict audit independence.

Other variables influencing audit Quality

Audit Client Firm Size

Sabo and Alfred (2020) define firm size as the overall extent of a company's ability to produce goods or deliver services across its target market at the same time. Although the effect of firm size on performance outcomes can be somewhat unclear, Bambang, Kevin, and Christy (2019) contend that larger firms generally benefit from broader diversification, increased operational efficiency through economies of scale, and access to more substantial resources than smaller enterprises. These advantages often position them to perform more competitively within their industries.

Board Independence

According to Rahmansyah et al. (2021), a board refers to a collective of individuals who contribute their skills and resources to help an organization achieve its objectives. Within the corporate setting, this body typically includes both executive and non-executive members who collaborate to shape and guide the organization's strategic direction. Tamrat (2015) identifies this governing entity as the board of directors, highlighting its essential role in appointing top-level management and supervising the company's operations. A key duty of the board is to oversee the preparation and accurate disclosure of the organization's financial reports.

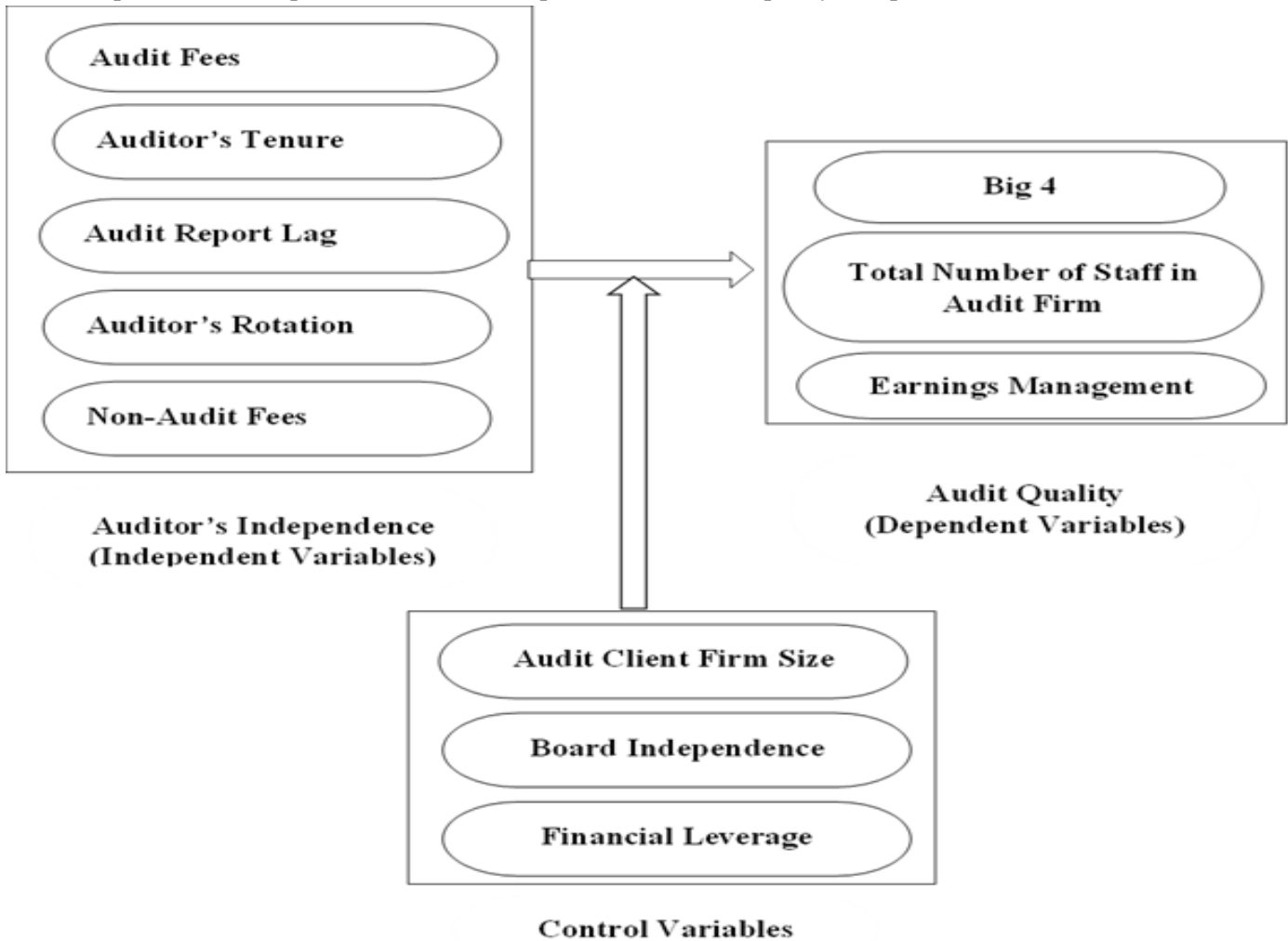
Financial leverage

Financial leverage refers to a firm's strategy of enhancing its earnings per share (EPS) by utilizing fixed financial commitments, such as interest expenses, to finance its operations. When a firm operates without fixed-cost financial instruments, fluctuations in earnings before interest and tax (EBIT) directly influence its EPS, indicating the presence or absence of leverage (Kenny et al., 2019). Through financial leverage, firms can magnify their profitability at the EBIT level, thereby boosting EPS (Trimisiu et al., 2020).

Leverage is typically assessed by examining the proportion of debt in a firm's capital structure. This is often measured using financial ratios such as the long-term debt-to-fixed asset ratio or the total liabilities-to-total assets ratio. Companies with a higher reliance on debt financing are generally exposed to increased agency costs due to the elevated risk associated with their capital structure.

Conceptual Framework of the Study

The conceptual relationship between auditor independence and audit quality is depicted below:



Source: Researcher's Design, 2025.

Theoretical Framework

This research is anchored in Stakeholder Theory, which provides a comprehensive framework for understanding the diverse groups and individuals that organizations must consider when making decisions. Stakeholders extend beyond just shareholders, employees, and managers to include auditors, customers, investors, and government regulators. At its foundation, the theory proposes that companies are interconnected with various external and internal parties whose interests are influenced by, or exert influence on, corporate behavior. As a result, managers are expected to balance these competing interests in a way that fosters long term organizational success and value creation.

Stakeholder Theory rests on three primary dimensions: its ability to accurately describe corporate relationships, its usefulness in guiding performance, and its ethical grounding. Descriptively, it captures how firms interact with their stakeholders in real settings. Instrumentally, it highlights that incorporating stakeholder concerns can

contribute to achieving business objectives (Ogbeifun and Olorunsola, 2020). Normatively, the theory provides ethical guidance for managerial conduct. However, despite its broad relevance, many stakeholders who are not directly involved in financial matters often lack awareness of their roles within the organization.

Ojo (2023) argues that multiple elements shape stakeholder participation in efforts to enhance audit quality, with auditor independence being the most prominent. Other influential factors include the length of auditor engagement, the rotation of audit firms, board oversight, financial leverage, and the scale of the auditing firm. Supporting this, Samantha (2019) asserts that firms should be governed not solely to serve shareholders, but to create value for all relevant stakeholders. This approach calls for greater attention to the interests of non financial stakeholders while ensuring that financial disclosures meet the expectations of users who rely on such information for decision making.

Empirical Review

Primadita et al. (2021) carried out a study in Indonesia aimed at exploring whether auditor specialization could help reduce information asymmetry between companies and users of financial information. Using regression techniques to analyze financial statements from firms listed on the Indonesia Stock Exchange, the researchers discovered that longer auditor engagement, particularly during the early years of service, contributed to reduced information asymmetry. However, once the relationship extended beyond approximately eight years, the closeness between the auditor and client appeared to compromise auditor objectivity. Based on this, the authors recommended that audit firms be rotated after this period to help maintain professional independence and audit quality.

In a similar study, Carp and Istrate (2021) examined the impact of both auditor attributes and client firm features on the quality of audits conducted for publicly traded companies in Romania between 2007 and 2019. Discretionary accruals served as the measure for audit quality, and multiple regression analysis was employed. The study revealed that affiliation with one of the Big Four firms was associated with a rise in discretionary accruals, implying a potential reduction in audit quality. Moreover, the shift to International Financial Reporting Standards did not produce a notable change in audit quality. Although this research shares a focus on audit quality with the present study, it differs in terms of geographical coverage, as it was conducted in Romania while the current study focuses on Nigeria.

Martani et al., (2021) conducted a study in Indonesia focusing on how auditor tenure and audit firm rotation influence audit quality. Using regression analysis, they found that the duration of an auditor's engagement with a client did not significantly affect audit quality. However, changing audit firms had a positive effect on audit quality, particularly in organizations not audited by Big Four firms. In contrast, for companies using Big Four auditors, rotating audit partners within the same firm was deemed sufficient to maintain high-quality audits, thanks to the firms' broad pool of skilled professionals capable of ensuring internal quality control.

Results Findings

Table 1: Descriptive Statistics

Variables	Obs	Mean	Standard Deviation	Minimum	Maximum
TNE	280	25.5893	4.353	15	34

Methodology

This study explored the determinants of audit quality among listed Deposit Money Banks (DMBs) in Nigeria. An ex-post facto research design was adopted, appropriate for analyzing existing, non-manipulable quantitative data. The design aligns with the retrospective nature of the data, which spanned a 20-year period and was obtained from audited financial statements of listed DMBs. The study population comprised all 21 licensed DMBs in Nigeria as per the 2020 Central Bank of Nigeria Statistical Bulletin. A purposive sampling method was applied to select the 14 DMBs listed on the Nigerian Stock Exchange. These banks were selected due to their publicly available financial reports. Descriptive statistics and dynamic panel regression were used to analyze the data. Two audit quality proxies, Big 4 affiliation (BIG-4) and Earnings Management (EAM), were used as dependent variables. Independent variables included Audit Tenure (AUT), measured as a binary indicator of audit relationships exceeding three years; Audit Fee (AUF), the natural log of audit fees; Audit Firm Rotation (AUR), measured as a binary variable; Non-Audit Service Fees (ASF), using the log of consultancy fees; and Audit Report Lag (AUL), measured in days. Control variables were Board Independence (BOI), Financial Leverage (FIL), and Audit Client Firm Size (ACS). These variables were selected based on prior studies and empirical relevance (e.g., Babatolu et al., 2016; Chang & Yong, 2015; Nwafor & Amahalu, 2021), and a-priori expectations regarding their directional impact on audit quality were also considered.

The models are represented as:

- Model I: $BIG - 4_{it} = \beta_0 + \beta_1 AUT_{it} + \beta_2 AUF_{it} + \beta_3 AUR_{it} + \beta_4 ASF_{it} + \beta_5 AUL_{it} + \beta_6 BOI_{it} + \beta_7 FIL_{it} + \beta_8 ACS_{it} + \epsilon_{it}$
- Model II: $EAM_{it} = \log_{it}^{-1}(\beta_0 + \beta_1 AUT_{it} + \beta_2 AUF_{it} + \beta_3 AUR_{it} + \beta_4 ASF_{it} + \beta_5 AUL_{it} + \beta_6 BOI_{it} + \beta_7 FIL_{it} + \beta_8 ACS_{it} + \epsilon_{it})$

Each variable was defined in panel format, denoted by subscript *it* (firm *i* at time *t*).

BIG 4	280	0.5678571	.496261	0	1
EAM	280	0.6691071	0.5267554	0.21	5.89
AUT	280	0.5642857	0.496738	0	1
AUF	280	7.236621	0.190885	6.798	7.5358
AUR	280	0.775	0.41833	0	1
ASF	280	6.877843	0.2183931	6.053	7.278
AUL	280	151.293	22.2933	110	194
BOI	280	0.6438214	0.153728	0	0.91
FIL	280	17.333	12.725	1.95	101.44
ACS	280	7.22878	0.9214054	3.371	9.07

Source: Author's computation, 2024.

The descriptive statistics, as presented in Table 1, are based on a balanced panel dataset comprising 280 observations, drawn from 14 listed Deposit Money Banks (DMBs) in Nigeria over a 20-year period. This means data was consistently available for all banks across all years, enhancing the robustness and reliability of the analysis.

Audit quality, measured by BIG-4, has a mean of 0.57, indicating that in 57% of the bank-year observations, the audit was conducted by one of the Big 4 audit firms. Earnings management (EAM), used as a second proxy for audit quality, has an average of 0.67, with values ranging from 0.21 to 5.89, showing considerable variation in discretionary accruals across banks.

Audit tenure (AUT) and audit firm rotation (AUR) have means of 0.56 and 0.78 respectively, suggesting that more than half of the banks retained the same auditor for at least three years, while 78% underwent auditor rotation during the period. Audit fees (AUF) and non-audit service fees (ASF), both log-transformed, show minimal dispersion.

The average audit report lag (AUL) is 151 days. Board independence (BOI) averages 64%, while financial leverage (FIL) shows a wide range, with a mean of 17.33. Firm size (ACS) also shows moderate variation, with a mean log asset value of 7.23.

Model I: Analysis of the Determinants of Audit Quality of Deposit Money Banks in Nigeria (using Earning Management).

Table 2 Results of Regression Estimate and Diagnostic Tests of model II

Dependent Variable: EAM

<i>Variable</i>	<i>Pooled OLS</i>	<i>Fe</i>	<i>Re</i>	<i>Fgls</i>
AUT	.0833398 (.0646094)	.0560892 (.0621976)	.0639459 (.0622661)	.0000862 (.0423126)
AUF	-.4329654** (.2019446)	-.1709601 (.2168133)	-.3010238*** (.1193925)	-.0643765 (.159237)
AUR	-.0213934 (.0779018)	.1160562 (.0729547)	.072069 (.0736475)	-.06349*** (.0620048)
ASF	.0729511 (.1725164)	-.361305** (.058373)	-.1838595 (.1808972)	-.0671872 (.0977181)
AUL	-.0002604 (.0014475)	.0024992* (.0013249)	.0016104 (.001349)	.00035 (.0006019)
BOI	-.3732346*** (.2169859)	.3013451 (.209769)	.072658 (.2096828)	.0658448 (.1206164)
FIL	-.0029155	-.0051834	-.0044416***	-.0017534***

<i>Variable</i>	<i>Pooled OLS</i>	<i>Fe</i>	<i>Re</i>	<i>Fgls</i>
	(.0005222)	(.0024009)	(.0004121)	(.0004663)
ACS	-.0447773*** (.015277)	-.0933961 (.0351464)	-.0738561** (.0348444)	-.0293091*** (.0034081)
Constant	3.924039*** (1.286913)	4.462542*** (1.216385)	4.340582*** (1.229328)	1.646805** (.0229285)
Observations	280	280	280	280
R-squared	0.4520	0.5069	0.6236	–
Adjusted R-squared	0.3240	0.4962	0.5885	–
F-Statistic	F(8,271) = 1.86	F(8,256) = 33.43	–	–
Prob > F	0.000	0.009	–	–
Wald Chi-square	–	–	$\chi^2(8) = 18.49$	$\chi^2(8) = 46.05$
Prob > Chi-square	–	–	0.0178	0.0000
Pesaran CD Test	–	0.516 (p = 0.6043)	–	–
Hausman Test	–	$\chi^2(8) = 19.04$	–	–
Prob > Hausman Chi-square	–	0.0146	–	–
Breusch-Pagan LM Test	–	–	$\chi^2(1) = 96.50$ (p = 0.0000)	–
Modified Wald Test for Heteroskedasticity	–	$\chi^2(14) = 1835.32$ (p = 0.0000)	–	–
Wooldridge Test for Autocorrelation	–	F(1,13) = 149.127 (p = 0.0000)	–	AR(1) = 0.6014

Source: Author's Computation, 2024 Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

To identify the appropriate estimation method for examining the factors influencing audit quality in Deposit Money Banks operating in Nigeria, the Hausman test was employed. The test yielded a chi square value of 19.04 and a p value of 0.0146, indicating statistical significance at the 5 percent threshold. This outcome favors the use of the Fixed Effects model instead of the Random Effects model, as it suggests that the explanatory variables are associated with unobserved individual-specific characteristics, making the Fixed Effects approach more dependable and accurate for the analysis.

While the Breusch-Pagan Lagrangian Multiplier (LM) test yielded a chi-square value of 96.50 (p = 0.000), suggesting that the RE model is superior to pooled OLS, the significant Hausman result takes precedence. Additional diagnostics revealed no cross-sectional dependence based on the Pesaran CD test (p = 0.6043), but the Modified Wald test detected heteroskedasticity ($\chi^2 = 1835.32$, p = 0.000). These findings justified the

use of Feasible Generalized Least Squares (FGLS) for robustness.

The FGLS regression results showed that Audit Tenure (AUT) had a positive but insignificant effect on audit quality (coefficient = 0.00009, p > 0.05), while Audit Report Lag (AUL) and Board Independence (BOI) also had positive but statistically insignificant effects. Conversely, Audit Fee (AUF) had a negative coefficient of –0.0644, while Audit Firm Rotation (AUR) had a significant negative effect of –0.0635 (p < 0.01), suggesting that frequent auditor changes may reduce earnings management.

Similarly, Financial Leverage (FIL) (–0.00175, p < 0.01) and Audit Client Size (ACS) (–0.0293, p < 0.01) were both negatively and significantly related to earnings management. The overall model was statistically significant with a Wald chi-square value of 46.05 and p = 0.000, confirming its explanatory strength.

Model II: Analysis of the determinant of audit of Deposit Money Banks in Nigeria (BIG 4).

Table 3: Logistic Regression Result

Series:BIG4 AUT AUF AUR ASF AUL BOI FIL ACS

<i>Variable</i>	<i>Odds Ratio</i>	<i>Std Error</i>	<i>Z-Score</i>	<i>Probability</i>
AUT	7.66066	6.871893	2.27	0.023

AUF	1.70e+17	1.27e+18	5.31	0.000
AUR	.5063464	.5735918	0.60	0.548
ASF	93.72997	212.666	2.00	0.045
AUL	.9745872	.0169993	1.48	0.140
BOI	2.268211	5.816336	0.32	0.749
FIL	1.07128	.0606324	1.22	0.224
ACS	3.176535	1.530415	2.40	0.016
Constant	8.3e-142	5.2e-140	5.21	0.000
Pseudo R-square	0.8462			
LR chi2(8)	324.08			
Prob > chi2	0.0000			

Source: Author's Computation (2021).

Table 3 presents the results of the logistic regression analysis examining the determinants of audit quality, proxied by whether a Deposit Money Bank in Nigeria is audited by a Big 4 audit firm (Deloitte, PwC, EY, or KPMG). The model includes several explanatory variables: AUT, AUF, AUR, ASF, AUL, BOI, FIL, and ACS. The model's overall fitness is confirmed by a Likelihood Ratio (LR) chi-square of 324.08 ($p = 0.000$) and a pseudo R^2 of 0.8462, indicating that the model explains a substantial proportion (84.6%) of the variation in Big 4 audit selection. Among the significant predictors, audit tenure (AUT) has a strong and statistically significant positive effect (odds ratio = 7.66, $p = 0.023$), suggesting that banks with longer auditor relationships are more likely to be audited by Big 4 firms. Audit fee (AUF) also shows a remarkably large

and significant effect (odds ratio = 1.70e+17, $p = 0.000$), indicating that higher-paying audit engagements are strongly associated with Big 4 selection.

Non-audit service fees (ASF) positively influence Big 4 audit selection (odds ratio = 93.73, $p = 0.045$), possibly reflecting that banks willing to pay for broader services prefer premium auditors. Audit client size (ACS) also has a positive and significant effect (odds ratio = 3.18, $p = 0.016$), showing that larger banks are more likely to engage Big 4 firms.

However, audit firm rotation (AUR), audit lag (AUL), board independence (BOI), and financial leverage (FIL) were statistically insignificant, implying they do not significantly influence Big 4 audit engagement decisions in this context.

Table 4: Diagnostic Test

Null Hypothesis	Test Method	F-statistics	Probability
No Normality	Jarque-Bera	0.362	0.472
No serial correlation	Breusch-Godfrey	0.751	0.325
No conditional heteroskedastic	White (Chi-Square)	0.587	0.215

Source: Data Analysis (2022)

Table 4 displays the outcomes of diagnostic tests used to assess the validity of the regression model assumptions. The Jarque-Bera normality test produced an F-statistic of 0.362 with a p-value of 0.472, indicating that the residuals follow a normal distribution, as the null hypothesis could not be rejected. The Breusch-Godfrey serial correlation test yielded an F-statistic of 0.751 and a p-value of 0.325, suggesting no presence of autocorrelation in the residuals. Additionally, the White test for heteroskedasticity resulted in a Chi-square value of 0.587 and a p-value of 0.215, indicating that the homoskedasticity assumption is upheld, with no signs of conditional heteroskedasticity. Given that all p-values exceed the

0.05 significance threshold, the model meets essential diagnostic requirements, confirming that the regression results are stable, dependable, and appropriate for making theoretical and policy-related conclusions.

Conclusions

Based on the empirical findings, this study concludes that certain audit-related factors significantly influence audit quality among Deposit Money Banks (DMBs) in Nigeria. Specifically, audit tenure, audit fees, non-audit service fees, and audit client size were identified as significant determinants of audit quality, particularly when proxied by Big 4 audit firm engagement and reduced earnings management. The results suggest that

longer auditor-client relationships and higher audit investment enhance the likelihood of engaging top-tier auditors. Additionally, larger firms tend to adopt higher-quality audits, possibly due to greater regulatory scrutiny and public accountability. The logistic and panel regression models were validated through various diagnostic tests, confirming normality, absence of serial correlation, and homoskedasticity. These outcomes provide robust evidence supporting the role of auditor characteristics and firm-specific controls in shaping audit quality. The study underscores the importance of strengthening audit policies to improve transparency and investor confidence in the Nigerian banking sector.

Recommendations

The following recommendations are made.

- Regulatory authorities should promote stable auditor-client relationships to enhance audit effectiveness and institutional familiarity.
- Quoted banks must ensure that external auditors maintain full independence when performing statutory duties, free from management influence or vested interests.
- External auditors should focus solely on audit assignments to avoid conflicts of interest and preserve objectivity.
- External auditors must recognize the boundaries of their authority and consistently apply professional ethics, ensuring audit quality is not compromised by undue pressure or misjudgement.

References

1. Abata, M. A. & Abuh, E. J. (2019). A cross-sectional investigation of the nexus between audit rotation and audit quality: evidence from Nigerian listed manufacturing firms. *International Journal of Academic Accounting, Finance & Management Research*, 3(5), 64-69
2. Abdullahi, A. M., & Okafor, C. A. (2022). Audit quality and financial reporting credibility: Evidence from listed firms in Nigeria. *African Journal of Accounting and Financial Research*, 15(2), 101-115.
3. Abdullahi, B. A., Norfadzilah, R., Umar, A. M. & Lateef, S. A. (2020). The impact of audit quality on the financial performance of listed companies Nigeria. *Journal of Critical Reviews*, 7(9), 37-42.
4. Adekunle, B.O., & Ogunmakinwa, M. (2022). Auditors Independence and earning management. *Jabu Journal of Management Sciences*, 12(8), 45-73.
5. Akintaju, A.S., Ojo, O.O., & Alawode, A.S. (2023). Determinants of earnings management. *Oasis Journal of Management and Accounting*, 12(6), 45-66.
6. Almutairi, A. R., Alfraih, M. M., & Almutairi, H. M. (2022). Auditor tenure and audit quality: Evidence from an emerging market. *Journal of Accounting in Emerging Economies*, 12(1), 87-103.
7. Aprilia, P., Zaki, B. & Aulia F. R. (2019). The effect of audit competence, independence, and professional skepticism on audit quality with auditor's ethics as moderation variables. *International Journal of Business, Economics and Law*, 18(5), 135-144
8. Astro Y. K., Taufiq M. & Tertiarito W. (2019). The effect of competence, experience, independence, due professional care, and auditor integrity on audit quality with auditor ethics as moderating variable. *Journal of Accounting, Finance and Auditing Studies*, 5(1), 80-99.
9. Babatolu, A. T., Aigienohuwa, O. O., & Uniamikogbo, E. (2016). Auditor's independence and audit quality: a study of selected Deposit Money Banks in Nigeria. *International Journal of Finance and Accounting*, 5(1)1, 3-21
10. Bassy, B. E., Uni, O. E., Olatunbosun, A., Asi, E. U., & Emmanuel, A. S. (2020). Auditors Independence and Audit Quality in Nigeria. *Journal of Critical Review*, 17(7), 624-635.
11. Bello, A. O., & Sulaimon, A. A. (2023). Corporate governance attributes and audit report lag: Evidence from Nigeria. *Journal of Contemporary Accounting Research*, 5(1), 22-35.
12. Betty C. & Yunsheng, H. (2017). Non-audit services and audit quality; the effect of Sarbanes-Oxley Act. *Asia Pacific Management Review*, 2(3), 201-208.
13. Buntara, A. A. & Adhariani, D. (2019). Audit tenure and audit quality: the renewal sense of
14. Carp, M. & Istrate, C. (2021). Audit quality under influences of audit firm and auditee characteristics: evidence from the Romanian regulated market. *Sustainability*, 13, 6924.
15. Ching, H. Y. & Gerab, F. (2017). Sustainability reports in Brazil through the lens of signaling,

- legitimacy and stakeholder theories. *Social Responsibility Journal*, 1(3), 95–110
- a. comfort? *Australasian Accounting, Business and Finance Journal*, 13(4), 46-62.
16. Emmanuel, I. O. & Segun, I. A. (2015). The effect of audit tenure and non – audit services on auditors’ negligence: a study of Nigeria. *International Journal of Accounting Research*, 2(8), 21-28.
 17. Gladness, L. M. & Ester, A. (2020). Audit quality and firm performance: evidence from Botswana and Uganda. *Journal of Accounting, Finance and Auditing Studies*, 6(4), 79-95.
 18. Hassan, M. Y., & Ezeani, S. I. (2023). Non audit services and auditor independence: Evidence from listed companies in Nigeria. *Journal of Contemporary Accounting and Governance*, 6(1), 34–47.
 19. Holland, K. & Lane, J., (2012). Perceived auditor independence and audit firm fees. *Accounting and Business Research*, 42(2), 115-141
 20. Julia, S. E., Adam, M. & Tjandrakirana, R. (2018). The influence of audit rotation, audit tenure and workload on audit quality at consumer goods sector manufacturing companies listed in Indonesia Stock Exchange. *Sriwijaya Economics, Accounting, and Business Conference*, 258-266.
 21. Kriti Bahaswa, S. & Abhishek, S. (2019). Impact of audit firm rotation on audit quality: evidence from Bhutan. *International Journal of Recent Technology and Engineering*, 2(3), 21-29.
 22. Leposo, M. N. (2019). *Effect of auditor’s rotation on audit quality of commercial banks in Kenya*. A thesis submitted to the University of Nairobi. 1-57.
 23. Listya, A. & Siregar, M. I. (2020). Audit rotation and audit fee determination policy on audit quality with lowballing audit practice as the intervening variable. *Jurnal Akuntansi, Keuangan, dan Manajemen*, 2(1), 71-82.
 24. Martani, D., Rahmah, N. A., Fitriany, F. & Anggraita, V. (2021). Impact of audit tenure and audit rotation on the audit quality: Big 4 vs non big 4. *Cogent Economics & Finance* 2(1) 1-20.
 25. Mohammed, I. A., & Ayoib, C. A. (2016). Effects of board size, board committee characteristics and audit quality on audit report lags. *International Soft Science Conference*, 10(1), 811-818.
 26. Mohammed. I. & Ibrahim, A. (2018). Impact of audit fees on audit quality of conglomerates companies in Nigeria. *International Journal of Service Science, Management and Engineering*, 5(1), 1-8.
 27. Muslim, A., Syamsuri, R, & Muhammad, F. A. P. (2020). Client pressures, audit tenure to audit quality: moderation of auditor independence. *Journal of Auditing, Finance and Forensic Accounting*, 8(2), 67-75.
 28. Nicolas P. & Reiner Q. (2021). The effect of pure audit firms, non-provision of non-audit services to audit clients, and a statutory fee schedule on audit quality perceptions
 29. Nopmanee T. & Ling L. (2015). Auditor independence and audit quality: a literature review. *Journal of Accounting, Auditing & Finance*, 30(1) 101–121.
 30. Odia, J. O. (2015). Auditor tenure, auditor rotation and audit quality- a review. *European Journal of Accounting, Auditing and Finance Research*, 3(10), 76-96.
 31. Ogbeifun, I. E., & Olorunsola, F. F. (2020). Audit quality and financial performance in quoted consumer goods companies in Nigeria. *International Journal of Current Research*, 12(05), 11468-11474.
 32. Ogunbanjo, A.S.(2023). The effect of external auditor independence on quality of audit report. *International Journal of Social and Management Sciences*, 15(6), 67-90.
 33. Ojo, O.O. (2022). External Auditors Characteristics and audit report quality. *International Journal of Accounting and Social Sciences*, 12(7), 56-86.
 34. Okolie, A. O. (2022). Auditor independence, tenure and audit quality in Nigeria: A regulatory perspective. *International Journal of Accounting and Financial Reporting*, 12(2), 142–158.
 35. Okoye, E. I., & Uchenna, E. (2022). Determinants of audit report lag in Nigerian quoted companies. *Journal of Accounting and Taxation*, 14(3), 48–60. <https://doi.org/10.5897/JAT2022.0520>
 36. Onaolapo, A. A., Ajulo, O. B. & Onifade, H. O. (2017). Effect of audit fees on audit quality: evidence from cement manufacturing

- companies in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 5(1), 6-17.
37. Onulaka, P., Shubita, M & Combs, A (2019) Non-audit fees and auditor independence: Nigerian evidence. *Managerial Auditing Journal*, 34(8), 1029-1049.
 38. Pradipta, A; Zalukhu, A.G. (2020). Audit report lag: specialized auditor and corporate governance. *Global J. Bus. Soc. Sci. Review* 8(1): 41 – 48.
 39. Primadita, I., Fitriany, F. & Kiantara, R. F. (2021). The effect of audit tenure on information asymmetry: investigating the role of auditors in achieving a more transparent organization (target 16.6 SDGs). *Journal of Environmental Science and Sustainable Development Symposium*, 7(1), 21-46.
 40. Rahim, R. A., & Ismail, W. A. W. (2023). Auditor-client familiarity and audit quality: Evidence from ASEAN countries. *Asian Journal of Business and Accounting*, 16(1), 55–74.
 41. Sabo, A., & Alfred, A. K. (2020). econometric appraisal of auditors' independent characteristics and audit quality of Deposit Money Banks in Nigeria. *International Journal of Advanced Academic Research*, 6(10), 66-81.
 42. Saeid, H. & Maryam, H. (2017). Audit fee and audit quality: an empirical analysis in family firms. *International Journal of Economics and Financial Issues*, 7(2), 469-476.
 43. Samantha M. (2019). *Stakeholder Theory and Accounting*. The Cambridge Handbook of Stakeholder Theory edited by Jeffrey S. Harrison, Jay B. Barney, R. Edward Freeman, Robert A. Phillips. Chapter 11, 173-188
 44. Sattar, U., Javeed, S. A. & Latief, R. (2020). How audit quality affects the firm performance with the moderating role of the product market competition: Empirical evidence from Pakistani manufacturing firms. *Sustainability, MDPI*.
 45. Spence, M. (1973). Job Market signaling. *Quarterly Journal of Economics*, 87(3), 355-374
 46. Stakebrand, B. (2016). *Auditor rotation and audit quality in Europe*. A thesis submitted to the Radboud University Nijmegen. 1-51.
 47. Stan T. V. (2018). How audit quality is determined in practice. *Unpublished master's thesis*
 48. Tamrat, A. (2015). Audit Fee Determinants and Audit Quality in Ethiopian Commercial Banks. *Electronic Journal of Boundary Elements*, 5(2), 160-186.
 49. Tanzina, H., Sadia, A. 7 Fatema, T. Z. (2019). Impact of corporate governance on audit fees and audit quality: a study in the insurance industry of Bangladesh. *The Cost and Management*, 47(2), 1-11
 50. Velte, P., & Loy, T. (2018). The impact of auditor rotation, audit firm rotation and non-audit services on earnings quality, audit quality and investor perceptions: a literature review. *Journal of Governance & Regulation*, 7(2), 74-90.
 51. Weichieh, S. M., Peng. W., Weiqiang, T. & Yan-Leung, C. (2014). The signaling effect of corporate social responsibility in emerging economies. *Journal of Business Ethics*, 2(1), 1-16.
 52. Wiyantoro, L.S. & Usman, F. (2018). Audit tenure and quality to audit report lag in banking. *European Research Studies Journal*, 21(3), 417-428.
 53. Yakubu, U. M., & Musa, S. A. (2022). Determinants of audit report lag in listed non-financial firms in Nigeria. *International Journal of Accounting and Finance (IJAF)*, 11(1), 45–59.
 54. Yuvaraj G., Ranjani N., Hasnah H. & Anwar A. P. (2019). Does audit fees and non-audit fees matters in audit quality? in FGIC 2nd Conference on Governance and Integrity 2019, KnE Social Sciences, 1074–1083.
 55. Zayol, P. I., Kukeng, V. & Iortule, M. (2017). Effect of auditor independence on audit quality: a review of literature. *International Journal of Business and Management Invention*, 2319 – 2328
 56. Zvi, S. & Jing, Z. (2018). Auditor tenure and the timeliness of misstatement discovery. *The Accounting Review*, 93(2), 315-338.