



INTERNAL AUDITING AND FINANCIAL PERFORMANCE OF LISTED INSURANCE FIRMS IN NIGERIA

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Abstract

Despite growing pressure from stakeholders for greater transparency, many insurance firms struggle to integrate internal auditing into their decision-making processes. This study therefore examined the effect of internal auditing on financial performance of listed insurance firms in Nigeria with specific attention on the effect of operational audit, compliance testing and risk assessment on financial performance among the firms. The study employed *ex-post facto* research design on a population of 21 listed insurance firms in the Nigerian Exchange Group as of December 31, 2023 over a period of 10 years from 2014- 2023. Secondary data were collected from the published annual reports of 12 purposively selected listed insurance firms. Data collected were analysed using descriptive and inferential statistics. Panel data regression model was used in the study. The findings revealed that operational audit has a significant negative effect on the return on equity of the listed insurance firms in Nigeria during the period under study. Compliance testing has a significant positive effect on the return on equity of the listed insurance firms in Nigeria during the period under study. Risk assessment did not have a significant effect on the return on equity of the listed insurance firms in Nigeria during the period under study. The study concluded that internal audit has a significant effect on the financial performance of listed insurance firms in Nigeria. It is recommended that listed insurance firms in Nigeria should consider optimizing operational audit processes to ensure they do not impede operational efficiency, support initiatives that encourage firms to adopt best practices in compliance testing and advocate for a more integrated approach to risk assessment within firms.

Keywords: compliance testing, internal auditing, operational audit, risk assessment

1. Introduction

Numerous intricate factors, such as changes in regulations, technical breakthroughs, and economic volatility, have an impact on financial performance. Haider et al. (2023) claim that economic volatility, which is caused by things like inflation, global recessions, and shifting currency values, makes it difficult for enterprises to sustain steady financial performance and breeds uncertainty. Companies face additional responsibilities as a result of regulatory changes like new financial reporting standards or stricter

compliance requirements, which frequently result in higher operational expenses and complexity (Odunko, 2022).

Additionally, because technology is developing so quickly, it is necessary to continuously invest in new systems and procedures. This might put a burden on financial resources, but it also presents chances for increased competitiveness and efficiency (Junaidu & Kabiru, 2022). Furthermore, the global financial landscape is further complicated by geopolitical tensions, trade disputes, and environmental issues, making it more challenging for businesses to manage and maintain solid financial performance (Amahalu & Obi, 2020).

A number of systemic issues combine to hinder the financial success of insurance companies in Nigeria. The most important of these are infrastructure shortcomings, which raise operating costs and decrease efficiency. Examples of these include unstable power supplies and insufficient transportation networks (Soyemi, 2020). Furthermore, an uncertain economic environment deters long-term investment due to inconsistent government policies and unpredictable regulations (Olukayode & Ndubuisi, 2020).

The substantial dependence on the oil sector makes firms prone to global oil price changes, which may disrupt the financial plans and outcomes of insurance firms in Nigeria (Ogbebor et al., 2020). Currency unpredictability and price increases additionally create substantial hazards, reducing the value of money and raising the cost of imports (Ogungbade et al., 2021). Moreover, nepotism and weak organizational structures further aggravate these challenges by compromising credibility and raising expenditures related to conformity and getting contracts (Ogoun & Atagboro, 2020).

By utilizing operational audits, compliance audits, and risk assessments, internal auditing can greatly improve the financial performance of insurance companies in Nigeria (Nwoye et al., 2021). Operational audits, according to Al-Matari et al. (2022), concentrate on a company's operational efficacy and efficiency, pinpointing areas where resources can be maximized and procedures streamlined. Internal auditors can identify inefficiencies, suggest enhancements, and assist management in putting cost-cutting measures into place by methodically reviewing operational procedures (Okolie & Ogbargu, 2022). In addition to increasing profitability, this fortifies the company's overall operating structure, increasing its competitiveness in the Nigerian market.

By making sure that businesses follow pertinent legislation and are equipped to handle possible risks, compliance audits and risk assessments also improve financial performance (Ehiedu & Gladys, 2022). According to Ozegbe and Edirin (2022), compliance audits assist businesses in navigating Nigeria's complicated regulatory environment while reducing the risk of fines and harm to their brand that come with non-compliance. This proactive strategy protects the company's resources and fosters an open and accountable culture.

Contrarily, risk assessments entail locating, evaluating, and ranking possible hazards that might have a negative impact on the company's financial stability (Ogwiji & Lasisi, 2022). With the implementation of robust risk management strategies, internal auditors can help firms anticipate and mitigate financial risks, ranging from market fluctuations to internal fraud (Mumba & Wekesa, 2020). Based on this background, this study investigates the effect of internal auditing on financial performance of listed insurance firms in Nigeria.

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The financial performance of firms in Nigeria faces several challenges that hinder their growth and stability. According to Aifuwa et al. (2020) one significant issue is the volatile economic environment characterized by fluctuating exchange rates, inflation, and inconsistent government policies. This volatility makes it difficult for firms to plan and forecast their financial outcomes accurately, leading to uncertainty and potential financial losses.

Additionally, inadequate infrastructure, such as unreliable power supply and poor transportation networks, increases operational costs and reduces efficiency, further straining the financial performance of businesses (Ogbebor et al. 2020). Eniola et al. (2021) also noted that the lack of access to affordable financing options is another critical challenge, as high-interest rates and stringent lending conditions limit the ability of firms to secure necessary capital for expansion and innovation.

There are still a number of gaps in our understanding of how internal audit affects financial performance across Nigeria's many sectors, despite a wealth of study on the subject. Other studies, like Jacob et al. (2022), found an insignificant relationship in the construction sector, indicating sector-specific variations that are still unclear. In contrast, studies like those by Alashe and Bello (2021) and Ogungbade et al. (2021) have established a positive relationship between internal audit and financial performance in money deposit banks and listed commercial banks, respectively.

Furthermore, the majority of studies, such as those by Beekue and Paago (2022) and Ogiriki and Ochoule (2023), concentrate on general internal audit procedures rather than going into detail about particular components like audit independence or technology integration, which could provide more nuanced insights.

Additionally, Kolawole et al. (2020) and related research frequently focus on historical data, which leaves a gap in our knowledge of how internal audit is developing in response to new financial technology and shifting regulatory environments. Therefore, in the current Nigerian corporate environment, more thorough, sector-specific studies that examine the complex dynamics of internal audit functions and their direct and indirect effects on financial performance are required.

Based on the statement of problem, the following research questions were raised: First, what is the effect of operational audit on financial performance of listed insurance firms in Nigeria? Second, how does compliance check affect financial performance of listed insurance firms in Nigeria? And third, what is the effect of risk assessment on financial performance of listed insurance firms in Nigeria?

The broad objective of this study is to determine the effect of internal auditing on financial performance of listed insurance firms in Nigeria. The specific objectives are to: first, investigate the effect of operational audit on financial performance of listed insurance firms in Nigeria; second, determine how compliance check affect financial performance of listed insurance firms in Nigeria; and third, examine the effect of risk assessment on financial performance of listed insurance firms in Nigeria.

In line with the research questions and specific objectives of this study, the following null hypotheses were formulated: (i) operational audit does not have significant effect on financial performance of listed insurance firms in Nigeria; (ii) the effect of compliance check on financial performance of listed insurance firms in Nigeria is not significant; and (iii) risk assessment does not have significant effect on financial

performance of listed insurance firms in Nigeria. The study's duration was from 2014 to 2023. Since 2014 marked the start of a period of major economic and regulatory changes in Nigeria, it was selected as the base year.

2. Literature Review

Conceptual Review

Internal Auditing

Internal auditing, according to Chukwuma et al. (2020), is an essential organizational role that aims to offer impartial, independent assurance on the efficacy of risk management, control, and governance procedures. To make sure that corporate goals are met effectively and efficiently, internal auditing entails assessing and enhancing the sufficiency and efficacy of governance procedures, risk management techniques, and internal controls (Al-Matari et al., 2022). These evaluations are carried out by internal auditors, who are usually staff members of the company. They do this by methodically looking over and evaluating several facets of the company's financial systems, operations, and adherence to rules and regulations (Nwaobia et al., 2021).

The emphasis on risk management is another essential component of internal auditing. The job of internal auditors is to find and assess risks that could keep the company from reaching its goals or put it at risk of losses or liabilities (Soyemi et al., 2021). According to Eniola et al. (2021), internal auditors assist management in prioritizing and successfully addressing critical risks by evaluating risks across the organization's operations, finance, compliance, and strategic initiatives. By taking a proactive approach to risk management, companies may foresee possible hazards and take steps to reduce them before they become serious problems.

In contrast to financial reviews, which mainly concentrate on financial statements and reporting conformity, operational audits explore the operational facets of a company, including its everyday operations, resource utilization, as well as achievement metrics. The main goal of an operational audit is to find potential areas of enhancements, optimize processes, and enhance overall success of the organization (Beekue & Paago, 2022). An operational audit is an organized audit and appraisal of an entity's business operations, workflows, and practices to evaluate their productivity, efficacy, and economy (Ahmeti et al., 2022).

Production, distribution, sales, procurement, human resources, and information technology are just a few of the operational sectors that auditors evaluate during an operational audit (Egiyi & Okafor, 2022). To assess how well these areas are doing and supporting the organization's strategic goals, they look at operational metrics, benchmarks, and key performance indicators. To guarantee adherence to legal mandates, industry norms, and standard procedures, auditors also examine internal controls, policies, and procedures (Alashe & Bello, 2021).

In general, an operational audit is a forward-thinking tool for companies to detect and resolve functional issues, propel ongoing enhancement, and accomplish important targets. The outcomes and suggestions that come from an operational audit give management and stakeholders important information about areas for improvement and optimization opportunities (Arzizeh & Oti, 2019). These suggestions may encompass installing process enhancements improving resource distribution optimizing workflow

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efficiencies, strengthening internal controls, and leveraging technology solutions to streamline operations (Usman et al., 2021).

A key element of auditing that assesses an organization's conformity to pertinent laws, rules, policies, procedures, and standards is compliance testing, claims Abdulkadir (2020). It entails assessing how well a business conforms to internal management-established policies and procedures as well as external standards set forth by regulatory bodies (Aifuwa et al., 2020). In order to reduce legal and reputational risks, compliance testing aims to make sure the company complies with industry standards, legal and regulatory frameworks, and internal policies (Çakali & Baloglu, 2023).

Planning is the first step in the compliance testing process, during which auditors find pertinent laws, rules, and internal policies that apply to the activities of the company (Ozegbe & Edirin, 2022). Considering the organization's industry, regulatory environment, and risk profile, they set the audit's goals, scope, and methodology. Auditors gather information in the field to bolster their findings about adherence to pertinent regulations (Apalowowa et al., 2025). Documentation, transaction logs, system logs, and other information sources could be examples of this evidence.

After gathering evidence, auditors analyze the findings to determine the extent of compliance and identify any instances of non-compliance. They communicate their findings to management, highlighting areas of concern and providing recommendations for remediation. Management's response to these recommendations, along with any corrective actions taken, is then evaluated by auditors to ensure that deficiencies are addressed effectively.

The process of risk assessment typically begins with defining the scope and objectives of the assessment, including identifying the specific areas or processes within the organization that will be evaluated (Kolawole et al., 2020). This may involve conducting interviews with key stakeholders, reviewing relevant documentation, and analyzing historical data to gain a thorough understanding of the organization's operations, structure, and risk landscape. Once the scope is established, internal auditors proceed to identify and assess risks using various techniques, such as brainstorming sessions, risk workshops, and risk registers, to capture and document potential risks comprehensively (Ewot & Christopher, 2023).

Financial Performance

Ogbebor et al. (2020) defined financial performance as a crucial concept in evaluating an organization's financial health, efficiency, and overall success in achieving its economic objectives. It encompasses a range of financial metrics and indicators that provide insight into how well an organization is utilizing its resources to generate profits and value for its stakeholders (Odunko, 2022).

Common measures of financial performance include profitability ratios (such as net profit margin and return on equity), liquidity ratios (such as current ratio and quick ratio), and solvency ratios (such as debt-to-equity ratio), among others. These metrics help stakeholders assess the organization's financial stability, operational efficiency, and long-term sustainability.

Ehiedu and Toria (2022) also defined financial performance as the ability of an organization to generate sufficient revenues to cover its expenses and produce a profit. Profitability ratios, such as the gross profit margin, operating profit margin, and net profit

margin, are used to evaluate how effectively an organization is managing its costs and generating profits from its core operations (Syder & Miebaka, 2022).

These ratios provide valuable insights into the organization's cost control measures, pricing strategies, and overall operational efficiency. Additionally, return on equity (ROE) and return on assets (ROA) are key indicators that measure the return generated on shareholders' equity and the organization's total assets, respectively, highlighting the organization's effectiveness in utilizing its resources to create value (Ogwiji & Lasisi, 2022).

Liquidity and solvency are also critical aspects of financial performance, reflecting the organization's ability to meet its short-term and long-term obligations (Okolie & Ogbaragu, 2022). Liquidity ratios, such as the current ratio and quick ratio, assess the organization's capacity to pay off its short-term liabilities with its short-term assets. These ratios are essential for ensuring that the organization maintains sufficient cash flow to support its day-to-day operations and avoid financial distress (Hazaea et al., 2020).

Solvency ratios, such as the debt-to-equity ratio and interest coverage ratio, evaluate the organization's long-term financial stability and its ability to meet long-term debt obligations (Nwaobia et al., 2021). High levels of debt relative to equity can indicate potential financial risk and impact the organization's creditworthiness and ability to secure future financing.

Return on equity (ROE), according to Ezejiofor and Okolocha (2020), is a financial term that assesses a company's profitability in relation to the equity held by its shareholders. It shows how well a business is turning a profit with the capital that its shareholders have invested. One important measure of financial performance is return on equity (ROE), which is calculated as net income divided by shareholders' equity and reported as a percentage (Nwaobia et al., 2021). Because it shows how successfully a company is managing the equity funding provided by its owners and the returns they may anticipate on their investment, this ratio is especially helpful to analysts and investors (Soyemi, 2020).

Ogungbade et al. (2021) posited that the primary significance of ROE lies in its ability to measure the efficiency with which a company utilizes its equity base. A higher ROE indicates that a company is more efficient at generating profits from every dollar of shareholders' equity. This efficiency can result from effective management practices, strong competitive positioning, cost controls, and other strategic decisions that enhance profitability (Wekesa & Malenya, 2020). For example, if a company has a net income of \$1 million and shareholders' equity of \$5 million, its ROE would be 20%, indicating that the company generates 20 cents of profit for every dollar of equity invested.

ROE is also a crucial tool for comparing the financial performance of companies within the same industry. Since it normalizes profit generation against the equity base, ROE allows for more accurate comparisons regardless of company size (Chukwuma et al., 2020). Investors often use ROE to identify companies that are generating higher returns on equity, which can be indicative of superior management and a potentially better investment opportunity (Eniola et al., 2021). However, it is important to consider the industry context, as average ROE can vary significantly between sectors. For instance, technology companies might have higher average ROE compared to utility companies due to different capital structures and business models.

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Theoretical Review

This study reviewed two theories: Agency theory, and Stakeholder theory. The first theory reviewed was agency theory. Agency theory was initially developed by economists Michael C. Jensen and William H. Meckling in the late 1970s. Ewot and Christopher (2023) defined agency theory as a branch of economic and organizational theory that examines the relationship between two parties: the principal and the agent. It explores the potential conflicts of interest that may arise when one party (the principal) delegates decision-making authority to another party (the agent) to act on their behalf.

The theory is built on the premise that there is a natural misalignment of interests between principals and agents due to differences in goals, risk preferences, and information asymmetry (Abdulkadir, 2020). Agency theory assumes that both principals and agents are rational decision-makers, weighing the costs and benefits of their actions (Amahalu & Obi, 2020). The theory also considers the role of incomplete contracts, recognizing the challenges in specifying all possible future scenarios and outcomes comprehensively.

Agency theory can be effectively applied to understand how internal auditing helps mitigate agency problems and enhance financial performance (Junaidu & Kabiru, 2022). In the context of insurance firms, the principals (shareholders) delegate the day-to-day operations and decision-making responsibilities to the agents (management). This separation of ownership and control can lead to conflicts of interest, as management may pursue personal goals that do not align with the shareholders' objective of maximizing firm value (Osevwe & Nwokeji, 2021).

Internal auditing plays a crucial role in this dynamic by providing an independent evaluation of the firm's operations, financial reporting, and compliance with regulations, thereby ensuring that management's actions are aligned with shareholders' interests (Ogoun & Atagboro, 2020).

Ogwiji and Lasisi (2022) posited that by implementing robust internal auditing practices, listed insurance firms in Nigeria can reduce information asymmetry and enhance transparency, which are central concerns of agency theory. Internal auditors can identify inefficiencies, potential fraud, and areas of non-compliance, providing shareholders with confidence that the management is acting in their best interests (Junaidu & Kabiru, 2022). This oversight mechanism helps in reducing the agency costs associated with monitoring and incentivizing management.

Furthermore, internal auditing can improve financial performance by ensuring that resources are utilized efficiently, risks are managed effectively, and the firm's financial reporting is accurate and reliable (Apalowowa et al., 2023). As a result, shareholders are more likely to trust the firm's reported financial performance, leading to potentially higher valuations and better access to capital.

The second theory reviewed was stakeholder theory. Stakeholder theory was developed by Edward Freeman in the year 1984. Stakeholder theory is a theory of organizational management and business ethics that accounts for multiple constituencies impacted by business entities like employees, suppliers, local communities, creditors and others (Nwoye et al., 2021).

It can also be defined as a view of capitalism that stresses the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization (Ogbebor et al., 2020).

Stakeholder theory assumes that a corporation exists to create value for a broad array of stakeholders, not just shareholders. It posits that the interests of various stakeholder groups—such as employees, customers, suppliers, communities, and regulators—are legitimate and interconnected (Ibama & David, 2021).

According to Kolawole et al., (2020), stakeholder theory can be applied to gain insights into the various groups impacted by the internal audit practices and financial performance of insurance firms. The adoption of a stakeholder perspective helps identify and analyze the interests and concerns of different stakeholders, including shareholders, policyholders, regulators, employees, and the wider community (Jacob et al., (2022). This approach allows for a holistic understanding of how internal auditing practices influence the overall financial performance and operational effectiveness of insurance firms, beyond just the perspective of shareholders (Junaidu & Kabiru, 2022).

Furthermore, stakeholder theory can guide the research in exploring the dynamics of stakeholder relationships within the context of internal auditing and financial performance (Junaidu & Kabiru, 2022). The study can investigate how internal audit functions interact with and address the needs of various stakeholders, such as ensuring compliance with regulatory requirements, enhancing risk management practices to protect policyholders' interests, and fostering transparency and accountability in financial reporting (Egiyi & Okafor, 2022).

Additionally, the study can examine how effective stakeholder engagement strategies by insurance firms, guided by stakeholder theory principles, contribute to improved financial performance and long-term sustainability (El Gharbaoui & Chraibi, 2021). Overall, applying stakeholder theory in the study enriches the analysis by considering the broader societal impact and ethical implications of internal auditing practices within the insurance industry in Nigeria.

Empirical Review

Operational Audit and Financial Performance

The impact of the internal audit function on the financial performance of Nigerian commercial banks was examined by Ezejiofor and Okolocha (2020). The research design used in this study was survey-based. The study's participants are managers, internal control officers, fund transfer officers, and cash officers from five (5) carefully chosen commercial banks in Enugu State, Nigeria, with seven (7) branches each. The researchers used frequency counts, mean scores, and standard deviations to examine the data they had obtained for the study. With the use of SPSS version 20.0 and a basic regression statistical tool, the two hypotheses were examined at the 5% level of significance. According to the report, Nigerian commercial banks' financial performance is positively impacted by internal audit controls and processes.

Ibama and David (2021) examine the financial performance and internal auditing function of Nigerian telecom companies. Using a structured questionnaire, the survey approach was used to gather primary data. Out of the 213 copies of the questionnaire that were provided, 152 were accurately and completely completed. The statistical package for social science (SPSS) was utilized to test the hypotheses after the data was analyzed using percentage, tables, and spearman rank order correlation techniques. The results showed that internal audit function has positive relationship between financial performance of telecommunication firms in Nigeria.

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The effect of internal audit effectiveness on financial performance is examined by Egiyi and Okafor (2022). This study employed a descriptive cross-sectional research approach to examine data from respondents selected from the finance, audit, procurement, and human resources departments of different firms. Simple regression analysis was used with SPSS 28.0 to assess these data. The results of the study showed a strong correlation between internal audit and financial performance.

Obi et al. (2023) investigated the connection between Nigerian listed commercial banks' financial performance and internal auditing procedures. Primary data was gathered from 162 randomly selected employees of the thirteen listed commercial banks on the Nigerian stock exchange during the study's 2012–2021 timeframe. The Spearman Correlation Coefficient method was used to examine the data. The study comes to the conclusion that the financial performance of Nigerian listed commercial banks and internal auditing practices are significantly correlated.

Qadri (2025) investigated the nexus between internal audit and financial performance of the banking sector in the Kingdom of Saudi Arabia. The study selected 150 internal auditors from banks to complete online questionnaires in the third quarter of 2024. The testing of hypotheses was done through multiple regression analysis. Internal audit (the explanatory variable) was proxied by internal auditor independence, audit planning, effectiveness of internal audit and audit reports. Financial performance (the explained variable) was measured by return on asset (ROA), return on equity (ROE), and overall profitability. The results showed a significant favourable effect of internal audit on financial performance in the banking sector of Saudi Arabia.

Compliance Test and Financial Performance

Abdulkadir (2020) evaluates how the internal audit function affects the caliber of financial reporting in privately traded organizations. This study is a survey conducted using a questionnaire sent to a sample of 97 Nigerian private listed companies. PLS-SEM was used to analyze the hypotheses using the path coefficient. The study found no connection between the quality of financial reporting and internal audit competencies.

The impact of various audit committee characteristics on the performance of companies listed in the food and beverage sectors on the Nigeria Stock Exchange was investigated by Osevwe and Nwokeji (2021). The study design used was ex post facto. The twenty-one companies that were listed on the Nigerian stock exchange under the food and beverage sector as of December 31, 2018, make up the study's population. Based on the availability of their annual reports, fourteen (14) companies were purposefully chosen for the study. Both descriptive and inferential statistics were used to analyze the data. While audit committee meetings have a positive and large impact on the EPS of food and beverage companies listed on the Nigerian Stock Exchange (NSE), audit committee independence and expertise have a positive but negligible impact on company performance as measured by EPS.

Odunko (2022) examines how internal control affects business success using data from a few Nigerian companies. The study used an ex post facto research design and used secondary data from the Nigeria Stock Exchange's (NSE) Fact Book and Daily Official List. Utilizing descriptive statistics, correlation analysis, and Ordinary Least Square Regressions (OLS), an econometric technique was used to forecast the impact of internal control on business performance based on data from a subset of Nigerian firms.

Accordingly, the study comes to the conclusion that internal control improves business performance in Nigeria.

Okezie and Okereke (2023) looked into how Nigerian deposit money institutions' financial performance was impacted by compliance costs. Audit expenses, AMCON fees, insurance charges, pension contribution costs, and professional fees were all included in the compliance costs. Only twelve of the fourteen listed banks on the Nigerian exchange group were used in the study. The study period, which spanned 2012–2021, coincided with the banking industry's upward integration. The variables were cointegrated at 1(1) and their stationarity was assessed using a unit root test in order to test the hypothesis. A vector error correction model was employed in the investigation. The results showed a long-term correlation between the log of return on assets and the log of compliance cost.

Agbata & Ezeala (2025) investigated the influence of internal audit on the financial reporting quality of quoted real estate and construction firms in Nigeria. The research design used was ex-post facto. The study population was nine construction and real estate firms listed on the Nigerian Exchange Group (NGX) as at 31st December, 2023. The study spanned through 10 years from 2014 to 2023. The hypotheses of the study were tested using ordinary least square (OLS) regression. The study findings showed that internal audit standard has significant effects on accounting conservatism ($p = 0.014$); earnings management ($p = 0.001$); and accrual quality ($p = 0.035$) of quoted real estate and construction firms in Nigeria.

Risk Assessment and Financial Performance

The effect of audit committee characteristics on the promptness of company financial reporting in Nigeria was examined by Aifuwa et al. (2020). A sample of 116 companies that were listed during 2017 and 2018 on the Nigerian Stock Exchange. To summarize and make conclusions about the population under study, we employed both descriptive and inferential statistics. The findings of the Robust Least Squares Regression showed that the presence of female directors and the independence of the audit committee decrease the lag in audit reports, which in turn improves the timeliness of financial reporting.

Nwaobia et al. (2021) investigated the ICT competency, independence, experience, and qualifications of internal auditors and how these directly affected the identification of false financial reporting in banks. 471 workers of the internal audit divisions of ten chosen Nigerian banks participated in the study, which used a cross-sectional survey approach. Data from 216 internal auditors was gathered using a systematic and tested questionnaire. The conclusion reached was that internal audit has a crucial role in reducing the prevalence of fraudulent activity in Nigerian banks.

Okolie and Ogbaragu (2022) looked at the corporate performance and efficacy of audit committees in Nigerian quoted deposit money banks over a ten-year period (2011–2020). E-views version 9 and the Panel Unit Root Test, Correlation Matrix Test, and Ordinary Least Squares test estimation tools helped with the panel data. The study's findings showed that the corporate performance of Nigerian quoted deposit money banks is positively and significantly impacted by the effectiveness of the audit committee.

Falade et al. (2024) looked into the relationship between risk management and bank financial performance. Using secondary data taken from a sample of 12 banks spanning 10 years from 2013 to 2022, this study employed an ex-post facto research approach. It also

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used a firm's value and capital adequacy as metrics for financial success and performed an OLS regression analysis. The outcome showed that the bank's financial performance is positively and significantly impacted by risk management variables. The price-to-earnings ratio is a more accurate indicator of financial performance, according to the findings.

The impact of risk management procedures and disclosures on Nigerian commercial banks' financial performance was investigated by Ogundele & Nzama (2025). Subject to data availability, 12 of the 13 Nigerian commercial banks that made up the study's population were specifically selected. The World Development Indicators and the annual reports and accounts of the chosen Nigerian commercial banks from 2012 to 2023 provided the data used in this investigation. Panel regression analysis was the data analysis approach employed, and in an attempt to take possible endogeneity into consideration, it was further expanded to the generalized method of moments. The findings show that whereas credit risk disclosure, credit risk, firm age, and leverage had significant and negative effects on financial performance, liquidity risk disclosure and business size had significant and beneficial effects.

Gaps in the Literature

There are still a number of gaps in the literature despite the substantial research on the connection between internal auditing procedures and financial performance in a variety of industries. First, a number of studies, like those by Ogwiji and Lasisi (2022) and Al-Matari et al. (2022), concentrate on particular factors such internal audit size, professional certifications, and internal control systems, but they frequently ignore the comprehensive influence of internal audit functions.

The works of Apalowowa et al. (2023) and Eniola (2022) demonstrate that the majority of the studies that are now available have a geographical concentration on Saudi Arabia and Nigeria. This spatial focus restricts how far the results may be applied. To comprehend how internal auditing procedures are applicable globally, comparative studies including a wider range of nations are crucial, particularly those with varying legislative frameworks and economic development levels.

The longitudinal study of internal audit procedures and their long-term impacts on financial performance is seriously lacking. The majority of research use cross-sectional or rather short-term data, such as those by Odunko (2022) and Egiyi and Okafor (2022). To fully capture the dynamic character of this relationship, longitudinal studies that monitor internal audit procedures and financial performance over long periods of time are required.

3. Methodology

The research design adopted by the study was *ex-post facto*. The data used were collected from secondary source. The secondary sources of data for this study were the annual reports of the listed firms and Nigeria Exchange Group Fact-book for the period from 2014 to 2023. As of December 31, 2023, all 21 listed insurance companies in the Nigerian Exchange Group made up the study's population. Due to their complete listing on the Nigeria Exchange Group and easily accessible information, a total of 12 listed insurance companies were selected purposively.

Model Specification

The model specification on internal audit indicators and financial performance of quoted firms in Nigeria's consumer sector was taken from Ogiriki and Ochoule (2021). The model was expressed as follows: $Y(E) = f(IAI, PC)$

$$EPS(Y) = \beta_0 + \beta_1 IAI_t + \beta_2 PC_t + \varepsilon_t \text{-----} 3.1$$

The model was nonetheless adjusted in this study to capture the dimension of internal auditing and financial performance according to the aims of this investigation. The functional model was therefore stated as thus: $FP = f(IA)$ -----3.2

$$ROE = f(OA, CT, RA, MCAP) \text{-----} 3.3$$

$$ROE_{it} = \beta_0 + \beta_1 OA_{it} + \beta_2 CT_{it} + \beta_3 RA_{it} + \beta_4 MCAP_{it} + \varepsilon_{it} \text{-----} 3.4$$

Where: FP = Financial performance; IA = Internal auditing; ROE_{it} = Return on equity of firm i at year t; OA_{it} = Operational audit of firm i at year t; CT_{it} = Compliance testing of firm i at year t; RA_{it} = Risk assessment of firm i at year t; β_0 = the intercept; $\beta_1, \beta_2, \beta_3, \beta_4$ were the coefficients of operational audit, compliance testing, risk assessment and market capitalisation respectively; ε_{it} = the error term of firm i at year t.

Measurement of Variables

Operational audit (OA), compliance testing (CT), and risk assessment (RA) served as stand-ins for internal auditing, the study's independent variable. Financial performance was the dependent variable, proxied by return on equity. The control variable, firm size, was proxied by market capitalisation. Operational audit was measured using operating expenses (Ibama & David, 2021). Notes to the financial statement disclosure were employed to measure compliance testing (Kolawole et al., 2020). Risk assessment was calibrated by contingent liabilities (Amahalu & Obi, 2020) while firm size (control variable) was measured using market capitalisation (Cobbinah et al., 2024). Financial performance was measured by return on equity (Nwoye et al., 2021).

Data Analysis Techniques

Both descriptive and inferential statistical approaches were used in the study to achieve its goals. The study evaluated the normality of the data distribution using these statistics, which included the mean, median, maximum, minimum, skewness, kurtosis, and the Jarque-Bera test. Time series data stationarity was assessed using unit root tests. Correlation analysis was used in the study to look at the links between the variables. To find and reduce multicollinearity among the independent variables, the variance inflation factor (VIF) tests were used.

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4. Results and Discussions

Descriptive Statistics of Variables

Table 1

Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
ROE	108	18.530	120.720	-188.040	1222.870
OA	108	0.389	0.490	0.000	1.000
CT	108	0.583	0.495	0.000	1.000
RA	108	0.472	0.502	0.000	1.000
MCAP	108	6.779	0.429	6.090	7.800

Source: Author's Computation (2026)

The dependent variable, return on equity (ROE), has a mean of 18.530, showing that, on average, the firms achieve an acceptable degree of profitability relative to their equity. However, with ROE values ranging from a low of -188.040 to a maximum of 1222.870, the large standard deviation of 120.720 indicates significant variability in the firms' financial performance. This disparity could suggest that some businesses are extremely successful while others are having serious financial difficulties, possibly as a result of inefficiencies or subpar auditing procedures.

About 39% of the enterprises participate in operational auditing, according to the mean of operational audit (OA), one of the independent variables, which is 0.389. With some firms not implementing any operational audits at all, the standard deviation of 0.490 indicates that there is significant variation in the adoption of operational audits among these organizations. Given that successful operational audits can improve performance and efficiency, this low level of participation in operational audits may be a contributing factor to the discrepancies in ROE.

With a mean score of 0.583, the compliance testing (CT) variable indicates that more than half of the companies (about 58%) do compliance testing. This acceptance rate is comparatively greater than OA, which suggests that the significance of following regulatory standards is acknowledged. But with a standard deviation of 0.495, it once more shows variation in compliance procedures, which could have an impact on the accuracy of financial reporting and, in turn, the ROE of the companies.

With a mean of 0.472, the risk assessment (RA) variable shows that roughly 47% of the firms perform risk assessments. The significant difference in risk assessment techniques among the organizations is indicated by the standard deviation of 0.502. The enterprises are fairly consistent in size, as indicated by the control variable, market capitalization (MCAP), which has a mean of 6.779 and a comparatively narrow standard deviation of 0.429. A certain amount of corporate diversity is reflected in the market capitalization range of 6.090 to 7.800.

Data Normality

A significant p-value from the normality test indicates a departure from normalcy. This study complies with Mendes and Pala's (2003) recommendation that the Shapiro-Wilk test be used to evaluate data normality. Consequently, a residual normalcy test is run, and the results are shown in Table 2.

Table 2*Shapiro-Wilk Test for Normal Data*

Variable	Obs	W	V	Z	Prob>Z
ROE	108	0.200	70.461	9.479	0.000
OA	108	0.993	0.659	-0.928	0.823
CT	108	0.998	0.180	-3.826	1.000
RA	108	0.999	0.129	-4.569	1.000
MCAP	108	0.960	3.528	2.809	0.002

Source: Author's Computation (2026)

The study concludes from Table 4.2 that the dependent variable of return on equity (ROE) (prob>z = 0.000) is not normally distributed since the Shapiro-Wilk test indicates that the probability of the z-statistics is significant at the 1% significance level. Since the probability of the z-statistics is significant at the 1% level, the same conclusion can be made for the independent variable of market capitalization (MCAP) (prob>z = 0.002), which likewise does not follow a normal distribution.

Conversely, the independent variables of risk assessment (RA) (prob>z = 1.000), compliance testing (CT) (prob>z = 1.000), and operational audit (OA) (prob>z = 0.823) all have a normal distribution because the Shapiro-Wilk test indicates that the z-statistics' probabilities are not significant at the 5% or 1% significance levels. Therefore, in order to make sure that the analysis properly takes into account the distribution features of each variable, the study used the Spearman Rank Correlation to look at the links between the variables under investigation.

Correlation Analysis Result

Given this information and the non-normal nature of the data, potential correlations between the variables under investigation are evaluated in this work using the Spearman Rank Correlation method.

Table 3*Spearman's Rank Correlation*

Variable	ROE	OA	CT	RA	MCAP
ROE	1000				
OA	0.053	1.000			
CT	0.098	0.212	1.000		
RA	0.076	0.387	0.799	1.000	
MCAP	0.349	0.394	0.368	0.274	1.000

Source: Author's Computation (2026)

The findings of the Spearman's rank correlation analysis indicate that the independent variable of OA and the dependent variable of ROE have a positive relationship (0.053). Nevertheless, this correlation is modest, suggesting that these two variables have little in common. ROE and CT have a positive correlation (0.098), indicating a marginally stronger relationship than OA.

Likewise, there is a modest but positive correlation (0.076) between ROE and RA. Analysis of the independent variables shows a strong positive correlation between CT and RA (0.799) and a moderate positive association between OA and CT (0.212), suggesting

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that companies that use compliance testing also frequently use risk assessment procedures. Given the moderate (0.387) correlation between OA and RA, it is likely that businesses that perform operational audits also carry out risk assessments.

Additionally, there is a positive correlation (0.349) between the control variable of MCAP and ROE, suggesting that larger companies typically do better financially when compared to equity. In the sections that follow, a more thorough check utilizing the Variance Inflation Factor (VIF) will be carried out in order to further investigate the relationships among the variables and verify the lack of multicollinearity.

Regression Analyses

In order to test the hypotheses and investigate the relationships between the independent and dependent variables, the study used a robust regression method, which corrects for bias related to non-constant variance and increases the reliability of the coefficient estimates. The results of the pooled OLS and robust regression analyses are presented and discussed in the following section

Table 4

Regression Results

Variable	(1) OLS Regression	(2) Robust Regression
OA	-42.861 (0.148)	-1.968** (0.001)
CT	-23.903 (0.570)	0.962 (0.011)**
RA	46.647 (0.272)	-2.134 (0.486)
MCAP	34.025 (0.305)	9.018*** (0.000)
Intercept	-203.535 (0.346)	-51.246*** (0.001)
Observations	108.000	108.000
R ²	0.030	0.142
Hettest	173(0.000)	
VIF	2.34	

Source: Author's Computation (2026)

Notes: p-values are in parentheses *** p < 0.01, ** p < 0.05

The results of the estimation of the models using the OLS regression method are shown in Table 4. The results show that the dependent variable as captured by the regression model has an R-Square value of 0.030, meaning that the independent and control variables in the study only explain about 3.0% of the systematic variation in the dependent variable during the study period, with the error term indicating that other factors not included in the model account for the remaining 97.0% of the variation.

The highly significant p-values associated with the control variable market capitalization (MCAP), which are significant at the 1% level (p<0.000), further supporting the significance of the OLS model. This demonstrates the model's applicability in

elucidating the dependent variable. However, this work includes tests for heteroscedasticity and multicollinearity to further validate the estimations of the pool OLS results.

Test for Multicollinearity

A test for multicollinearity using the Variance Inflation Factor (VIF) is also included in the analysis. The OLS regression model's variables have an average VIF of 2.34, which is significantly less than the generally recognized cutoff of 10. This suggests that the independent variables do not have strong intercorrelations that would need their removal from the model.

Test for Heteroscedasticity

The assumption of homoscedasticity was checked using the Breusch-Pagan test, with the findings indicating a significant p-value (Hetttest = 173.03, $p < 0.000$). This implies that the assumption of homoscedasticity is broken, implying the presence of heteroscedasticity in the OLS regression model. Because of this, the estimates' standard errors might not be accurate, which could result in skewed statistical conclusions.

Robust Regression

The study re-estimated the model using robust regression techniques to address the heteroscedasticity issue. The results of the robust regression are shown in the second column of Table 4. The robust regression model has a significantly higher R-Square value of 0.142, meaning that the independent variables account for approximately 14.2% of the systematic variation in the dependent variable. This significant improvement suggests that the robust regression provides a more accurate and reliable estimation of the model, accounting for the heteroscedasticity observed in the OLS results. The results of the robust regression confirm the statistical significance of several variables, further validating the study's findings and guaranteeing more robust statistical inferences.

Test of Hypotheses

After the aforementioned, it became crucial to discuss the robust regression results in order to test the study's hypotheses. Operational audit (OA) [coef. = -1.968 (0.001)] significantly impacted the return on equity measure of financial performance of the listed insurance companies in Nigeria during the study period. The null hypothesis, according to which operational audit has no discernible impact on the financial performance of Nigerian listed insurance companies, is thereby disproved.

According to the robust regression results, the return on equity metric of the financial performance of the listed insurance companies in Nigeria throughout the study period was significantly positively impacted by compliance testing (CT) [coef. = 0.962 (0.011)]. The null hypothesis, according to which compliance testing has no discernible impact on the financial performance of Nigerian listed insurance companies, is thereby disproved.

The robust regression results show that risk assessment (RA) [coef. = -2.134 (0.486)] does not have a significant effect on the return on equity measure of financial performance of the listed insurance firms in Nigeria during the period under study. Consequently, the null hypothesis that risk assessment has no significant effect on the financial performance of listed insurance firms in Nigeria is not rejected.

Discussions of Findings

The robust regression results highlight that operational audit (OP) negatively impacts the return on equity of listed insurance firms in Nigeria. They suggest that, in the

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context of listed insurance firms in Nigeria, the implementation of rigorous operational audit processes may not be translating into expected financial gains. This result resonates with the findings of Aifuwa et al. (2020), who argued that overly stringent operational measures can sometimes stifle innovation and responsiveness within organizations.

In terms of compliance testing (CT), the results reveal a significant positive effect on the return on equity of the listed insurance firms. This aligns with the work of Alashe and Bello (2021), who suggested that compliance measures play a crucial role in strengthening organizational integrity and, consequently, financial performance.

Regarding risk assessment (RA), the results indicate that it does not have a significant effect on the return on equity of the listed insurance firms. This finding suggests that simply having risk assessment practices in place may not be sufficient to impact financial performance positively. This outcome aligns with the findings of Jacob et al. (2022), which showed that many firms struggle to translate risk assessment efforts into tangible financial benefits.

5. Conclusions and Recommendations

This study set out to address how internal auditing practices impact the financial performance of listed insurance firms in Nigeria. The primary problem lies in understanding the varying effects of different auditing practices on firms' financial outcomes, particularly in an industry characterized by complex regulatory environments and significant financial implications.

The aim of the study was to rigorously analyze how operational audits, compliance testing, and risk assessment contribute to return on equity, thereby elucidating the relationship between these internal mechanisms and overall firm performance. The key findings reveal a complex landscape where operational audits negatively affect financial performance, compliance testing enhances it, and risk assessment does not significantly influence performance.

Based on the findings of the study, the following recommendations are made for various stakeholders involved in the insurance sector: Insurance firms' managers and directors should consider optimizing operational audit processes to ensure they do not impede operational efficiency. It is essential for insurance firms to strengthen their compliance testing frameworks.

Policymakers and regulators should support initiatives that encourage firms to adopt best practices in compliance testing. Analysts and investors should advocate for a more integrated approach to risk assessment within firms. By emphasizing the importance of aligning risk assessment strategies with overall business objectives, stakeholders can help firms ensure that risk assessment practices contribute meaningfully to their financial outcomes.

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