

Risk Management Techniques and Potential Fraudulent Financial Reporting in Nigeria

Betty Oluwayemisi ALI-MOMOH, Olusola Daniel APALOWOWA, Iyiola Emmanuel FALUSI, Olubu Adefarati ALO, Adeniyi Rachael AJAYI

Department of Accounting, Faculty of Management Sciences, Federal University, Oye Ekiti, Ekiti State, Nigeria

Received: 20.06.2025 | Accepted: 05.07.2024 | Published: 07.07.2025

*Corresponding author: Olusola Daniel APALOWOWA

DOI: [10.5281/zenodo.15831764](https://doi.org/10.5281/zenodo.15831764)

Abstract

Original Research Article

This study investigated the influence of risk management techniques on potential fraudulent financial reporting in Nigeria using an Error Correction Modeling (ECM) technique. The study adopted an Ex-Post-Facto research design to identify causal relationships based on existing historical data, which could not be manipulated by the researcher. Secondary data were sourced from the published annual reports of listed Deposit Money Banks (DMBs) on the Nigerian Exchange Group (NGX). A total of fourteen (14) DMBs met the inclusion criteria, but applying purposive sampling and excluding banks that entered receivership or were listed after 2014, the final sample consisted of nine (9) DMBs. The study covered a ten-year period (2015-2024), and data were analyzed using descriptive statistics and panel regression. The long-run findings reveal that Credit Risk Management (CRM) has a negative and statistically significant effect on fraudulent financial reporting (coefficient = -0.66725, $p = 0.0325$), indicating that improved (CRM) techniques deter financial misreporting over time. Operational risk management is positively signed and significant (coefficient = 0.05864, $p = 0.0030$), suggesting that enhanced operational risk controls promote financial transparency. Risk committee size is also negatively signed and significant (coefficient = -1.04629, $p = 0.0014$), demonstrating that larger committees improve oversight and reduce fraud. In the short-run dynamics, the error correction term is negative and highly significant (coefficient = -0.768869, $p = 0.0002$), indicating that approximately 77% of short-run deviations from the long-run equilibrium are corrected annually. Short-run changes in CRM are insignificant (coefficient = 0.495008, $p = 0.4429$), while ORM remains significant (coefficient = 0.18193, $p = 0.0019$). Changes in RCS are statistically insignificant (coefficient = -0.00676, $p = 0.9934$). The study concludes that risk management techniques specifically CRM, ORM, and RCS significantly influence the pattern of fraudulent reporting in Nigeria, especially in the long run. The study recommended that should banks strengthen their risk control systems and that regulators should enforce forward-looking governance policies to mitigate financial fraud in the banking sector.

Keywords: Risk Management Technique, Credit Risk Management, Operational Risk Management, Risk Committee Size and Potential Fraudulent Financial Reporting.

Citation: Ali-Momoh, B. O., Apalowowa, O. D., Falusi, I. E., Alo, O. A., & Ajayi, A. R. (2025). Risk management techniques and potential fraudulent financial reporting in Nigeria. *SSR Journal of Economics, Business and Management (SSRJEBM)*, 2(4), 7-16.

1.0 INTRODUCTION

Globally, potential fraudulent financial reporting poses a serious threat to corporate governance, investor trust, and financial market integrity. Financial statement fraud, although accounting for only 9% of all cases of occupational fraud, according to the Association of Certified Fraud Examiners (ACFE) 2024 Report, yields the largest median losses per case of an estimated \$766,000. The study points out that more than 40% of these instances of fraud involve deliberate manipulation to inflate earnings, and weak internal controls and pressure from

management are key enablers (Beckley, 2025). Driving the point further, the PwC 2023 Global Economic Crime Survey reported that 47% of organizations worldwide have experienced financial misreporting within the last two years, with emerging markets the worst hit by weak regulatory enforcement and weak governance frameworks (Ezirim et al., 2020). Fraudulent financial reporting is rampant in Nigeria, particularly in the banking, manufacturing, and government sectors. Numerous financial misstatements have been unearthed by regulatory bodies such as the Financial Reporting Council of Nigeria (FRCN) and the Economic and Financial Crimes Commission

(EFCC). More than 40 corporate entities were probed by the EFCC in 2023 alone, with more than ₦108 billion of suspicious transactions identified (Ogundele & Nzama, 2025; Oyekunle, 2024). Some of the notable occurrences in this context are the Cadbury Nigeria accounting scandal and other recent irregularities, implying persistent failures in financial reporting standards and oversight. To detect suspicious financial misreporting, two key financial metrics are good proxies: Return on Assets (ROA) and Earnings Per Share (EPS). ROA analyzes the ability of a company to use its assets to produce earnings (Krause et al., 2007). When inflated without sound business justification, it generally points towards overstatement of revenue or asset valuation mistakes. EPS, or profit per outstanding share, is another common victim of manipulation particularly in firms anticipating meeting investor expectations (Opuene & Amadiwo, 2025). Companies manipulate revenues or postpone expenses to inflate EPS. Credit risk management, operating risk, and risk committee size have a relationship with risk committee size and financial reporting quality that is central to the practice of risk management (Onsongo et al., 2019). Credit risk management controls borrower default risks through mechanisms such as credit appraisals and collateral check (Apalowowa et al., 2025). In the same vein, operational risk controls losses resulting from internal failures, buffered by internal checks, segregation of duties, and IT security (Adekanmi et al., 2025). Committee size and structure influence governance efficacy larger and more independent committees deliver better control (Duniya et al., 2024). These variables influence each other forcefully in Nigerian Deposit Money Banks (DMBs). Weak credit risk processes typically result in non-performing loans and these institutions cover up using reporting manipulation of ROA or EPS. Weak operating risk processes enable internal fraud to be not detected, and weak risk committees reduce accountability. Hence, a more cohesive and robust risk management regime is essential to reduce fraudulent reporting in Nigeria's banking sector.

1.1 Statement of the Problem

Credit management is among the issues facing the banking sector of Nigeria. In actuality, it has been characterized by credit appraisal failure, ineffective operations, and ineffective risk committee structure in some of the deposit money banks in Nigeria, with high potential for earning manipulation and financial reporting fraud as exemplified by recent financial scandals and regulatory investigations (Burlacu et al., 2025). Literature has interactive effect of credit risk management, operational risk, and board governance composition of the risk committee on potential fraudulent financial reporting, particularly in emerging economies like Nigeria where institutional defects and governance challenges are more pronounced (Aboud & Robinson, 2022). The potential fraudulent financial reporting of banks is interrelated with how extensively they control financial risks. That are tied with credit risk, market risk, operational risk, and liquidity risk,

are inherent in the banking industry and may have far-reaching effects on an institution's profitability, stability, and ultimate existence. As much as the contribution of risk management instruments to the banking industry has increased in importance, issues have been emerging that many Nigerian banks still lack competence in managing such risks (Adejumo & Ogburie, 2025). Such a conflict may lead to suboptimal potential fraudulent financial reporting, shareholder value erosion, and even bankruptcy, as has been witnessed during past financial crises. For these reasons, the following three questions were answered. How does credit risk management affect return on assets of listed deposit money banks in Nigeria? What is the extent to which operation risk management affects return on assets of listed deposit money banks in Nigeria? And what is the moderating effect of risk committee size on the relationship between total risk management techniques and return on assets of listed deposit money banks in Nigeria?

1.2 Objective of the Study

This study's main goal was to assess how financial risk management affected the financial performance of Nigerian listed deposit money banks. Thus, the specific goals of this research are to:

- i. assess how credit risk management affects the return on assets of Nigerian listed deposit money banks;
- ii. assess how operational risk management affects the return on assets of Nigerian listed deposit money banks; and
- iii. assess how much the size of the risk committee influences the relationship between total financial risk management and return on assets of Nigerian listed deposit money banks.

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Potential Fraudulent Financial Reporting

Potential fraudulent financial reporting refers to the likelihood or threat of deliberate misstatement or manipulation of financial reports through the management in order to mislead stakeholders about the financial standing and performance of a company (Adejumo & Ogburie, 2025). Potential fraudulent financial reporting can lead to significant harm to corporate integrity, often driven by the need to meet earnings estimate and conceal financial issues (Agarwal et al., et al., 2024). Fraudulent financial reporting undermines investors' confidence, misdirects strategic decisions, and potentially invoke severe legal consequences and damage to reputation (Ullah et al., 2024). It commonly involves techniques such as earnings management, overstatements of revenues, and understatement of liabilities because organizations must adopt robust internal controls and promote ethical financial reporting to mitigate this risk (Oyekunle, 2024).

2.1.2 Risk Management Techniques

Ogundele and Nzama (2025) postulate that risk management strategies are company methods and tools used to identify, assess, minimize, and monitor risks that could affect business objectives achievement. Apalowowa et al. (2025) assert that effective risk management strategies enable companies to foresee uncertainties, thus preventing potential losses and enhancing their ability to withstand operations. These techniques include risk avoidance, reduction, sharing such as insurance and retention and techniques like SWOT analysis, risk mapping, scenario analysis, and internal controls are being increasingly employed (Adekanmi et al., 2025). An integrated system of risk management will ensure that dangers are systematically addressed at strategic as well as operational levels.

2.1.3 Credit Risk Management

Scott et al. (2024) opined that credit risk management is the process of identifying, measuring, and controlling the risk of loss in funds resulting from a borrower defaulting to repay a loan or honor contractual obligations. Olaiya et al. (2021) posit that credit risk management is important for banks to maintain portfolio quality and avoid capital erosion as a result of loan defaults. Credit risk management involves techniques such as credit scoring, risk-based pricing, credit limits, and monitoring of loans continuously (Duniya et al., 2024). Furthermore, institutions conduct due diligence and have recourse to collateral to minimize default risk because a healthy credit policy makes provision for lending to good repayment capacity borrowers, thus ensuring financial soundness (Onsongo et al., 2019).

2.1.4 Operational Risk Management

Operational risk management involves the identification, assessment, and minimization of the probability of loss resulting from failed or ineffective internal processes, people, systems, and external events (Iyoha & Okojie, 2018). Operational risk infiltrates every area of business, and operational risk management is essential in ensuring continuity, compliance, and stakeholder confidence (Onsongo et al., 2019). The common operational risks include system breakdowns, human mistakes, fraud, and natural disasters and monitored by organizations using metrics such as Key Risk Indicators (KRIs), Risk Control Self-Assessments (RCSAs), and incident reports (Olaiya et al., 2024; Scott et al., 2022). A well-designed operational risk framework improves internal governance and reduces exposure to disruption.

2.1.5 Risk Committee Size

Risk committee size refers to the number of members in an organization's risk management oversight committee, whose role is to oversee risk management procedures (Olaiya et al., 2023). The size

of a risk committee can influence its performance since a few members may lack diversity of skills and a large number may be ineffective.

Opuene and Amadiwo (2025) states that the ideal size for a risk committee is a balance between effectiveness and representation, typically between an optimally sized committee that give proper consideration to various areas of risk such as credit, operational, and strategic risks. The composition of the committee needs to be a mix of skills, independence, and experience to support effective decision-making (Alalade et al., 2020).

2.1.6 Return on Assets (ROA)

Obizue and Eme (2025) articulate that Return on Assets (ROA) is a profitability measure to gauge the comparison of how effectively an enterprise utilizes its overall assets to generate net income. ROA is a significant management efficiency indicator of the ability to utilize enterprise resources for earning generation as Net Income over Total Assets, ROA provides a vision of asset productivity. It indicates greater efficiency and sounder financial performance with more ROA (Adekanmi et al., 2025; Olaiya et al., 2023; Iyoha & Okojie, 2018). ROA is contrasted by investors and analysts between companies, specifically companies in capital-intensive sectors. It must be interpreted in relation to other financial metrics to make a rational assessment.

2.2 Theoretical Underpinning

The study reviewed the following two theories, namely Contingency Theory of Fraud Risk Management and Enterprise Risk Management (ERM) Theory. However, the study is underpinned on Contingency Theory of Fraud Risk Management because, the theory explains the interplay of risk management techniques and potential fraudulent financial reporting

2.2.1 Contingency Theory of Fraud Risk Management

Contingency Theory of Fraud Risk Management was developed by Donaldson, (1987), the theory was later adapted to fraud risk by (Lamprey & Singh, 2018). The Contingency Theory of Fraud Risk Management, as adapted by Lamprey and Singh (2018), is that the design and effectiveness of fraud risk controls are a function of organizational size, environment, structure, and complexity, in that fraud mitigation controls must be tailored to suit the distinct context of an organization (Egejuru, 2023). The theory suggests that fraud prevention and detection methods are not generic and must be tailored to internal and external factors such as leadership style, industry risk, regulatory pressure, and resources available, which in Nigeria generally vary quite widely between private and public organizations (Maulidi, 2023). The theory assumes organizational differences influence fraud risk exposure significantly and a customized and adaptable risk management system would perform better than an standardized one (Safkaur

et al., 2025). The theory is criticized for lacking uniformity in application in organizations, thus benchmarking is impossible, and recommending subjectivity in the selection and application of control techniques, which leads to inconsistency in the reduction of fraud risk (Hadiyanti et al., 2024). The strength of the theory is that it is flexible, as it allows organizations to design fraud risk management systems that are responsive to their own operational rhythms, especially in volatile and corrupt settings like Nigeria. This is theory that informal for Nigeria as it addresses the need for context-based fraud control strategies in organizations with differing regulatory supervision, technological development, and susceptibility to corruption, such as ministries, banks, and oil companies.

2.2.2 Enterprise Risk Management (ERM) Theory

The Enterprise Risk Management (ERM) Framework of COSO, built in 2004 and updated in 2017, provides a formal, holistic approach to find, assess, respond to, and keep an eye on risks, such as the risk of fraudulent financial reporting within an organization. ERM puts emphasis on the incorporation of risk management into operating and strategic decision-making, with specific components like risk identification, monitoring, and control activities helping organizations in Nigeria take affirmative measures to avoid, detect, and respond to financial misreporting (Shah et al., 2025). ERM assumes that each organization has inherent risks that can affect attaining their goals and that incorporating risk management at all levels of the firm enhances robustness and reduces exposure to financial malpractice. The theory has been criticized as overly complicated and in terms of resource utilization, and accordingly for being difficult to implement for smaller or less structured organizations, and for sometimes failing to address behavioral fraud factors such as personal ethics or management override (Mupa et al., 2024). The strength of ERM is its whole and standardized approach, which maximizes visibility, responsibility, and oversight, and incorporates fraud avoidance initiatives into overall strategic goals (Utami et al., 2023). ERM framework is most relevant in Nigeria because it supports compliance with regulation, public sector transparency and accountability, and improves governance in high-risk sectors such as banking, oil and gas, and government finance.

2.3 Empirical Review

Burlacu et al. (2025), examines the validity of Fraud Pentagon Theory in detecting fraudulent financial reporting of companies listed on Bucharest Stock Exchange. Their paper contributes to the literature as it empirically tests the theory in a Romanian environment, an emerging nation that has been subjected to scant antecedent examination, based on a sample of 62 listed companies over the period 2017–2021. Regression analysis was used, with the Dechow F-score, which includes accrual quality and financial performance as variables to measure the likelihood of fraudulent

reporting. Their findings indicate that not all dimensions of the theory significantly affect the likelihood of fraudulent reporting. Financial performance, and financial health) were statistically significant.

Enumah (2025) writes about the divers risk challenges in the oil and gas sector in Nigeria and examines the sufficiency of current risk management practices. The analysis separates risks into operational, financial, regulatory, environmental, geopolitical, and market-based issues that feed into the volatility of the industry. Discovery was that oil theft, pipeline vandalism, volatility of global oil prices, environmental risks, regulatory gaps, and security issues in producing areas are the factors. These threats not only affect the efficiency of production and revenue generation but also discourage foreign and domestic investments, further increasing vulnerabilities of the sector.

Adejumo and Ogburie (2025) analyzed financial statement manipulation both from the ethical as well as regulatory perspectives, talking of its reasons, methods, consequences, and the measures taken to prevent such immoral act. Ethically, financial statement manipulation undermines fundamental values of honesty, integrity, and transparency due to pressure to meet earnings targets, earn executive bonuses, or attract investor interest. Companies use devices like revenue recognition fraud, overstating expenses, and overstating assets to generate a deceptive financial position. Financial statement manipulation not only undermines trust in financial reporting, but it is at the center of corporate scandals that ruin reputations and have severe economic consequences. Oyekule (2024) examines various risk management practices and their impact on construction project performance. Project performance is such that the project's objectives are fulfilled with respect to cost, schedule, and quality. A survey research method was adopted using a questionnaire as the primary instrument for data collection on a five-point Likert scale. The questionnaire was designed to collect data related to the contribution of risk management towards project performance. The questionnaires were also used to obtain information regarding risk identification as a risk management practice and how it impacts project performance. 85 questionnaires were collected and processed. The results of his research indicate a strong correlation between project performance and risk management practices.

Ullah et al. (2024), investigated the impact of risk identification techniques on international contracting professionals within the construction industry. The research design for conducting their research is based on data collection in accordance with questionnaires dispatched to construction industry professionals as well as academics. The tools were used to develop required building blocks from the factors constructed. This was then analyzed using quantitative techniques for examining specified risk factors and inferring from the studies. Their findings brought out the relevant PRM-related implications for global projects and several risks that were considered in overall construction projects.

Olaiya et al. (2024) examines the determinants of profitability, as quantified by adjusted risk-adjusted

return on capital for listed insurance firms in Nigeria. Utilized a panel data regression analysis, we use four models: pooled regression, fixed effects, random effects, and Difference Generalized Method of Moments (D-GMM) to investigate the effects of operational risk factors, such as the profitability ratio, expense ratio, leverage, and firm size, on Adjusted RAROC. Their study result showed that leverage and firm size have important roles in profitability, where higher leverage is related to higher profitability in certain models.

Scott et al. (2024) explores the new technologies and approaches being implemented to enhance credit risk management and safeguard financial institutions from potential losses. Credit risk, the threat that a borrower may default on his obligation, poses a perilous threat to financial stability. Traditionally applied methods of assessing and managing credit risk, such as credit scoring and historical data analysis no longer meet the character of today's potential fraudulent financial reporting and financial markets. Advanced risk management tools offer more efficient and dynamic tools for spotting, assessing, and managing credit risk.

Aboud and Robinson (2022) write about the effectiveness of fraud avoidance and detection techniques. A questionnaire was sent to 73 Irish companies to ascertain the level to which traditional method, data mining or text mining are utilized to avoid or identify fraudulent financial reporting, and to ascertain the level of perception that they are effective. The research indicates that while data analytics is extremely common within companies in Ireland there is a lack of utilization of data analytics as a potent weapon in the war against fraud. Also, their study also, concluded that there are obstacles that prevent companies from embracing advanced data analytics to detect financial statement fraud and outlines how such obstacles can be addressed.

2.4 Knowledge Gap

There is a gap in empirical study examining the moderating influence of risk committees on the connection between risk management techniques and financial performance, especially in the context of publicly listed deposit money banks in Nigeria. The majority of the past literature has used traditional static models in analyzing the link between financial risk management and financial performance, including research works by (Adekanmi et al., 2025; Apalowowa et al., 2025; Obizue & Eme, 2025; Opuene & Amadiwo, 2025; Iyoha & Okojie, 2018). These models tend to ignore the dynamic and temporal nature of the relationship, thus restricting their capability to offer a full insight into how financial risk management influences performance through time. Although there have been some studies on the Nigerian banking sector, none of

these studies has employed a moderating variable, such as risk committee size and operational risk, to examine the influence of risk management practices on potential fraudulent financial reporting within context of listed Deposit Money Banks in Nigeria.

3.0 METHODOLOGY

The study *Ex-Post-Facto* Research Design was employed in the study. The design is employed to establish the causes of a given situation. The variable is not controlled by the researcher because it already exists in the past. The data employed are derived from the annual published reports of the listed Deposit Money Banks (DMBs) on the Nigerian Exchange Group (NGX). The sample is fourteen (14) listed Deposit Money Banks in the Nigerian Exchange Group (NGX) as of April 31, 2025. To be eligible for inclusion in the study, a bank should have available data for the whole period of analysis; thus, fourteen (14) listed Deposit Money Banks were utilized. Nine (9) deposit money banks were utilized as a total sample size by applying a purposive sampling technique. The Nigerian Exchange Group database instructed that the inclusion criteria included banks that operated between 2015 and 2024. The exclusion criterion instructed the exclusion of banks that proceeded into receivership or were listed with the Nigerian Exchange Group after 2014. The exclusion criterion led to the sample size being reduced to nine (9) banks. The banks were interviewed, and data were examined over a period of ten years. The study established the Descriptive Analysis category and conducted Panel data. The study adapted a model in the study of Opuene and Amadiwo (2025), the research analysis was predicated on a functional effect to find out the variables: the independent variable of financial risk management, with indicators like credit risk management (CRM) and operational risk management (ORM).

$$ROA = f(CRM, ORM, RIC) \dots \dots \dots \text{equ. (i)}$$

$$ROA_{it} = a_0 + a_1 CRM_{it} + a_2 ORM_{it} + a_3 RIC_{it} + U_{it} \dots \dots \dots \text{equ. (ii)}$$

Where

ROA = Return on Assets

CRM = Credit Management

ORM = Operating Risk Management

RCS = Risk Committee Size

f = Function

t = Time period considered by the study

a_0 = Constant a_1 - a_3 = Parameters or coefficients of the explanatory variable u = Error term

The Apriori expectation is that $a_1 > 0$; $a_2 > 0$; $a_3 > 0$. The measurement of the effect of risk management techniques and potential fraudulent financial reporting in Nigeria.

Table 1: Summary of Measurement of Variables

Variables	Variable Type	Description/Measurement	Sources
Credit Risk Management (CRM)	Independent	Aggregation of non-performing loan ratio and capital adequacy ratio	(Apalowowa et al., 2025; Olaiya et al., 2024)
Operational Risk Management	Independent	Aggregation of cost to income ratio and risk cost of business	(Olaiya et al., 2024; Scott et al., 2024)
Risk Committee Size	Moderating Variables	The total number of board members divided by the risk committee size	(Adekanmi et al., 2025),
Earnings Per Share	Dependent	EPS were directly derived from the statement of comprehensive income accounts of the companies utilised in this investigation.	(Obizue & Eme, 2025)

Source: Authors Computation (2025)

4.0 DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Descriptive Statistics

Descriptive Analysis was conducted based on version 9 of E-Views, but Unit Root Test was conducted by applying the Augmented Dickey-Fuller (ADF) test to determine the stationarity of data set, in conjunction with the Panel Regression Technique. The Return on Assets (ROA) averages 3.4253, indicating moderate average profitability of the firms that were sampled. However, the huge disparity between the highest value (32.6510) and the lowest value (4.6953), a high skewness value of 1.9871 and kurtosis of 4.1387 confirms a skewed distribution with potential outliers. The Jarque-Bera (JB) statistic also confirms non-normality with a probability value of 0.0000, suggesting the residuals are not normally distributed. Earnings Per Share (EPS) averages 1.3242, with the minimum being -2.0000, indicating that there were some negative earnings by some companies. The distribution is fairly symmetric

(skewness = 0.2808), and the kurtosis is close to normal distribution (2.7632). The JB test p-value (0.6273) suggests that the EPS data is normally distributed. Credit Risk Management (CRM) has a mean of 5.2615 and an insignificantly negative skew (-0.2350), suggesting a mild left tail. Its kurtosis is 2.6023, which is close to normal level, but JB test probability (0.0565) is slightly higher than 5%, indicating borderline normality. Operational Risk Management (ORM) has a mean of 10.3489 with lowest and highest values of 6.6000 and 14.5312, respectively. It is very slightly negatively skewed (-0.3078), and its kurtosis is close to normal (3.0993). JB test (p = 0.4231) once again guarantees that ORM distribution is almost normal. Risk Committee Size (RCS) is normally distributed with a mean of 0.5035 and is moderately skewed to the right (0.5496) with kurtosis of 3.5331. Although the distribution slightly deviates from normal, the JB p-value is 0.3343, indicating that the residuals are not statistically different from a normal distribution.

Table 1: Descriptive Statistics

	ROA	EPS	CRM	ORM	RCS
Mean	3.4253	1.3242	5.2615	10.3489	0.5035
Median	0.0909	1.6840	6.9506	10.5032	0.7760
Maximum	32.6510	4.0831	8.0306	14.5312	1.9043
Minimum	4.6953	-2.0000	5.3219	6.6000	0.7252
Std. Dev.	1.4359	1.0983	0.5408	1.4004	0.8215
Skewness	1.9871	0.2808	-0.2350	-0.3078	0.5496
Kurtosis	4.1387	2.7632	2.6023	3.0993	3.533105
Jarque-Bera	64.5457	1.5786	0.6742	0.1882	1.0632
Probability	0.0000	0.6273	0.0565	0.4231	0.3343
Sum	380.4147	128.084	578.3291	121.032	52.7293
Sum Sq. Dev.	8081.587	107.1275	26.6830	232.351	1.5740
Observations	90	90	90	90	90

Source: Author Computation (2025)

4.2 Effect of Risk Management Techniques and Potential Fraudulent Financial Reporting in Nigeria

Table 2 presents estimated coefficients for the long-run and short-run equations for testing the influence

of risk management practices on potential fraudulent financial reporting in Nigeria using an error correction modeling technique. In the Long-Run Equation, Credit Risk Management (CRM) is negative and significant (-0.66725, p = 0.0325), which implies that improved CRM practices reduce the incidence of fraudulent reporting in the long term. This implies that effective monitoring of

credit exposure has a deterring effect on financial misreporting. Operational Risk Management (ORM) is significant and positive (0.05864, $p = 0.0030$), and this indicates that more attention to operational risks would lead to improved transparency and fewer financial irregularities in the long term. Risk Committee Size (RCS) is also negatively signed and statistically significant (-1.04629, $p = 0.0014$), indicating that a larger size of the risk committee contributes to better monitoring and less fraudulent financial activities. Short-Run Dynamics The error correction term (COINTEQ01) is negative and statistically significant (-0.768869, $p = 0.0002$), indicating a strong mechanism towards adjustment in long-run equilibrium. About 77% of any short-run change from the long-run equilibrium is corrected each period. D(CRM) (short-run change in CRM) is positive but insignificant (0.495008, $p = 0.4429$), which indicates that in short run adjustments in CRM do not have significant influence on fraudulent reporting. D(ORM) is also positive and significant (0.18193, $p = 0.0019$), reaffirming that improvements in operational risk monitoring are effective in both short and

long runs. D(RIC) change in the risk committee size is statistically insignificant (-0.00676, $p = 0.9934$) and does not imply any immediate short-term effect on fraud activities, although it becomes significant in the long term. The constant term, C, is significant and positive (21.68718, $p = 0.0001$), implying base effects in the model. The mean dependent variable is quite small (0.1547), while the standard deviation (7.1875) and standard error of regression (4.6669) imply moderate variability. Model fit indicators (AIC = 5.0708; SC = 6.4040) indicate a relatively good-fitting model. The log-likelihood (-180.1852) and low sum of squared residuals (914.74) also reflect good explanatory power. Findings support that risk management activities, particularly credit risk management controls, operational risk procedures, and risk committee size, are significant in maintaining fraudulent financial reporting in Nigeria, specifically in the long run. The strong term of error correction also improves the model's accuracy in determining the long-run equilibrium relationship between risk governance and financial integrity.

Table 2 Effect of risk management techniques and potential fraudulent financial reporting in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
CRM	-0.66725	0.263405	-2.367567	0.0325
ORM	0.05864	0.010630	5.723309	0.0030
RCS	-1.04629	0.280312	-3.718302	0.0014
Short Run Equation				
COINTEQ01	-0.768869	0.188860	-4.071098	0.0002
D(CRM)	0.495008	0.639014	0.774643	0.4429
D(ORM)	0.18193	0.053470	3.313970	0.0019
D(RIC)	-0.00676	0.865765	-0.008307	0.9934
C	21.68718	4.972673	4.383779	0.0001
Mean dependent var	0.154691	S.D. dependent var		7.187516
S.E. of regression	4.666861	Akaike info criterion		5.070782
Sum squared resid	914.7429	Schwarz criterion		6.404014
Hannan-Quinn				
Log likelihood	-180.1852	criter.	5.608419	

Source: Authors' Computation (2025)

4.3 Panel Co-Integration

The null hypothesis of no co-integration is tested assuming panel autoregressive (AR) coefficients are common: Statistically insignificant ($p > 0.05$) Panel v-Statistic and Panel rho-Statistic tests indicate weak co-integration. The Panel PP-Statistic (-7.64232, $p = 0.0000$) and Panel ADF-Statistic (-1.65724, $p = 0.0072$) show significant evidence of co-integration across the panel. Newey-West modifications make these statistics heteroskedasticity and serial correlation-resistant. Between-Dimension (Group) Statistics offers individual-

specific AR coefficients and more flexible co-integration testing. The Group rho-Statistic is negligible ($p = 0.9832$), showing no co-integration. However, the Group PP-Statistic (-13.64316, $p = 0.0001$) and Group ADF-Statistic (-1.627452, $p = 0.0422$) are statistically significant, showing a long-term co-integrating link between ROA and explanatory variables across businesses. The PP- and ADF-statistics (both within and between dimensions) strongly suggest a long-term co-integration relationship between Return on Assets (ROA) and risk management indicators (CRM, ORM, RCS) as well as EPS, despite mixed results from the v- and rho-

statistics. This implies that Nigerian enterprises' ROA values are systematically connected to risk governance methods and earnings performance over time. To

increase corporate value and reduce financial vulnerabilities, long-term strategic risk and profits management is essential.

Table 3: Panel Co-integration (ROA)

Newey-West automatic bandwidth selection and Bartlett kernel					
Alternative hypothesis: common AR coefs. (within-dimension) Weighted					
	<u>Statistic</u>	<u>Prob.</u>	<u>Statistic</u>	<u>Prob.</u>	Panel
v-Statistic	-0.37632	0.6119	-1.306705	0.9043	
Panel rho-Statistic	-0.21186	0.3853	-0.000731	0.4997	
Panel PP-Statistic	-7.64232	0.0000	-5.786230	0.0000	
Panel ADF-Statistic	-1.65724	0.0072	-0.485530	0.3149	
Alternative hypothesis: individual AR coefs. (between-dimension)					
	<u>Statistic</u>	<u>Prob.</u>			
Group rho-Statistic	1.268420	0.9832			
Group PP-Statistic	-13.64316	0.0001			
Group ADF-Statistic	-1.627452	0.0422			

Source: Authors Computation (2025)

4.4 Unit Root Stationary Test

The findings indicate that CRM, ORM, and EPS are non-moving at level (i.e., integrated of order zero, I(0)), as evidenced by their p-values (< 0.05). However, ROA and RCS are not stationary at level but are stationary after first differencing, suggesting they are

integrated of order one, I(1). This mixed order of integration I(0) and I(1) supports the application of co-integration techniques in analysis, as it allows one to validate long-run relationships among various orders of integration of variables.

Table 4 below: Unit Root Stationary Test

Variables	CRM	ORM	ROA	EPS	RCS
Level	0.0003	0.0063	0.042	0.013	0.2480
1 st Diff	-	-	0.0001	-	0.0013
Order of integration	1(0)	1(0)	1(1)	1(0)	1(1)

4.5 Discussion of Findings

The analysis discovers that risk management techniques significantly drive the pattern of fraudulent financial reporting in Nigeria, particularly in the future. Effective credit risk management is linked with less fraudulent activity, and so good credit discipline is a deterrent to financial misreporting. Operational risk management also matters, with improvement noted due to enhanced financial transparency. The committee size is also critical, whereby a bigger committee supports improved governance and fraud deterrence. Credit risk practices in the short term have limited immediate impact, suggesting that their effect accumulates over time. Operational risk control, however, portrays consistent effectiveness in both the short and long term. While risk committee size variations have trivial short-term impacts, their influence is more acute when in the long-run equilibrium. The error correcting mechanism by

the model confirms that the system adjusts rapidly towards a stable level after any shock, these findings reinforce the necessity of tightening risk governance institutions to prevent financial fraud. However, findings of this study affirm findings in the research by Oyekule (2024) evaluates various risk management practices and how they impact the performance of construction projects. indicate that there is a strong relationship between risk management practices and project performance. And disprove the study of Scott et al. (2024) analyzes new technologies and approaches embraced to enhance credit risk management and secure financial institutions against potential losses, their findings no longer suit the nature of today's likely fraudulent financial reporting and financial markets. The findings confirm that credit risk controls, operational risk procedures, and risk committee size are the most significant risk management mechanisms that have the ability to contain fraudulent financial reporting in

Nigeria, particularly in the long run.

5.0 CONCLUSION AND RECOMMENDATIONS

The study discovers that risk management techniques have a great effect on the pattern of potential financial reporting fraud in Nigeria, particularly over a long period. Effective credit risk management is a deterrent to financial misreporting since regulated credit tracking reduces the probability of fraud. Operational risk management enhances financial transparency and honesty and always displays potency in both the short and long terms. The size of the committee is also very important, with larger committees enabling stronger governance features and improved fraud detection. Though credit risk controls and committee size have slight direct effects, their long-term effect in avoiding financial malpractice is vital. The study recommended that banks in Nigeria should strengthen their credit risk management systems as they had been found to possess promise in the long term in avoiding fraudulent financial reporting. Operational risk monitoring regimes need to be constantly evolving to ensure transparency and discourage financial corruption between reporting periods. Risk committee sizes need to be increased wherever necessary, as a larger and more diverse committee enhances control and fraud prevention. The regulatory agencies need to put in place and enforce policies necessitating disciplined and forward-looking risk management practices in sectors.

REFERENCES

- Aboud, A., & Robinson, B. (2022). Fraudulent financial reporting and data analytics: An explanatory study from Ireland. *Accounting Research Journal*, 35(1), 21-36.
- Adejumo, A., & Ogburie, C. (2025). Financial statement manipulation: Ethical and regulatory perspectives. *GSC Advanced Research and Reviews*, 22(03), 252-264.
- Adekanmi, A. D., Apalowowa, O. D., Adesuyi, T. Y., Jemiseye-Dav, R. A. and Adebayo, S. O. (2025). Climate risk disclosure and financial reporting quality of non-financial firms in Nigeria. *Journal of Innovations*, 3(1), 1-15. DOI: <https://doi.org/10.62470/1a258217>.
- Agarwal, M., Sofia, R., Josyula, H. P., Pandey, B. K., Kumar, S., & Sarkar, U. A. (2024). AI-driven risk management in financial markets and fintech. In *2024 Second International Conference Computational and Characterization Techniques in Engineering & Sciences (IC3TES)* (pp. 1-5). IEEE.
- Alalade S.Y., Agbatogun T., Cole A., & Adekunle O. (2020). The role of credit risk management in value creation process among commercial banks in Nigeria. *Journal of Economic and Financial Studies*, 3(1), 1-19.
- Apalowowa, O. D., Alabi, A. S., Aina, O. B., and Akindehin, J. Y. (2025). Environmental Risk and Financial Statement Quality in Nigeria's Non-Financial Sectors. *Asian Research Journal of Current Science*, 7(1), 85-95. DOI: <https://doi.org/10.56557/arjocs/2025/v7i1132>.
- Beckley, J. (2025). Advanced risk assessment techniques: Merging data-driven analytics with expert insights to navigate uncertain decision-making processes. *International Journal of Research Publication and Reviews*, 6(3), 1454-1471.
- Burlacu, G., Robu, I. B., Anghel, I., Rogoz, M. E., & Munteanu, I. (2025). The use of the fraud pentagon model in assessing the risk of fraudulent financial reporting. *Risks*, 13(6), 102.
- Committee of Sponsoring Organizations of the Treadway Commission (COSO). (2004). *Enterprise Risk Management Integrated Framework*. COSO.
- Committee of Sponsoring Organizations of the Treadway Commission (COSO). (2017). *Enterprise risk management. integrating with strategy and performance*. COSO.
- Donaldson, L. (1987). Strategy and structural adjustment to regain fit and performance in defence of contingency theory. *Journal of Management Studies*, 24(1), 1-24.
- Duniya, M., Hambali, G. U., & Abdulmalik, M. (2024). Impact of risk on the financial performance of listed insurance firms in Nigeria. *Journal of Economics and Allied Research*, 9(2), 102-112.
- Egejuru, K. C. (2023). *The Role of a Corporate Governance Mechanism in Mitigating Fraud: A Case Study of The Nigerian Banking Industry* (Doctoral dissertation, University of Salford).
- Enumah, M. A. (2025). Analysis of risk and risk management strategies in Nigeria's oil and gas industry. *International Journal of Innovative Scientific & Engineering Technologies Research*, 13(1), 32-38.
- Ezirim, C. B., Okeke, E. N., & Nwuba, O. D. (2020). Financial performance and risk management in Nigerian insurance firms. *International Journal of Finance and Accounting*, 9(4), 100-112.
- Hadiyanti, E., Jannah, L. M., & Lutfi, A. (2024). The Development of Contingency Theory in Public Sector: An Overview. *Enrichment: Journal of Multidisciplinary Research and Development*, 2(7).
- Iyoha, F. O., & Okojie, C. E. (2018). Profitability determinants in Nigerian insurance companies. *Nigerian Journal of Management Sciences*, 6(2), 12-20.

- Krause, J., Tse, Y., & Switzer, L. N. (2007). An empirical examination of the relationship between risk management practices and performance of insurance companies in South Africa. *South African Journal of Business Management*, 38(3), 1–8.
- Lamprey, R. & Singh, S. (2018). Fraud risk management: Adoption of contingency theory perspective. *Journal of Legal, Ethical and Regulatory Issues*, 21(1), 1–10.
- manufacturing enterprises. *Acta Economica*, 21(39), 35-50.
- Maulidi, A. (2023). Philosophical understanding of the dynamics and control of occupational fraud in the public sector: contingency analysis. *International Journal of Ethics and Systems*, 39(2), 432-463.
- Mupa, M. N., Chiganze, F. R., Mpfu, T. I., & Mubvuta, R. (2024). The role of enterprise risk management (ERM) in supporting strategic decision-making processes in the energy sector. *IRE: Iconic Research and Engineering Journals*, 8(2), 826-848.
- Obizue, E. C., & Eme, P. U. (2025). Effective assets investment and financial performance: evidence from deposit money banks in Nigeria (2013-2022). *Multi-Disciplinary Research and Development Journals Int'l*, 7(1), 38-56.
- Ogundele, O. S., & Nzama, L. (2025). Risk Management Practices and Financial Performance: Analysing Credit and Liquidity Risk Management and Disclosures by Nigerian Banks. *Journal of Risk and Financial Management*, 18(4), 198.
- Olaiya, K. I., Akingunola, R. O. O., & Alao, A. A. A. (2024). Effect of operational risk on the performance of listed insurance companies in Nigeria. *Jurnal Ekonomi dan Bisnis Airlangga*, 35(1), 66-82.
- Olaiya, K. I., Arikewuyo, K. A., Shogunro, A. B., & Yunusa, L. A. (2021). Effect of risk mitigation on profitability of insurance industries in Nigeria. *Izvestiya Journal of Varna University of Economics*, 65(3), 330-343.
- Olaiya, K., Olowofela, O., & Ariyibi, M. (2023). Effectiveness of risk management in Nigeria's
- Onsongo, S. K., Mwangi, L. W., & Muathe, S. M. (2019). Firm size, operational risk and performance: Evidence from commercial and services companies listed in Nairobi
- Opuene, E., & Amadiwo, I. W. (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.
- Oyekunle, O. (2024). Risk management practices in Nigeria construction sector and impact on project performance. *Journal of science & technology*, 5(2), 69-101.
- Safkaur, O., Hanasbey, L., & Sakti, E. (2025). The role of politic pressure, fraud risk management and culture organization in moderating public governance on Indonesia local government financial performance. *Pacific Accounting Review*, 37(3), 455-476.
- Scott, A. O., Amajuoyi, P., & Adeusi, K. B. (2024). Advanced risk management solutions for mitigating credit risk in financial operations. *Magna Scientia Advanced Research and Reviews*, 11(1), 212-223.
- Securities Exchange. *International Journal of Current Aspects*, 3(VI), 372-379. <https://doi.org/10.35942/ijcab.v3iVI.93>.
- Shah, S. Q. A., Lai, F. W., Shad, M. K., Hamad, S., & Ellili, N. O. D. (2025). Exploring the effect of enterprise risk management for ESG risks towards green growth. *International Journal of Productivity and Performance Management*, 74(1), 224-249.
- Ullah, S., Xiaopeng, D., Anbar, D. R., Amaechi, C. V., Oyetunji, A. K., Ashraf, M. W., & Siddiq, M. (2024). Risk identification techniques for international contracting projects by construction professionals using factor analysis. *Ain Shams Engineering Journal*, 15(4), 102655.
- Utami, B., Widjayanti, W., Sukmawati, K., & Mulatsih (2023). Technology-based financial risk management strategy: Overview of recent developments. *Endless Journal of Finance*, 6(2), 180-192. Available at: <https://dx.doi.org/10.54783/endlessjournal.v6i>