INTERNAL AUDIT ON FINANCIAL PERFORMANCE IN DEPOSIT MONEY BANK IN NIGERIA

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ABSTRACT

The Nigerian banking sector has experienced remarkable transformation since its emergence in the late nineteenth century, progressing from a small number of foreign-owned banks to a well-developed system comprising both indigenous and international institutions. Against this backdrop, this study investigated the effect of internal audit on the financial performance of deposit money banks in Nigeria. An ex post facto research design was adopted because it is suitable for examining causal relationships in situations where the independent variable cannot be manipulated. Purposive sampling was used to select a representative group of banks in Nigeria. The findings indicate that debt-to-asset (DTA) has the capacity to influence variations in return on assets and return on equity among the selected deposit money banks in Nigeria between 2014 and 2023. The results also show that market return explains the changes observed in return on assets and return on equity within the selected banks. Based on these findings, deposit money banks should emphasize diversification and the quality of asset portfolios through prudent lending practices, investment in low-risk securities, and broader asset-class diversification. In addition, they should establish strong credit risk management frameworks to reduce losses arising from non-performing loans.

Keywords: Internal audit, internal control, Return on Asset, Return on Equity

INTRODUCTION

The Nigerian banking sector has been instrumental in the nation‘s economic development, serving as a crucial facilitator of capital allocation and liquidity (Okoye et al., 2017). Since its beginnings in the late 19th century, the sector has evolved significantly, shifting from foreign-owned entities to a combination of domestic and international banks. Reforms and consolidation efforts by the Central Bank of Nigeria (CBN), such as the 2004-2005 consolidation exercise, were aimed at strengthening the sector by reducing the number of banks from 89 to 25 more stable institutions (Njoku, 2019). These transformations have underscored

the need for robust internal audit mechanisms to uphold financial integrity, particularly in light of the sector‘s reliance on effective risk management and governance structures to navigate economic and regulatory challenges (Lottu et al., 2023).

Internal audit plays a critical part in Nigerian banks by guaranteeing compliance with regulatory standards and internal policies, as well as by supporting risk management and operational efficiency. Internal audit functions are mandated by the CBN‘s Code of Corporate Governance, which requires banks to establish independent audit systems that report directly to the board audit committee, as reinforced by the Banks and Other Financial Institutions Act (Federal Republic of Nigeria, 2020). This structure emphasizes the independence of internal audits and strengthens their role in mitigating risks, such as non-performing loans and cybersecurity threats, which pose significant challenges to Nigerian banks (PwC Nigeria, 2022). Through systematic evaluation, internal auditors help maintain the integrity of the banking sector by identifying control weaknesses, promoting accountability, and supporting informed decision-making within the institution (Eulerich et al., 2019).

Despite their importance, internal audit functions in Nigerian banks face significant challenges that can hinder their effectiveness. Constraints such as limited budgets, inadequate staffing, and the need for specialized skills in data analytics and cybersecurity have impacted the scope of audit activities (Olaoye & Dada, 2014). Furthermore, the dual reporting structure, intended to ensure independence, can lead to conflicts of interest and perceived bias. Rapid technological advancements, while enhancing audit processes, also introduce new risks, particularly in cybersecurity, which require auditors to continually upskill (Ojeka et al., 2017). Addressing these challenges requires strategic investments in audit capabilities and a strong commitment from bank leadership to uphold the independence and relevance of internal audit functions, which are crucial for sustaining financial stability and public confidence in the banking system.

The reliability of audited financial statements in the banking sector is questioned in light of Deposit Money Banks' involvement in corporate scandal episodes in Nigeria. In order to restore investor trust in public companies' financial statements, which could have a detrimental effect on the market performance of banks and Nigerian businesses in general, it is imperative to look into how internal audit quality affects the performance of Nigerian banks (as measured by the market-based performance metric Tobins Q). In both rich and developing nations, particularly in Nigeria, the study's home country, directors are held accountable for the drop in shareholders' value. Fraud charges that have caused huge firms to fail are often the direct result of directors. In Nigeria, examples include Enron Corporation, Tyco International, WorldCom, Global Crossing, Arthur Anderson, Marconi, Parmalat, Oceanic Bank plc, Wema Bank plc, NAMPAK, Fin Bank, Spring Bank, Afribank, Intercontinental Bank, Bank PHB, and Cadbury PLC. The financial performance of Nigerian deposit money institutions is examined in this study in relation to internal audit characteristics.

This study was designed to investigate whether the apparent financial success of deposit money institutions is influenced by their internal auditing procedures. Studies on internal auditing have been carried out, such as those by Njanike et al. (2011) on the factors influencing internal audit controls in Zimbabwe to ensure strong cooperative governance and Ongore and Kusa (2013) on

the impact of audit independence on the financial performance of SMEs in Kenya. However, these examinations were carried out in other countries and did not focus on internal auditing practices or bank financial performance.

Objectives of the Study

The main objective was to investigate the impact of internal audit on financial performance in deposit money bank in Nigeria. The study had the following specific objectives;

i. To assess the impact of internal audit independence on financial performance of deposit money bank in Nigeria.

ii. To analyze the effect of internal audit control system on financial performance of deposit money bank in Nigeria.

Research Hypotheses

In line with the above stated objectives, the following hypotheses were tested at 0.05 level of significance.

H_{o01}: There is no significance relationship between internal audits independence on financial performance in deposit money bank in Nigeria.

H_{02}: There is no significance relationship between internal audit control system and financial performance in deposit money banks in Nigeria.

CONCEPTUAL REVIEW

Internal audit is a systematic, independent activity conducted within an organisation to evaluate and improve the effectiveness of risk management, internal control, and governance processes. Sipahelut and Ratnawati (2023) describe it as a series of processes and techniques through which employees within an organisation seek certainty about the accuracy of financial information and the conduct of operations in accordance with established policies. This definition locates internal audit as an internally driven assurance mechanism, distinct from external auditing in both scope and institutional proximity. Ushurlyak (2024) extends this understanding by identifying the principal stages of internal audit activity as planning, fieldwork, report preparation, and the implementation of recommendations, noting that the function covers everything from accounting system reviews to information security and risk management audits. The breadth of this scope makes internal audit an organisationally embedded governance instrument rather than a narrow compliance exercise.

The key components of a well-functioning internal audit system include internal control, auditor independence, audit competence, risk assessment, and compliance monitoring. Mashayekhi and Yazdanian (2018) proposed a validated framework of five overarching concepts and seventeen key factors for internal audit, among them organisational independence, management support, auditor competence, and quality assurance programmes. Their framework, derived from content analysis of the literature and expert consensus via the Delphi method, confirms that audit independence and staff competence are not peripheral considerations but foundational to the function's credibility. Saitmuratov (2025) reinforces this

point by arguing that adherence to international standards, particularly the International Standards for the Professional Practice of Internal Auditing issued by the Institute of Internal Auditors, enhances audit quality and supports strategic decision-making. Jamandilović (2021) similarly emphasises that continuous internal and periodic external quality control of internal audit activities are indispensable for sustaining confidence in the work of internal auditors. The convergence across these sources suggests a broad scholarly consensus: internal audit effectiveness is contingent not merely on its existence within an organisation, but on the structural conditions that govern how it operates.

Financial Performance

Financial performance in deposit money banks is assessed across multiple dimensions, with profitability and liquidity serving as the most widely employed analytical lenses. Return on Assets (ROA), Return on Equity (ROE), net profit margin, earnings per share, and liquidity ratios represent the standard measurement toolkit in the literature. Usaini (2025) used panel data covering ten Nigerian banks over a decade to demonstrate that profitability and efficiency ratios, particularly ROA, ROE, and the cost-to-income ratio, exert the most significant influence on organisational performance, while leverage and liquidity indicators such as the debt-to-equity and loan-to-deposit ratios produce mixed results. This finding aligns with the broader literature suggesting that profitability ratios remain the most diagnostically useful indicators of bank health in the short to medium term. Ebifinidei and Igorji Weli (2025) similarly measured financial performance through ROA and earnings per share, while Akinbode et al. (2025) focused on ROA and net profit margin in their review of management innovation and bank performance. The relative dominance of ROA across these studies reflects its conceptual suitability as a measure of how efficiently a bank deploys its asset base to generate earnings, a quality that makes it particularly sensitive to changes in internal governance and control mechanisms.

Theoretical Review

This research is built on a multidisciplinary foundation that combine two key theories: Agency Theory and Stewardship Theory, by combine these theories , the study offers a robust framework for understanding on how internal audit have is effective on performance of money bank in Nigeria.

Agency Theory

The agency theory framework, originating from the foundational works of Alchian and Demsetz (1972) and Jensen and Meckling (1976), provides the dominant theoretical lens through which the relationship between internal audit and financial performance is understood. The theory holds that the separation of ownership and control in modern corporations generates information asymmetry, allowing managers, as agents, to pursue interests that diverge from those of shareholders, the principals. The resulting agency costs, which include the costs of monitoring management and the residual losses from managerial opportunism, constitute a central problem of corporate governance. Adeusi (2026) reviewed the evolution of agency theory in auditing and concluded that auditing functions, both internal and external, emerge as

direct governance responses to the agency problem, serving to reduce information asymmetry, mitigate agency costs, and improve the credibility of financial reporting. Al-Faryan (2024) extended this analysis by examining how concentrated ownership patterns and weak governance structures can deepen the agency crisis and facilitate corruption, underscoring the importance of independent monitoring mechanisms. Within the banking sector specifically, internal audit functions as a primary instrument for constraining managerial self-interest and ensuring that resource allocation decisions align with shareholder objectives. The Nigerian deposit money banking context, where financial irregularities, insider dealings, and excessive loan losses have been persistently documented, renders agency theory particularly applicable as an explanatory framework for understanding why internal audit quality should matter for financial outcomes (Oladejo & Oladejo, 2026).

Stewardship Theory

Stewardship theory offers a complementary but conceptually distinct perspective. Where agency theory assumes managers are self-interested and require monitoring, stewardship theory posits that executives and internal auditors are intrinsically motivated stewards of organizational resources, acting in ways that serve collective interests over personal ones. Davis et al. (1997) articulated this distinction by contrasting the homo-economics assumption of agency theory with a model of the manager as a collectivist, pro-organizational, and trustworthy actor. Contrafatto (2014) situated stewardship within a broader governance and accountability tradition, arguing that stewardship-inspired behavior is linked to sustainable organizational development and the long-term preservation of institutional assets. Jide et al. (2025) applied this reasoning to corporate governance practice, finding that stewardship-oriented leadership is associated with enhanced stakeholder trust, more effective decision-making, and reduced agency costs, particularly in contexts where intrinsic motivation rather than incentive structures drives managerial conduct. In the context of internal audit, stewardship theory implies that internal auditors who view themselves as guardians of institutional integrity, rather than merely as compliance functionaries, are more likely to produce audit outcomes that genuinely protect organizational assets and improve financial performance. Together, agency theory and stewardship theory furnish a rich analytical foundation for examining the conditions under which internal audit functions effectively in the Nigerian banking environment.

Empirical Review

Empirical evidence on the relationship between internal audit and the financial performance of deposit money banks in Nigeria has grown steadily, though the findings remain uneven in their consistency. Alashe and Bello (2021) examined 16 Nigerian deposit money banks using primary data and ordinary least squares regression, finding a positive but modest correlation between internal audit and profitability (r = 28.9%), and an additional positive effect of internal audit reporting channels on financial performance (r = 25.5%). These results indicated that the structure of audit reporting matters as much as the audit function itself, a point the authors attributed to the organizational positioning of the internal audit unit relative to senior management. Oladejo and Oladejo (2026) extended this inquiry using audited annual financial

reports of 12 Nigerian deposit money banks for the period 2016 to 2023, finding that internal audit size demonstrates a strong positive correlation with ROA (r = 0.822). The methodological contrast between these two studies, primary survey data in Alashe and Bello (2021) versus secondary panel data in Oladejo and Oladejo (2026), is itself analytically significant: the much stronger effect size in the latter suggests that structural audit characteristics, measurable from financial reports, may capture dimensions of audit quality that survey instruments understate.

The relationship between audit quality and financial performance has attracted considerable empirical attention. Muotolu and Nwadialor (2019) found that Big Four auditor affiliation has a positive and statistically significant effect on the financial performance of quoted Nigerian deposit money banks, while audit committee size, independence, and meeting frequency all returned negative and insignificant results. Ifeanyichukwu and Orjinta (2023) investigated audit quality dimensions over a ten-year period using panel regression and reported that auditor academic qualification positively and significantly predicts financial performance, while audit fees carry a negative but significant effect. Sule et al. (2025) adopted a broader analytical model incorporating both audit quality and governance mechanisms, finding that audit committee independence and expertise are positively and significantly associated with ROA, while non-audit fee ratios and leverage carry negative effects. The contradictions across these studies on audit committee variables warrant attention. Okwuego et al. (2026) found audit committee independence to have a statistically significant negative effect on firm performance, suggesting that excessive independence may constrain managerial efficiency. This stands in direct tension with the positive effect reported by Sule et al. (2025) and points to measurement differences, sample period variations, and the difficulty of isolating independence as a construct from the broader governance context in which it operates.

Risk management and fraud prevention represent further dimensions of internal audit's influence on financial performance. Ike and Ihunde (2025) surveyed deposit money banks in Benin City and found that internal auditors' roles in risk management had a high positive impact on bank profitability, as did the enforcement of internal control compliance. Amuzat and Aina (2025) reported that audit quality and the competence of audit staff positively and significantly influence net interest margin in Nigerian banks, while Omolade (2025) found that internal audit quality enhances risk management effectiveness in South West Nigerian deposit money banks. Ebifinidei and Igorji Weli (2025) approached the risk-performance relationship from a financial risk management angle and found that credit risk management significantly affects ROA in the long run, and that operational risk management influences both ROA and earnings per share in both the short and long run. Avendei (2026) confirmed a positive impact of internal audit on risk control in Nigeria's public sector, a finding that resonates with the banking context despite the institutional differences involved. Evidence from beyond Nigeria broadly confirms these patterns. Nyongesa et al. (2024) found that a one-unit increase in internal audit timeliness led to a significant increase in financial performance by 0.339 units among deposit-taking SACCOs in Kenya, and Thanasas and Lampropoulos (2023) demonstrated through a systematic review that internal audit functions as a value-adding mechanism within organisations, particularly during periods of economic stress. Beisland et al. (2015) found that the presence of internal auditors in microfinance institutions across 73

developing countries is positively related to indicators of stricter governance, reinforcing the cross-contextual importance of internal audit in settings characterized by weak institutional environments.

Research Gap

The literature reviewed here confirms that internal audit exercises a positive and substantive influence on the financial performance of deposit money banks, both in Nigeria and in comparable institutional contexts. There is, however, no clear scholarly consensus on which dimensions of internal audit matter most, how their effects vary across different financial performance indicators, and whether the relationship is stable across economic cycles and institutional environments. Most existing Nigerian studies either rely on primary survey data, which limits causal inference, or focus on narrow proxies of audit quality such as committee size and Big Four affiliation, which do not fully capture the operational characteristics of internal audit systems. Studies that use secondary panel data tend to be more recent and employ more rigorous econometric techniques, but they examine different time periods and performance measures, making direct comparisons difficult. No study in the Nigerian context has simultaneously examined the combined influence of internal audit independence, competence, risk management function, and reporting channels on multiple financial performance indicators across a recent and extended panel of deposit money banks. The present study addresses this gap by providing an integrated empirical analysis of internal audit mechanisms and financial performance of deposit money banks in Nigeria, drawing on longitudinal secondary data and employing panel data estimation techniques to produce more generalisable evidence than the existing literature allows.

METHODOLOGY

This research design employs by this study isan ex post facto, which is appropriate for investigating causal relationships in contexts where it is not possible to manipulate the independent variable. The design allows for the examination of the influence of internal audit functions on the financial performance of deposit money banks in Nigeria using existing secondary data.The population for this study comprises all deposit money banks in Nigeria, as listed by the Central Bank of Nigeria (CBN, 2023). Nigeria currently has 22 commercial banks in operation. Purposive sampling was used to select a representative sample of Nigerian banks. The investigation focused on 12 banks (50%) that are publicly listed on the Nigerian Stock Exchange (NSE) in order to ensure the accuracy and accessibility of financial and audit-related data. The study uses secondary data from the annual reports and financial statements of the sampled institutions collected over a ten-year period (2014–2023). In order to give a comprehensive analysis of the relationship between financial performance and internal audit, this time frame was chosen to mirror current tendencies. To guarantee data accuracy and completeness, additional information was gathered from the Nigeria Stock Exchange (NSE) fact books and the CBN statistical bulletins.

Model Specification

Variables and Measurement

Dependent Variable: Multiple indicators was used to measure the financial performance to provide a comprehensive assessment:

1. Return on Assets (ROA)
2. Return on Equity (ROE)
3. Net Interest Margin (NIM)

Method of Data Analysis

The relationship between internal audit characteristics and financial performance was examined using panel data regression analysis. The analysis was carried out using software known as Econometric View (E-view). The following is a typical expression for the regression model:

$FP_it = \beta0 + \beta1IAI_it + \beta2ACC_it + \beta3ICQ_it + \beta4BS_it + \beta5CAR_it + \beta6LDR_it + \beta7GDP_t + \varepsilon_it$. Where:

FP = Financial Performance measures (ROA, ROE, NIM)
IAI = Internal Audit Independence
ACC = Audit Committee Characteristics
ICQ = Internal Control Quality
BS = Bank Size
CAR = Capital Adequacy Ratio
LDR = Loan to Deposit Ratio
GDP = GDP Growth Rate
i = Bank, t = Year, ε = Error term

RESULT AND DISCUSSIONS

Descriptive Statistics

This sub-section provides the descriptive or summary statistics of the variables being examined in the study, such as Firm Operation (FO), Net Profit after Tax (NPAT), Firm Compliance (FC) and Firms Strategy (FS). The aforesaid variables are measured in log.

Data Presentation and Analysis

Sample Period: 2014 – 2023

Table 1: Descriptive analysis of the Return on Asset (ROA), Return on Equity (ROE), Debt to Asset (DTA), Market Return (MR) and Firm Listing Age (FLA)

	ROA	ROE	DTA	FLA	MR
Mean	1.955417	14.64158	87.20642	28.10000	0.802083
Median	1.490000	14.38500	87.02000	21.50000	0.790000
Maximum	5.620000	32.08000	100.0000	55.00000	1.330000

	ROA	ROE	DTA	FLA	MR
Minimum	0.360000	2.620000	76.25000	8.000000	0.630000
Std. Dev.	1.245423	7.095454	3.945669	15.39257	0.112406
Skewness	1.035799	0.440922	0.218232	0.425245	2.250896
Kurtosis	3.164145	2.388483	4.885513	1.602627	10.08276
Jarque-Bera	21.59231	5.758019	18.72829	13.37991	352.1582
Probability	0.000020	0.006190	0.000086	0.001243	0.000000
Sum	234.6500	1756.990	10464.77	3372.000	96.25000
Sum Sq. Dev.	184.5784	5991.111	1852.629	28194.80	1.503579
Observations	120	120	120	120	120

Table 1 comprises the descriptive analysis of the Return on Asset (ROA), Return on Equity (ROE), Debt to Asset (DTA), Market Return (MR) and Firm Listing Age (FLA). The mean values of the Net Profit after Tax, Firm Operation, Firm Compliance and Market Share (MS) are 1.955417, 14.64158, 87.20642, 28.10000 and, 0.802083 while the median of the series are 1.490000, 14.38500, 87.02000, 21.50000and, 0.790000. It should be noted that the median is a robust measure of the center of the distribution that is less sensitive to outliers than the mean. Meanwhile, the minimum ROA of the banks is 0.360000 with maximum of 5.620000 between 2014 and 2023. Meanwhile, the ROE has a maximum value of 32.08000and minimum of 2.620000 while the DTA and FLA and MR have minimum values of 76.25000, 8.000000 and 0.630000 and maximum values of 100.0000, 55.00000 and 1.330000. Furthermore, ROA and ROE have values of their Skewness as 1.035799and 0.440922while DTA, FLA and MR have Skewness of 0.218232,0.425245 and 2.250896 respectively. Meanwhile, the Jarque-Bera statistics and the probability show that ROA, ROE, DTA, FLA and MR have probability vales of 0 0.000020, 0.006190, 0.000086, 0.001243 and 0.000000 respectively. From the rule of thumb, these data are normally distributed because their values are greater than 5% probability level.

Model Normality Test

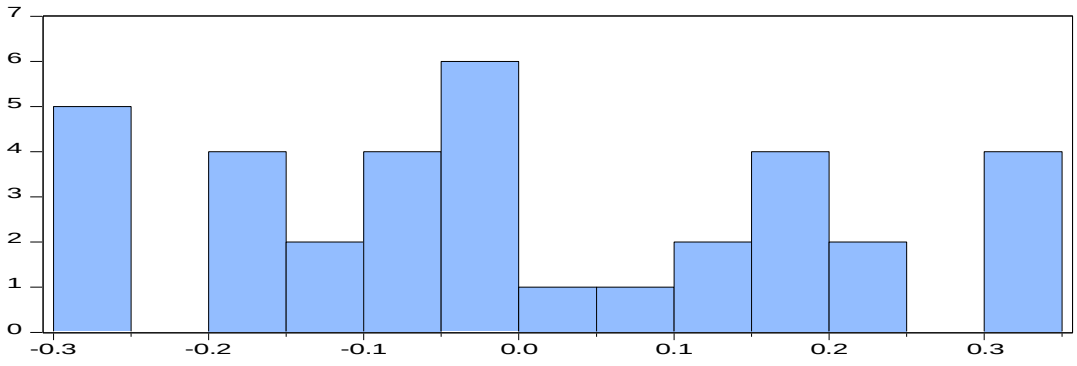


Figure 1: Normality test result

Figure 1 shows that the internal audit model's highest and minimum values are 0.345 and -0.298, with an average value of -7.9 and a median of -0.02. Additionally, the findings reveal that the variables' deviation from the mean is 0.194, with skewness of 0.208 indicating positive skewness and kurtosis of 1.97 suggesting that the variables are mesokurtic because the value is less than 3. In the meantime, the probability is 0.012 and the Jarque-Bera statistics are 1.77. Given that the probability value is below the five percent threshold, the outcome demonstrates that the variables are regularly distributed.

Unit Root Test

In an attempt to arrive at a plausible and robust empirical result, this research first tested the stationary of the data. The study employed the methods developed for panel-based unit root testing similar to tests on a single series by Levin, Lin, and Chu (2022), Breitung (2020), Hadri (2019), and Im, Pesaran, and Shin (2018). Interestingly, these researchers have shown that panel unit root tests are more efficient (less likely to commit a Type II error) than unit root tests applied to individual series because the cross-section data improves the information in the time series. However, only the Levin, Lin, and Chu t and Im, Pesaran, and Shin W-stat Panel Unit Root tests were recorded.

Table 2: Unit Root Test with Individual Intercept

Variables	Levin, Lin & Chu t*	Prob. Values	Decision	Im, pesaran and shin w-stat	Prob. Values	Decision
ROA	-5.78437	0.0000	L	-11.3664	0.0000	I(1)
ROE	-4.62033	0.0000	L	-10.4363	0.0000	I(1)
DTA	-2.47618	0.0066	L	-7.77995	0.0000	I(1)
FLA	-1.95607	0.4352	L	-26.8378	0.0000	I(2)
MR	-4.51808	0.0000	L	-9.95069	0.0000	I(1)

Reseachers Computation (2024) Using E-views 10.0

Table 2 present the unit root result of FO, MS, FC, FS and NPAT. According to the stationarity test results displayed in Table 2 and IPS test statistics with individual intercept, FO, MS, FC, and NPAT were stationary at Level alone, but FS was stationary at Second Difference. Since the data were found to be stationary at first difference, a co-integration test was employed to determine whether a long u link existed in the model.

Since these variables contain unit roots and the majority of the variables of interest are I(1) based on the foregoing results, a test for co-integration among these variables is recommended. The Peter Pedroni residual co integration test was used in the study because it can estimate panel data based on the supporting statistics.

Table 3 Pedroni Co-Integration Test Results:

TEST	Individual Statistics	Prob.	Weighted Statistics	Prob.	Group Statistics	Prob.
Panel rho-Statistic	1.003326	0.7336	1.031722	0.7851	1.735681	0.8775
Panel PP-Statistic	-3.051972	0.0020***	-3.000327	0.0021***	-3.757389	0.0002***
Panel ADF-Statistic	-2.613697	0.0034***	-2.479798	0.0086***	-3.091584	0.0006***

Researchers Computation using Eviews 10

The co-integration test for board diversity and financial reporting quality Model in Table 3 shows that the null hypothesis of no co-integration in the model is rejected since the p. values of the panel and group PP, Rho, and ADF Statistics are less than the 5% threshold of significance. This implies a co-integration of board diversity with the financial reporting quality model. Because of the co-integration, a Panel VECM long-term research is considered appropriate.

A Panel Vector Error Correction Model was employed in the study to determine whether independent variables are related to and have an impact on the dependent variable, as well as to investigate the types of these relationships. The model's ideal lag length was chosen using the lag length criteria prior to the analysis.

Correction Estimates

Error Correction:	D(ROA)	D(ROE)	D(DTA)	D(FLA)	D(MR)
CointEq1	-0.274164	-0.021564	-2.383695	1.11E-17	-0.052936
	(0.21643)	(1.34450)	(0.94560)	(9.9E-17)	(0.03620)
	[-1.26677]	[-0.01604]	[-2.52084]	[0.11210]	[-1.46218]
D(ROA(-1))	-0.016794	0.185778	0.652139	-1.25E-16	-0.023077
	(0.22206)	(1.37948)	(0.97019)	(1.6E-16)	(0.03715)
	[-0.07563]	[0.13467]	[0.67217]	[-0.76551]	[-0.62127]
D(ROA(-2))	0.050112	0.133725	-0.025048	-6.87E-17	0.041283
	(0.21222)	(1.31835)	(0.92720)	(1.6E-16)	(0.03550)
	[0.23614]	[0.10143]	[-0.02701]	[-0.44094]	[1.16292]

D(ROE(-1))	-0.034879	-0.265242	-0.123097	2.81E-17	0.000420
	(0.03713)	(0.23064)	(0.16221)	(2.7E-17)	(0.00621)
	[-0.93945]	[-1.15001]	[-0.75886]	[1.03168]	[0.06761]
D(ROE(-2))	-0.022529	-0.114290	0.034597	1.39E-17	-0.007758
	(0.03520)	(0.21869)	(0.15381)	(2.6E-17)	(0.00589)
	[-0.63998]	[-0.52261]	[0.22494]	[0.53636]	[-1.31739]
D(DTA(-1))	0.006984	0.004009	0.011518	-3.93E-18	0.000558
	(0.02354)	(0.14622)	(0.10283)	(1.7E-17)	(0.00394)
	[0.29675]	[0.02742]	[0.11200]	[-0.22736]	[0.14165]
D(DTA(-2))	-0.001448	0.064689	-0.086846	-1.18E-17	0.004240
	(0.02299)	(0.14283)	(0.10045)	(1.7E-17)	(0.00385)
	[-0.06297]	[0.45292]	[-0.86457]	[-0.69953]	[1.10243]
D(FLA(-1))	0.005908	0.037833	-0.027523	-5.48E-18	-0.002033
	(0.01014)	(0.06299)	(0.04430)	(7.4E-18)	(0.00170)
	[0.58265]	[0.60064]	[-0.62129]	[-0.73608]	[-1.19849]
D(FLA(-2))	-0.005908	-0.089566	0.040902	-5.53E-18	0.000340
	(0.01024)	(0.06359)	(0.04472)	(7.5E-18)	(0.00171)
	[-0.57718]	[-1.40850]	[0.91457]	[-0.73537]	[0.19877]
D(MR(-1))	0.460651	2.327605	2.631369	-6.79E-17	0.041268
	(0.73746)	(4.58128)	(3.22203)	(5.4E-16)	(0.12336)
	[0.62465]	[0.50807]	[0.81668]	[-0.12541]	[0.33453]
D(MR(-2))	-0.942321	-8.908811	-4.519819	1.23E-16	-0.398127
	(0.76492)	(4.75188)	(3.34202)	(5.6E-16)	(0.12796)
	[-1.23192]	[-1.87480]	[-1.35242]	[0.21965]	[-3.11146]

C	-0.078389	-0.315354	0.088815	1.000000	-0.006322
	(0.07214)	(0.44815)	(0.31519)	(5.3E-17)	(0.01207)
	[-1.08661]	[-0.70367]	[0.28178]	[1.9e+16]	[-0.52389]

R-squared	0.812022	Mean dependent	-0.090972
Adj. R-squared	0.779612	S.D. dependent	0.629492
S.E. equation	0.602453	Akaike AIC	1.975397
F-statistic	25.05467	Schwarz SC	2.354842
Log likelihood	-59.11431		
Prob(F-statistic)	0.000000		

Unweighted Statistics

Log likelihood	2230.162	Determinant resid covariance (dof adj.)	5.47E-33
Akaike information criterion	-60.14340	Determinant resid covariance	2.20E-33
Schwarz criterion	-58.08807		
Sum sq. resids	21.77697		

The Panel VECM calculates how internal auditing will affect financial performance over time. The ECM gauges how quickly the short-term relationship is adjusted in response to unforeseen shocks. The long-run model's residual effects are used to measure it. Significant ECM terms show this long-term feedback impact, while the significant coefficient on the individual variables reflects the short-term causation.

According to the findings, the F-statistics value is 25.05467 (0.0000), with a probability value below the significance level of one percent. This illustrated the combined impact of the explanatory factors, including Market Return (MR), Firm Listing Age (FLA), Debt to Asset (DTA), Return on Equity (ROE), and Return on Asset (ROA). The outcome also showed that the estimated coefficient of multiple determinations (R2) is 0.812022, meaning that Debt to Asset (DTA), Market Return (MR), and Firm Listing Age (FLA) account for 81% of the differences in Return on Equity (ROE) and Return on Asset (ROA).

Post Estimation Diagnostics

Post estimation checks were conducted to ascertain the model validity and whether they met the VECM standards. Autocorrelation and Heteroskedasticity Test were conducted.

Autocorrelation Test Result

VEC Residual Serial Correlation LM Tests

Null	Null	Null	Null	Null hypothesis:	Null
Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	24.80231	16	0.0734	1.665980	(16, 67.8)	0.0754
2	17.76901	16	0.3376	1.136241	(16, 67.8)	0.3416
2	37.77620	32	0.2222	1.224829	(32, 68.0)	0.2390

*Edgeworth expansion corrected likelihood ratio statistic.

To ascertain whether there is autocorrelation between the variables, the residual Serial Correlation LM Tests was performed. This is to stop the residual from correlating. According to the preceding table, the probability values are 0.07, 0.34, and 0.23, while the Rao-F statistics are 1.665980, 1.1362, and 0.222. There is no autocorrelation in the model because the probability value is greater than the 0.05 significant values.

Test of Hypotheses

Hypothesis One

H_{o1}: There is no significance relationship between internal audits independence on financial performance in deposit money bank in Nigeria.

The link between Return on Equity (ROE), Return on Asset (ROA), and Debt to Asset (DTA) was ascertained by regressing DTA on ROA and ROE. The outcome of the regression is displayed in table 4 above. With a coefficient of 0.004009, standard error of 0.011518, and t-statistics of -3.93E-18, the probability value is found to be 0.000558. The findings indicate that among a subset of Nigerian deposit money banks, Debt to Asset (DTA) may have an impact on changes in Return on Equity and Return on Asset between 2014 and 2023. The null hypothesis is rejected since the probability value is less than 0.05, indicating a significant association between internal audit independence and financial performance in Nigerian deposit money banks.

Hypothesis Two

H_{02}: There is no significance relationship between internal audit control system and financial performance in deposit money banks in Nigeria.

The results show that the probability value is 0.041268 with a coefficient of 2.327605, standard error of 2.631369, and t-statistics of -6.79E-17. This suggests that Market Return can account for variations in Return on Equity and Return on Asset in a few Nigerian deposit money institutions. Since there is a substantial correlation between the internal audit control system and the financial performance of Nigerian deposit money institutions, the null hypothesis is rejected since the probability value is less than 0.05.

Discussion of Findings

The study provides a comprehensive analysis of the financial health and operational dynamics of Nigerian deposit money banks over a decade. The data was analysed using descriptive statistics, unit root tests, co-integration tests, and hypothesis testing to identify both stability and variability in key financial performance indicators. Descriptive statistics reveal that Return on Equity (ROE) and Return on Assets (ROA) are critical indicators of a bank's profitability, with an average ROE of 14.641 and ROA of 1.955, respectively. However, the significant difference between minimum and maximum values of ROA (0.36 and 5.62) and ROE (2.62 and 32.08) indicates variability in performance among the banks. The mean Debt to Asset Ratio (DTA) measures the leverage used by the banks, with a mean DTA of 87.206 indicating a large portion of the banks' assets being financed by debt. The normality of the data, as assessed by Jarque-Bera statistics and probability values, suggests that ROA, ROE, DTA, FLA, and MR are normally distributed. The internal audit model shows a slightly positive skewness of 0.208, suggesting that the performance of internal audits across the banks is moderately consistent, with some variability but no extreme outliers.

And even Market Return (MR) and Firm Listing Age (FLA), provide insights into the market dynamics and maturity of the banks, with a mean market return of 0.802 and FLA of 28.1 years reflecting a mix of relatively mature banks with stable market performance. The distribution of firm ages is relatively balanced with a slight right skew.

Unit root and co-integration tests are crucial in determining the stationarity of the data, which is a prerequisite for reliable time-series analysis. The co-integration test using the Pedroni residual technique is appropriate to explore long-term relationships, with significant results from this test indicating a stable long-term equilibrium relationship between board diversity and financial reporting quality. As a result of that, The Vector Error Correction Model (VECM) analysis provides deeper insights into the dynamics between independent variables (ROA, ROE, DTA, MR, FLA) and dependent variables. The model explains a significant amount of the variation in financial performance measures, as confirmed by the high R-squared value and significant F-statistic.

Internal audit independence and financial performance are significantly correlated, according to hypothesis testing, underscoring the need of independent audits in improving financial results. Furthermore, there is a strong correlation between internal audit control systems and financial performance, highlighting the need of strong audit controls in reducing financial risks and enhancing banks' overall financial health. Lastly, the substantial correlation between financial performance and internal audit quality indicates that internal audit quality is a crucial factor in determining financial success.

CONCLUSION AND RECOMMENDATIONS

The study examines the financial performance of Nigerian deposit money banks over a ten-year period, with a focus on internal audit procedures, debt management, market performance, and firm maturity. The findings show that these factors significantly affect the financial performance of banks. Even while banks' overall performance remained stable, significant swings in key financial indicators like Return on Equity and Return on Assets show operational efficiencies and profitability levels. The high debt-to-asset ratios of some banks emphasise the need for cautious debt management strategies to lower financial risks. The study also confirms long-term relationships between board diversity and financial reporting quality, highlighting the need of diverse governance systems for financial stability and transparency.The dynamic interaction between internal audits, debt management, market returns, and business maturity is further illustrated by the Panel Vector Error Correction Model (VECM), which explains a large percentage of fluctuations in financial performance. In order to achieve long-term financial stability and growth in the Nigerian banking system, the study highlights the necessity of strong financial controls and strategic management.

The following recommendations are proposed to enhance the financial performance of deposit money banks in Nigeria based on the findings of this study:

i. Prioritize diversification and quality of asset portfolios through prudent lending, low-risk securities investment, and diversification across asset classes.
ii. Implement robust credit risk management frameworks to mitigate losses from non-performing loans.

REFERENCES

Adeusi, A. S. (2026). Agency theory in auditing: Review of past and present. *International Journal of Research and Innovation in Social Science*, *10*(14), 1058–1073. https://doi.org/10.47772/ijriss.2026.1014mg0078

Akinbode, F. A., Akinbode, F. A., Bilewu, O. A., Omoba, O. O., & Fagbemi, B. A. (2025). Management innovation and financial performance of deposit money banks in Nigeria: A review of literature. *Journal of Business Development and Management Research*. https://doi.org/10.70382/ajbdmr.v8i7.020

Alashe, A. K., & Bello, A. O. (2021). The impact of internal audit on financial performance of deposit money banks in Nigeria. *African Journal of Accounting and Financial Research*, *4*(3), 139–149. https://doi.org/10.52589/ajafr-y18chqby

Al-Faryan, M. A. S. (2024). Agency theory, corporate governance and corruption: An integrative literature review approach. *Cogent Social Sciences*, *10*(1). https://doi.org/10.1080/23311886.2024.2337893

Alkhazaleh, Q. K. A., Abbas, S. A. A., & Sadaa, A. M. (2023). The effect of corporate governance on audit quality: Evidence from Jordanian listed firms. *Asian Journal of Economics Business and Accounting*, *23*(17), 40–52. https://doi.org/10.9734/ajeba/2023/v23i171040

Amuzat, S. A., & Aina, G. A. (2025). Internal audit, risk management practices and performance of deposit money banks in Nigeria. *International Journal of Development Research, 15*, 1–4. https://doi.org/10.37118/ijdr.29546.05.2025

Avendei, M. (2026). Internal audit and risk management in Nigeria's public sector. *Journal of Accounting and Financial Management*, *12*(4), 219–237.

Beisland, L. A., Mersland, R., & Strøm, R. Ø. (2015). Audit quality and corporate governance: Evidence from the microfinance industry. *International Journal of Auditing*, *19*(3), 218–237. https://doi.org/10.1111/ijau.12041

Contrafatto, M. (2014). Stewardship theory: Approaches and perspectives. In *Accountability and social accounting for social and non-profit organizations* (Vol. 17, pp. 177–196). https://doi.org/10.1108/s1041-706020140000017007

Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, *22*(1), 20. https://doi.org/10.2307/259223

Ebifinidei, O., &Igorji Weli, A. (2025). Financial risk management and financial performance of listed deposit money banks (DMBs) in Nigeria. *Journal of International Accounting and Economics*, *10*(2), 129–158. https://www.bwjournal.org/index.php/bsjournal/article/view/3002

Eulerich, M., Henseler, J., & Köhler, A. G. (2019). The internal audit dilemma – the impact of executive directors versus audit committees on internal auditing work. Managerial Auditing Journal, 32(9), 854-878. https://doi.org/10.1108/MAJ-08-2016-1435

Federal Republic of Nigeria. (2020). Banks and Other Financial Institutions Act, 2020. Official Gazette of the Federal Republic of Nigeria.

Ifeanyichukwu, O. M., &Orjinta, H. I. (2023). Effect of audit quality on financial performance of deposit money banks in Nigeria. *Journal of Accounting and Financial Management*, *9*(11), 162–178. https://doi.org/10.56201/jafm.v9.no11.2023.pg162.178

Ike, E. R., &Ihunde, G. E. (2025). Internal audit functions and profitability of deposit money banks in Benin-City Edo State. *American Interdisciplinary Journal of Business and Economics*, *12*(1), 18–35.

Jamandilović, S. (2021). Internal audit key quality components. *Revizor*, *24*(94), 59–65. https://doi.org/10.5937/rev2194059j

Jide, I., Abdulrasheed, B., & Leke, B. G. (2025). A contextual review of stewardship theory in corporate governance: Implications for business practices. *Premier Journal of Business and Management*. https://doi.org/10.70389/pjbm.100010

Lottu, O. A., Abdul, A. A., Daraojimba, D. O., Alabi, A. M., John-Ladega, A. A., &Daraojimba, C. (2023). Digital transformation in banking: a review of Nigeria's journey to economic prosperity. *International Journal of Advanced Economics*, *5*(8), 215-238.

Mashayekhi, B., & Yazdanian, A. (2018). A survey on key components of internal audit. *Journal of Accounting and Auditing Review, 25*(1), 135–158. https://doi.org/10.22059/acctgrev.2018.249557.1007794

Muotolu, C., &Nwadialor, E. O. (2019). Effect of audit quality on the financial performance of deposit money banks in Nigeria. *International Journal of Trend in Scientific Research and Development, 3*(2), 923–932.

Nguyen, Q. M., & Nguyen, C. V. (2024). Corporate governance, audit quality and firm performance: An empirical evidence. *Cogent Economics & Finance, 12*(1). https://doi.org/10.1080/23322039.2024.2334128

Njoku, B. (2019). The Evolution and Development of the Banking Industry in Nigeria, 1892-2015. *Lagos Historical Review, 19*.

Nyongesa, R., Musiega, M., &Kwendo, E. S. (2024). Effect of internal audit timeliness on financial performance of deposit taking savings and credit cooperatives in Western Kenya. *African Journal of Empirical Research, 5*(4), 1904–1915. https://doi.org/10.51867/ajernet.5.4.159

Ogoun, S., &Perelayefa, O. G. (2020). Corporate governance and audit quality in Nigeria. *American Journal of Industrial and Business Management, 10*(02), 250–261. https://doi.org/10.4236/ajibm.2020.102016

Ojeka, S. A., Ben-Caleb, E., Ekpe, E. O., &Okoye, S. I. (2017). Cyber security in the Nigerian banking sector: An appraisal of audit committee effectiveness. International Review of Management and Marketing, 7(2), 340-346.

Okoye, L. U., Erin, O., Modebe, N. J., &Achugamonu, U. (2017). Impact of information technology on the efficiency of banks in Nigeria. Proceedings of the 29th International Business Information Management Association Conference, 1183-1198.

Okwuego, S. P., Onukelobi-Emeka, C. P., Ifeme, S. C., & Taiwo, A. P. (2026). Internal audit mechanisms and return on assets of quoted firms in Nigeria. *Journal of Accounting and Financial Management, 12*(3), 421–437.

Oladejo, M. O., & Oladejo, O. S. (2026). Internal audit practices and financial performance of deposits money banks in Nigeria. *International Journal of Management Science and Business Analysis Research*. https://doi.org/10.70382/caijmsbar.v11i7.077

Olaoye, C. O., & Dada, R. A. (2014). Analysis of frauds in banks: Nigeria's experience. European Journal of Business and Management, 6(31), 90-99.

Omolade, O. T. (2025). Enhancing risk management through internal audit quality: Insights from South West Nigerian money deposit banks. *International Journal of Social Sciences and Management Research, 11*(7), 65–82. https://doi.org/10.56201/ijssmr.vol.11no7.2025.pg65.82

Ongore, V. O., &Kusa, G. B. (2013). Determinants of financial performance of commercial banks in Kenya. International Journal of Economics and Financial Issues, 3(1), 237-252.

PwC. (2023). Internal audit's role at financial institutions. PwC. https://www.pwc.com/us/en/industries/financial-services/library/our-take/bank-stress/internal-audit-financial-institutions.html

Saitmuratov, S. (2025). Conducting internal audit activities based on international standards. *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.15672588

Sipahelut, G. A. H., & Ratnawati, T. (2023). Audit kepatuhan 2 menilaiankontrol internal dalamstudiliteratur. *Jurnal Riset Ekonomi Dan Akuntansi*, *1*(3), 102–112. https://doi.org/10.54066/jrea-itb.v1i3.619

Sule, S., Isah, N., Ajibola, A. A., &Tyasari, I. (2025). Audit quality, governance mechanisms, and the financial performance of Nigerian deposit money banks. *International Journal of Accounting Management and Economic Review*, *1*(3), 104–116. https://doi.org/10.57233/ijamer.v1i3.07

Thanasas, G. L., & Lampropoulos, S. (2023). Thriving through crisis: Unraveling internal auditing's role in value creation. *Theoretical Economics Letters*, *13*(05), 1322–1340. https://doi.org/10.4236/tel.2023.135074

Usaini, M. (2025). Financial accounting ratios as a tool for evaluation of organisational performance in Nigerian deposit money banks. *FMDB Transactions on Sustainable Technoprise Letters*, *3*(3), 160–169. https://doi.org/10.69888/ftstpl.2025.000448

Ushurlyak, D. A. (2024). Internal audit and control in an enterprise: How it works and why it is needed. *8*, 59–63. https://doi.org/10.33920/pro-01-2408-09

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