



EFFECTS OF CONTROL ACTIVITIES AND RISK ASSESSMENT PRACTICES ON FRAUD MANAGEMENT IN NIGERIAN DEPOSIT MONEY BANKS

BY

Muhammed Bulama¹ Suleiman Akwuodo Salihu Aruwa² Musa Adeiza Farouk³

^{1,2,3}Department of Auditing and Forensic Accounting, College of Private Sector Accounting, ANAN University Kwall, Plateau State, Nigeria.



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Abstract

Deposit money banks (DMBs) in Nigeria are essential to the growth and stability of the nation's financial system, but fraud is a widespread issue brought on by human activity that has been going on for a long time and is getting worse. However, a recent spike in fraudulent activities has caused the industry serious problems, leading to monetary losses, brand damage, and a loss of public confidence. This study investigated the effect of control activities and risk assessment practices on fraud management in deposit money banks in Nigeria. The population of the study consists of all 1867 top management and managers of the fifteen deposit money banks listed on the Nigeria Exchange Group (NXG), the sample size selected for this study is 400 top management and managers. The study used primary data which was collected through the use of questionnaire. A self-structured questionnaire, the data collected was analyzed using inferential statistical tools of Partial Least Squares Structural Equation Modeling (PLS-SEM). The study revealed that control activities and risk assessment were found to be positive and significant on fraud management in deposit money bank in Nigeria. It is concluded that internal control attributes practices have significant effect on fraud management in deposit money banks in Nigeria. The study recommended that deposit money banks enhance control activities and risks activities for robust effectiveness.

Keywords: Fraud Management, Deposit Money Banks (DMBs), Control Activities and Risk Assessment.

1.0 Introduction

In Nigeria, the growing prevalence of fraudulent activities poses significant risks to the stability and reputation of Deposit Money Banks (DMBs). Fraudulent activities, which have become increasingly sophisticated, threaten not only the financial well-being of these institutions but also their reputation with stakeholders (Olayemi et al., 2022). As a result, DMBs face an urgent need to enhance internal audit practices to safeguard stakeholder interests and maintain financial stability. Internal audit functions are integral to detecting and preventing fraud, requiring the integration of effective control activities and risk assessment practices to mitigate these emerging risks (Akinyemi et al., 2021). The risk assessment and control activities components are critical elements of internal audit practices that can combat fraud. The control activities sets the organizational tone for integrity and accountability (Olowe & Oyewumi, 2020).

Robust risk assessment practices are necessary for identifying and evaluating potential fraud risks, which in turn guide the allocation of resources towards more effective fraud prevention strategies (Adesina et al., 2023). Control activities, such as preventive and detective measures, help secure assets and ensure compliance with regulations, while continuous monitoring ensures the long-term effectiveness of these strategies (Njoku, 2022). Given the evolving nature of fraud in Nigeria's dynamic banking industry, it is imperative for DMBs to adopt a comprehensive fraud management system. The integration of internal audit processes through strong control activities and risk assessment practices will enhance the resilience of DMBs against fraud, safeguard their reputation and ensure financial stability (Abdulahi et al., 2023). In this context, this study underscores the need for a strategic framework that improves the overall effectiveness of fraud management in Nigerian banks. The importance of improving internal control practices in DMBs is critical to addressing the rising challenge of fraud. Effective integration



of internal audit processes will ensure the financial sustainability of the banking sector while enhancing public trust in Nigeria's financial system.

The increasing prevalence of fraud in Nigerian Deposit Money Banks (DMBs) has emerged as a significant threat to financial stability. It leads to monetary losses and more critically, undermines public trust in the banking system (Akinbode et al., 2021). Despite the implementation of various internal control mechanisms, gaps remain in how these controls particularly control activities and risk assessment practices are effectively utilized. Previous studies have primarily focused on narrow geographic regions or specific sectors, limiting the generalizability of their findings (Ogunyemi & Salami, 2020). Therefore, there is a pressing need for more comprehensive research that can address these gaps. Moreover, there remains a lack of empirical evidence linking specific internal control components such as the control activities, risk assessment, control activities, monitoring, and communication, to tangible improvements in fraud management (Ijaiya et al., 2022).

Additionally, theoretical frameworks that adequately explain the relationship between internal control practices and fraud prevention are underdeveloped, thus limiting practical applications for DMBs. The practical challenges that banks face in implementing these internal controls are still not well-explored in existing research. Moreover, research is lacking in a temporal perspective on how fraud management systems evolve, particularly in response to technological, regulatory, and operational changes (Oladapo & Bamidele, 2024). This study, therefore, aims to address these gaps by examining the influence of control activities and risk assessment practices on fraud management in Nigerian DMBs. Identifying the key internal audit practices that most effectively combat fraud, the study contributes valuable insights that can guide policy improvements, enhance regulatory practices and strengthen the financial stability of Nigeria's banking sector. This study is needed to bridge the gap in existing research by providing empirical evidence on how internal control components can effectively manage fraud in Nigerian DMBs. Furthermore, it will offer valuable insights for improving fraud management practices, which is critical for the stability of the banking sector. The study is aimed to evaluate the effect of control activities on fraud management in deposit money banks in Nigeria and identify the effect of risk assessment on fraud management in deposit money banks in Nigeria

2.0 Literature Review

This section provides a comprehensive review of relevant literature on the effect of internal control attributes practices on fraud management within deposit money banks in Nigeria. It explore key concepts, theories, and empirical findings related to control activities and risk.

2.1.1 Concept of Fraud Management

Fraud is a complex issue that involves deliberate deception for personal gain or to cause harm (ACFE, 2023). It takes various forms, including financial fraud, identity theft, and cybercrime. The Association of Certified Fraud Examiners

(ACFE) defines fraud as the misuse of one's occupation for personal enrichment through the deliberate misuse of organizational resources. Fraudulent activities typically involve three elements: action, concealment, and conversion (ACFE, 2023). Fraud management entails detection, prevention, mitigation, and response strategies within organizations (Button et al., 2022). Effective strategies combine people, processes, and technology to combat fraud across different sectors. Financial institutions face risks such as money laundering and insider trading, while e-commerce businesses encounter online payment fraud and chargebacks (PwC, 2022). Risk assessments and historical data analysis help identify vulnerabilities and implement countermeasures (KPMG, 2021).

Prevention plays a crucial role in reducing fraud, involving strong internal controls, segregation of duties, audits, and employee training (COSO, 2020). Technological solutions like encryption, biometrics, and anti-fraud algorithms enhance fraud resistance (EY, 2023). Despite preventive efforts, early detection through real-time monitoring, data analytics, and machine learning is essential for identifying suspicious activities and reducing false positives (Deloitte, 2022). When fraud is detected, organizations must investigate, gather evidence, and collaborate with law enforcement if necessary (ACFE, 2023). Responses may include freezing accounts, legal actions, and informing affected stakeholders to minimize impact (Kroll, 2022). Fraud management is an ongoing process requiring continuous evaluation, learning from past incidents, and adapting to emerging threats (Oliver Wyman, 2021). Collaboration with industry peers and leveraging external intelligence provide insights into evolving fraud tactics.

Several challenges hinder fraud management, including inadequate compensation, ease of asset conversion, weak compliance enforcement, collusion, poor working conditions, and economic hardship (World Bank, 2022). Addressing these through policy reforms and improved oversight is crucial. Fraud management is essential to safeguarding financial health, reputation, and stakeholder trust. A proactive approach encompassing risk assessment, preventive measures, advanced detection, and response strategies ensures business continuity and resilience (PwC, 2022)

2.1.2 Concept of Control Activities

The control activities represents an organization's overall control consciousness, shaped by management through policies, procedures, ethical standards, and monitoring processes. It reflects management philosophy, organizational structure, operating style, ethical values, and personnel competence to achieve objectives and mitigate risks (COSO, 2021). Elements of the control activities include Integrity and Ethical Values: Organizations must uphold strong ethical standards and integrity (Walker, 2022), Competence: Personnel should possess necessary skills and knowledge (Hevesi, 2023), Management Philosophy and Operating Style: Leadership's approach to decision-making and governance (Romney et al., 2024), Organizational Structure: Clear assignment of authority and responsibility (Office of Financial

Management, 2021) and Personnel Policies and Procedures: Guidelines for hiring, training, and compensating employees (COSO, 2023). According to COSO (2021, 2023), the control activities forms the foundation for other internal control components by providing discipline and structure. It influences employee control consciousness, with management setting the "tone at the top" that permeates the organization.

Effective internal controls require alignment of ethical values, competence, governance oversight, and accountability mechanisms (Romney et al., 2024). Researchers highlight the control activities's impact on risk management, fraud prevention, and operational efficiency (Hevesi, 2023; Walker, 2022). The Office of Financial Management (2021) underscores its role as an intangible resource crucial for internal control effectiveness. A strong control activities shapes organizational culture, influencing employee mindset and behavior, thereby reinforcing or weakening the internal control system. It minimizes fraud opportunities, enhances compliance with goals and regulatory standards, and ensures effective governance (COSO, 2023; Romney et al., 2024).

2.1.3 Concept of Risk Assessment

Risk assessment involves identifying, analyzing, and managing risks that could impact an organization's objectives across areas like production, sales, and finance. It is an ongoing process that helps organizations address changes in economic, industry, regulatory, and operational conditions (COSO, 1992). Effective risk assessment improves internal control, fraud detection, and overall operational efficiency (Mock et al., 2017; Brasel et al., 2019).

Management must identify risks, estimate their significance and likelihood, and develop strategies to mitigate those (Whittington et al., 2009). Risk assessment also supports financial reporting by identifying fraud risks and ensuring compliance with GAAP (Arens & Loebbecke, 2000). It requires a clear establishment of objectives and critical success factors to effectively manage both internal and external risks (Badara & Saidin, 2013). Since risks are inevitable, organizations must determine acceptable risk levels and continuously monitor and adjust their risk management processes to maintain effectiveness. Large organizations typically have formalized risk assessment models, while smaller ones may adopt informal approaches (Tunji, 2013).

2.2 Empirical Review and Hypothesis Development

2.2.1 Control Activities and Fraud Management

Haladu (2018) examine the internal control measures for fraud management in Deposit Money Banks (DMBs) listed on the Nigerian Stock Exchange (NSE). Data collected were from both primary and secondary sources using annual financial reports and questionnaire for the respondents of all listed DMBs in Nigeria. Analysis was mainly done by regression of the internal control measures and fraud in DMBs. Internal control measures proxies are control activities, risk assessment and control activities. On the other hand, fraud management proxy is discretionary accruals. The analysis

found out that the internal control measures of control activities, risk assessment, and control activities have negative influence on fraud management (discretionary accruals). It was therefore recommended that an overhaul of the management and internal control systems currently being operated by DMBs in Nigeria be done to make it strictly in line with IFRS standards and guidelines. Furthermore, this should be backed by the introduction of forensic auditing and assurance to make offenders not only liable for their actions; but also subject to legal prosecution as well.

Awen et al. (2018) investigated the control activities and efficacy of Nigeria's listed deposit money banks' internal control systems. Primary data was gathered using a structured 5-point Likert scale questionnaire on internal control system effectiveness. A total of five hundred and forty (540) questionnaires were sent out, with four hundred and thirty-five (435) being returned, resulting in 81 percent response rate and four hundred and thirty-five observations. The findings reveal that the control activities has a favourable and significant impact on the fraud management.

Nyakarimi et al., (2020) examine the effect of internal control system on fraud management as proxy of risk management in banking sector in Kenya. The study involved all the banks where branch managers, operations managers and cash supervisors were sought for the study. The study analyzed 117 questionnaires from respondents. Factor analysis was used to reduce the number of variables for analysis purposes. Correlation research study and structural equation model were applied in the study to establish the relationship between variables and in analysis of hypotheses. The study found that control activities has no statistically significant and a negative effect on fraud management. Conclusively, the study found positive and significant effect of control activities, and monitoring on fraud management. In line with the above literature, the following hypothesis id formulated.

H₀₁: Control activities has significant effect on fraud management in deposit money banks in Nigeria.

2.2.2 Risk Assessment and Fraud Management

Samuel et al. (2020) study on effect of risk assessment on fraud management in banking industry in Kenya. The study involved all banks in Kenya. Descriptive and correlational research designs were used in this study. Factor analysis was undertaken to reduce the factors and remain with factors that had higher loading which was determined through the use of Eigen values. Correlation analysis was applied to determine the strength and direction of relationship between variables and regression analysis based on structural equation modelling (SEM) was used to test the hypothesis. The descriptive analysis showed that the respondents strongly agreed that the parameters put in place are capable of preventing fraud in banks. The hypothesis testing showed that risk assessment has significant effect on fraud management in banking industry in Kenya. From the results of tests, it was concluded that the risk assessment mechanisms put in place to assess the risks have significant effect in fraud management

and as such they should be enhanced to completely prevent fraud in banking sector.

Ibrahim et al. (2019) examined the effect of Risk Assessment on fraud detection in deposit money banks in Nigeria. The study was delimited to Diamond Bank, Eco Bank, Fidelity Bank, First Bank and Sky Bank. The study was based on the fraud management theory. The study employed simple random sampling technique to select respondents among Banks staff. A total of 1650 structured questionnaires were used for the purpose of the study. The demographic data of the respondents and research questions were analyzed using descriptive statistics (frequency and percentage) while inferential statistics (ANOVA) was used to test the hypothesis. The finding of the study revealed a significant effect of risk assessment on fraud management in Deposit money banks in Nigeria. More specifically, the study concluded by revealed that limited company expansion, wide company objective, risk identification, lack of analysis on identified risk and managing changes were the effects of risk assessment on fraud management in deposit money banks in Nigeria. The study recommends banks should establish work ethics unit; reduce excessive confidence in bank staff; emphasize on leadership by example in order to promote continuity of operations of the banks.

Molokwu et al. (2021) examined internal control system effectiveness and fraud management in deposit money banks in Nigeria. The study adopts a descriptive analysis which helps in summarizing the data. Inferential statistics was used such as the multiple regression analysis to explain internal control system effectiveness and fraud management. Questionnaires were administered to Nineteen 19 deposit money banks in Nigeria and a total of 40 questions were asked and answered accurately. The findings of the study show that there is a positive and significant relationship between control activities and fraud management mechanism. The overall result showed that control activities (CE), risk assessment (RA), information and communication (IC) and monitoring (MO) have a positive and significant impact on fraud management, whereas control activities have a positive but insignificant effect on fraud management. Based on the findings, from the findings, the study concludes that Banking institutions have a strong internal control system put in place to oversee its control activities, risk assessment, monitoring, information and communication on fraud management and control activities in other to prevent fraud in banking sector in Nigeria.

Isaac et al. (2018) investigated the relationship between internal control and fraud management in the local government sector. Primary data was collected from 35 local government institutions in Ghana through questionnaire. The study used a quantitative research methodology approach and employed multiple regression analysis. The study revealed that risk assessment and information technology significantly deter fraud. Control activities, control activities, monitoring and information communication had no significant influence on fraud management. The study found further that poor background checks, monitoring and inaccurate records were

some of the major challenges facing internal control in the local government sector. Staff were the worst culprit of fraud in the local government sector. The study thus recommends that, proper checks on all employees should be carried out before employment is given and information technology should be deployed in local government service to enhance efficiency and reduce fraud. The study concludes that fraud management generally in the local government sector is high. The internal control activities in the local government sector is poor. The institutions in the local government sector are risk averse and always want to find out ways to reduce risk. There is a satisfactory way of controlling activities in the internal audit departments of the local government sector. Information communication is high in internal audit departments in the local government sector. Monitoring is also high in internal audit departments of local government institutions. There isn't advance use of information technology in the local government sector. In light of the foregoing, the below hypothesis is formulated.

H₀₂: Risk assessment has significant effect on fraud management in deposit money banks in Nigeria.

2.3 Theoretical framework

The fraud triangle and fraud diamond frameworks provide valuable insights for understanding fraud in Nigerian deposit money banks. The fraud triangle includes three components which are motive, opportunity and rationalization while the fraud diamond adds a fourth element: capability. Both frameworks emphasize the critical role of internal controls in fraud management.

For the Fraud Triangle and Control Activities which are: Motive: Economic pressures (e.g., inflation, unemployment) drive employees to commit fraud. Control activities like fair compensation and support programs help reduce financial stress, decreasing the motive for fraud. Opportunity: Weak internal controls allow fraudulent behavior. Implementing segregation of duties, regular audits, and robust authorization processes limits opportunities for fraud. Rationalization: Employees may justify fraudulent actions. A strong control activities that promotes transparency, ethical behavior, and monitoring reduces rationalization by ensuring accountability and integrity.

In the other hand, Fraud Diamond and Control Activities which are Incentive: Financial pressures motivate fraud. Risk assessment helps identify areas where employees may face financial distress, and control activities can reduce the need for fraud by addressing these pressures. Opportunity: Internal controls, such as segregation of duties and audits, limit opportunities for fraud. Rationalization: A strong ethical culture through training and communication helps reduce rationalization by reinforcing integrity. Capability: Employees with the skills and position to commit fraud are a risk. Risk assessment and monitoring help identify and manage these capable individuals, ensuring they are subject to oversight. From the Risk Assessment, Both frameworks highlight the importance of identifying fraud risks. Regular risk

assessments enable banks to understand vulnerabilities, proactively implement control activities, and address potential motives and opportunities for fraud.

3.0 Methodology

This research adopted Cross-Sectional Design as it is useful for examining the relationships between variables at a specific point in time, Bryman (2016). The population of the study consists of all 1867 top management and managers of the fifteen deposit money banks listed on the Nigeria Exchange Group (NXG) as at 2024. Sample size for this study determined by use of Taro Yamane (1967) as it provides a simplified formula to calculate sample sizes, the sample size selected for this study is 400 top management and managers. However, additional 10% sample administered to allow for attrition population size. This sample size is assumed to represent the total population as depicted below:

Formula

$$n = \frac{N}{1+N(e)^2}$$

Where;

- n = Sample size
- N = Population Size (1,867)
- e = Significance level (0.05 or 5%)

Therefore,

$$n = \frac{N}{1+N(e)^2}$$

$$n = \frac{1,867}{1+1,867(0.05)^2}$$

$$n = 400$$

3.2 Technique of Data Analysis and Model Specification

The data gathered for this study was analyzed using descriptive statistical tools of table, frequency, percentage and inferential statistical tools of Partial Least Squares Structural Equation Modeling (PLS-SEM). Partial Least Squares Structural Equation Modeling (PLS-SEM) is useful to determine the effect of independent variables on a dependent variable, and also helpful to determine both the measurement and structural models. It was also used to determine whether the effect was significant or not. Partial Least Squares Structural Equation Modeling (PLS-SEM) is appropriate for analysis of a study of this nature (Fagbohunge, 2000).

Table 1: Measurement of Variables

Latent Variables	No. of Items	Scale	Sources
Fraud Management	5	Ordinal	Kingsley (2015); Kratcoski (2018); Omonyemen et al. (2017)
Control Activities	5	Ordinal	Asiligwa & Rennox (2017), Yakubu et al. (2017), Nguyen & Ha (2010), Vu (2016).
Risk Assessment	5	Ordinal	Asiligwa & Rennox (2017), Yakubu et al. (2017).

Source: previous Research Compilation

3.3 Data Presentation and Analysis

The data collected with the aid of closed-ended structured questionnaire are presented in the tables below. The total number of questionnaires returned, from the 440 administered to respondents are 407 giving a response rate of 93%. Hence,

all further analyses were conducted using the 407 valid responses received.

Table 2: Descriptive Statistics

Variable	Mean	Median	Min	Max	SDV	Kurtosis	Skewness
CA	3.74	4.00	1.00	5.00	1.17	-0.05	-1.31
RA	3.55	4.00	1.00	5.00	1.31	-0.51	-0.76
FM	3.76	4.00	1.00	5.00	1.20	0.21	-1.02

Source: SmartPLS Output, 2024.

The descriptive statistics for the variables—CE (Corporate Ethics), RA (Risk Assessment), and FM (Financial Management) indicate several key insights. The mean values for CE (3.74), RA (3.55), and FM (3.76) suggest that, on average, respondents rated these factors relatively high on a scale of 1 to 5, with medians of 4.00 across all variables, indicating a central tendency towards agreement. However, the minimum and maximum values, ranging from 1.00 to 5.00, suggest variability in responses, indicating the presence of diverse perspectives among respondents. The standard deviations (SDV) of CE (1.17), RA (1.31), and FM (1.20) show moderate dispersion around their respective means, with RA exhibiting the highest variability, implying a wider spread of responses compared to the other variables. The kurtosis values for CE (-0.05), RA (-0.51), and FM (0.21) suggest that the distributions are relatively flat (platykurtic), indicating fewer extreme values in the dataset.

The negative skewness values for all variables—CE (-1.31), RA (-0.76), and FM (-1.02)—indicate a leftward skewness, meaning that most respondents rated the variables highly, but a few provided lower ratings. The stronger skewness observed in CE and FM suggests a higher concentration of responses toward the upper end of the scale. These findings imply that respondents generally perceive corporate ethics, risk assessment, and financial management practices positively, but with some degree of variation. The negative skewness suggests that while most participants hold favorable views, some have significantly lower perceptions, which may indicate areas for improvement or differing organizational experiences. The moderate standard deviations emphasize the need for tailored strategies to address the specific concerns of those who perceive these factors less favorably.

Construct Reliability

To establish internal consistency reliability of the construct, Cronbach’s alpha and composite reliability (CR) should be higher than the threshold of 0.6. It is clear from the table 4.2, that all the latent indicators are reliable since their values are higher than the threshold value of 0.6. As an alternative to Cronbach’s alpha and composite reliability, Dijkstra and Henseler (2015) proposed rhoA as an approximately exact measure of construct reliability, which usually lies between Cronbach’s alpha and the composite reliability. Hence, rho A

may represent a good compromise if one assumes that the factor model is correct.

Convergent Validity

Convergent validity is the extent to which the construct converges in order to explain the variance of its items. To assess convergent validity, the Average Variance Extracted (AVE) should be larger than 0.5.

Table 3: Reliability of study scale

S/N	Variables	Items	Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)	No of Items
2	Control Activities (CA)	CE1	0.836	0.882	0.914	0.679	5
		CE2	0.850				
		CE3	0.845				
		CE4	0.795				
		CE5	0.792				
5	Risk Assessment (RA)	RA1	0.852	0.919	0.939	0.755	5
		RA2	0.871				
		RA3	0.833				
		RA4	0.895				
		RA5	0.892				
6	Fraud Management (FM)	FM2	0.925	0.942	0.958	0.852	4
		FM3	0.887				
		FM4	0.934				
		FM5	0.945				

Source: SmartPLS Output, 2024

Table 3 presents a detailed analysis of the reliability and validity of the study constructs, highlighting important metrics such as factor loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), and the number of items for each construct. Here's a breakdown of the implications based on these metrics:

Convergent Validity

Convergent validity assesses whether multiple measures of the same construct yield similar results. The AVE values for all constructs are greater than 0.5, indicating that the constructs explain more than 50% of the variance of their respective items. This suggests strong convergent validity, confirming that the constructs effectively represent the intended underlying concepts.

Reliability of Constructs

Cronbach's Alpha Values above 0.7 are generally considered acceptable, with higher values indicating better internal consistency. *Composite Reliability*, Similar to Cronbach's alpha, values above 0.7 indicate good reliability. All constructs show Cronbach's alpha and composite reliability values well above the acceptable threshold. For instance, the "Monitoring Activity" (MA) construct has a Cronbach's alpha of 0.923 and a composite reliability of 0.942, reflecting excellent reliability. This ensures that the items within each construct consistently measure the same underlying concept.

Factor Loadings

Factor loadings represent the strength of the relationship between each item and its respective construct. The factor loadings for all items are above 0.7, with most constructs showing values higher than 0.8, indicating that the items are strong indicators of their respective constructs. For example, the "Fraud Management" (FM) construct has factor loadings ranging from 0.887 to 0.945, suggesting that these items are highly correlated with the fraud management concept.

Average Variance Extracted (AVE)

AVE is an indicator of the amount of variance captured by a construct in relation to the amount of variance due to measurement error. With AVE values above 0.5 for all constructs, this signifies that each construct captures a substantial portion of variance relative to error. For instance, the "Control Activity" (CA) construct has an AVE of 0.712, demonstrating strong explanatory power.

Number of Items

The number of items per construct varies (from 3 to 5), but all constructs maintain high reliability and validity despite differing item counts. This suggests that a well-chosen number of items is sufficient to capture the essence of each construct without unnecessary redundancy. Therefore, the results presented in Table 4.2 underscore the robustness of the study's measurement model. High factor loadings, reliable Cronbach's alpha and composite reliability, and AVE values exceeding the threshold for convergent validity suggest that the constructs are not only valid but also reliable. This foundation allows for confident interpretation and use of the constructs in further analyses, including hypothesis testing and model validation. Overall, the constructs are well-defined and suitable for empirical research, enhancing the credibility of findings derived from the study.

Discriminant Validity

Discriminant validity is the extent to which a construct is empirically distinct from other constructs in the structural model. There are many traditional methods for discriminant validity assessment, such as cross loadings and the Fornell-Larcker criterion (Fornell & Larcker, 1981), but researchers are advised to apply the Heterotrait-Monotrait (HTMT) criterion (Henseler et al., 2014). This is because traditional methods fail to indicate a lack of discriminant validity, even when two constructs are perfectly correlated, rendering this criterion's use ineffective for empirical research.

Table 4: Heterotrait-Monotrait Ratio (HTMT) Criterion

	Control Activities	Fraud Management	Risk Assessment
Control Activities	0.462		
Fraud Management		0.481	
Risk Assessment			0.524

Source: SmartPLS Output, 2024

The Heterotrait-Monotrait Ratio (HTMT) criterion is an important metric in assessing discriminant validity among latent constructs in structural equation modeling (SEM). Table 4.3 presents HTMT values for several constructs: Control Activities, Fraud Management and Risk Assessment. Table 5 shows the path coefficient of the regression results using SmartPLS. This is the result for testing the five hypotheses of the study.

Table 5: Path Coefficient of the Model

Hypotheses	Beta	T Statistics	P Val.	Decision	f ²
H ₀₁ : Control Activities -> Fraud Management	0.177	2.023	0.043	Accepted	0.029
H ₀₂ : Risk Assessment -> Fraud Management	0.188	2.082	0.037	Accepted	0.028

Source: SmartPLS Output, 2024

H01: Control Activities -> Fraud Management

The positive beta coefficient of 0.177 with a T-statistic of 2.023 and a P-value of 0.043 reveals a statistically significant effect of the control activities on fraud management. Given the P-value is below 0.05, the result accept this hypothesis.

A strong control activities appears to foster better fraud management practices. This suggests that management should prioritize strengthening the control activities through comprehensive policies, ethical leadership, and a commitment to transparency. Creating a robust control activities can enhance the perception of integrity within the organization, thereby potentially reducing the incidence of fraud.

H02: Risk Assessment -> Fraud Management

With a beta coefficient of 0.188, a T-statistic of 2.082, and a P-value of 0.037, the relationship between risk assessment and fraud management is statistically significant, leading to the acceptance of this hypothesis. This suggests that proactive risk assessment practices can significantly enhance fraud

management. Banks should prioritize the development of comprehensive risk assessment frameworks that regularly evaluate the likelihood of fraud based on emerging threats and vulnerabilities. Integrating these assessments into the bank's operational strategy can lead to a more responsive and effective fraud management posture.

Therefore, the analysis of the path coefficients reveals critical insights into the effectiveness of various control mechanisms in managing fraud within Nigerian deposit money banks. The findings advocate for a strategic overhaul in how these banks approach their control activities, emphasizing the need for a stronger control activities and enhanced proactive risk assessments. These measures are essential not only for mitigating fraud but also for fostering a culture of integrity and accountability within the banking sector.

Table 6: R² and Predictive Relevance of the Model

Endogenous Variables	R ²	Q ² (=1-SSE/SSO)	P Val.
Fraud management	0.810***	0.798	0.000

Source: SmartPLS Output, 2024

The predictive sample reuse technique (Q²) can also effectively show predictive relevance (Chin et al., 2008). Based on the blindfolding procedure, Q² shows how well data can be reconstructed empirically using the model and the PLS parameters. In this thesis, Q² was obtained using cross-validated redundancy procedures. As a guideline, Q² values should be larger than zero for a specific endogenous construct to indicate predictive accuracy of the structural model for that construct. As a rule of thumb, Q² values higher than 0, 0.25, and 0.5 depict small, medium, and large predictive relevance of the PLS-path model, whereas a Q² less than zero means the model lacks predictive relevance. As shown in table 4.5, Q² for both endogenous variables indicate large predictive relevance.

Collinearity Test

In addition to assessing the structural relationships, collinearity was examined to make sure it does not bias the regression results. This was done using the Variance Inflation Factor (VIF). VIF values above 5 are indicative of probable collinearity issues among the predictor constructs, but collinearity problems can also occur at lower VIF values of 3 to 5 (Becker et al. 2013). Ideally, the VIF values should be close to 3 or lower. If collinearity is a problem, a frequently used option is to create higher order models that can be supported by theory (Hair et al., 2016).

Table 7: Inner VIF Values of the Model

Variables	Performance
Control Activities	2.713
Risk Assessment	2.596

Source: SmartPLS Output, 2024

*Corresponding Author: Muhammed Bulama.

From table 7, none of the VIF values is close to 5 which shows that there are no indications of probable collinearity issues among the predictor constructs for this study.

3.4 Discussion of Findings

This study examined the effect of control activities and risk assessment practices on fraud management in listed deposit money banks in Nigeria. The findings from the analysis above indicate that the model is adequately fit to measure the relationship between internal control attributes practices and fraud management. Based on the foregoing, the study tested two hypotheses and evidence were provided by the study results that control activities and risk assessment practices affect fraud management substantially as indicated by the coefficient of determination (R^2). The findings on the specific independent variables and how they affect fraud management are discussed below:

The first hypothesis revealed that control activities has a positive and significant effect on fraud management. The study suggests that the control activities, which includes factors such as management's integrity, ethical values, and the organization's commitment to internal control, plays a crucial role in preventing and managing fraud. This implies that the banks has established a strong foundation for fraud prevention by fostering a positive control activities. A positive and significant effect of the control activities on fraud management indicates that the banks is likely to have lower fraud risk compared to organizations with weaker control activities. A sound control activities can deter potential fraudsters, promote ethical behavior, and create a strong control activities can enhance the trust and credibility in the banking sector. Effective fraud management through a strong control activities has help in enhancing stakeholder trust and confidence in the banking system, which is crucial for its stability and reputation. Finally, this finding implies that deposit money banks Nigeria has proper control activities and fraud management practices which are necessary for these banks to comply with relevant regulations and guidelines set forth by the central bank or other financial authorities. This finding agrees with the findings of Caroline and Kimani (2018) and Awen et al., (2018) who found positive effect of control activities on fraud management. However, this finding disagrees with the work of Alhassan (2018) which found a negative effect of control activities on fraud management.

Similarly, the second and last finding revealed that risk assessment has a positive and significant effect on fraud management. The study suggests that conducting effective risk assessments enables the banks to proactively identify and mitigate fraud risks, by systematically way of assessing potential vulnerabilities, the banks has developed strategies and controls to prevent fraud before it occurs. This implies that the bank recognizes the importance of understanding its unique fraud risks and takes steps to address them through risk assessment. Risk assessment has helps the banks to allocate its resources more effectively by focusing on areas with higher fraud risk, this was done through identifying and prioritizing areas of vulnerability which enable the banks to

allocate its limited resources, such as personnel, technology, and training, to those areas that require greater attention. This can result in a more efficient utilization of resources and maximize the effectiveness of fraud management efforts. It inform the selection and implementation of tailored fraud detection measures. This leads to a more targeted and efficient detection process, reducing the likelihood of fraud going undetected. This is inconsistent with the finding of Joseph and Isiaka (2022) which found that risk assessment has a negative and insignificant effect on fraud management. But consistent with the finding of Adebayo et al., (2022) who found that risk assessment has a positive and significant effect on fraud management.

Summary

The study examined the effect of control activities and risk assessment practices on fraud management in listed deposit money bank in Nigeria. However, despite the solidification of internal control attributes practices in deposit money banks, the objectives are not attained at the expected level. With the development of accounting knowledge, fraud has become increasingly complex with impressive outcomes as fraudsters have become more seriously innovative with adverse impacts. This propelled this study with specific objectives of finding the effect of control activities and risk assessment on fraud management in listed deposit money bank in Nigeria. Questions and hypotheses were drawn up in line with the objectives of the study. The scope and significance of the study were also stated. The study reviewed relevant literature related to the variables under study. The study conceptualized all the variables under study for example, internal control, fraud management and its dimensions. Empirical literature in the light of the variables which includes control activities and risk assessment on fraud management were reviewed. The study was backed by a review of theories in the area of study. The study was underpinned by the fraud diamond and triangle theories.

The methodology of the study stipulated the population, sample size and sampling techniques as well as method of data collection and techniques of data analysis. The models for the analysis were clearly specified. Chapter four of the study presented the responses from respondents using a simple percentage table after which Heterotrait-Monotrait was employed to determine the existing relationship among main variables and sub-scales. Convergent validity was used to determine the validity of the variables under study, and also the validity of the instruments was ensured using the Cronbach Alpha. The hypotheses were tested using the partial least squares structural equation modeling (PLS-SEM) with the aid of the Smart PLS software, which revealed a significant and positive effect of control activities and risk assessment revealed a positive and significant effect on fraud management in listed deposit money bank in Nigeria.

Conclusion

The conclusions from the study indicate several key insights into the effectiveness of various factors in managing fraud within deposit money banks in Nigeria: The study found that

control activities has a positive and significant effect on fraud management. This suggests that the current control activities, such as internal controls and policies adequately designed or implemented to effectively detect and prevent fraud. As a result, banks are to adopt alternative measures, including fraud awareness training, enhanced monitoring systems, and adopting technological solutions specifically aimed at fraud detection and prevention.

The study also concluded that risk assessment has a positive and significant effect on fraud management. This implies that banks with well-structured risk assessment frameworks are better positioned to proactively identify fraud-related risks, develop mitigation strategies, and allocate resources effectively. Regular risk assessments and updated risk management practices are critical to strengthening resilience against fraud. These findings provide valuable insights for bank management and regulators in developing strategies and policies aimed at improving fraud prevention and control in the banking sector

Recommendations

The positive effect of the control activities on fraud management highlights the need for banks to invest in creating a strong control culture, Leadership Commitment, Develop Clear Policies and Procedures, Employee Engagement Programs and Ethics Training Programs

The positive influence of risk assessment on fraud management highlights the importance of having a proactive approach to identifying and mitigating fraud risks, Develop a Comprehensive, Risk Assessment Model, Regular Risk Assessments, Involve All Levels of Management and Risk Mitigation Strategies.

Limitation of the Study

The major limitation of the study was the issue of possible falsification of information or inaccurate responses by the respondents when filling the questionnaire, as is usually possible with survey primary data. However, this did not jeopardize the result of this study as the limitation was overcome by careful administration of the questionnaire and an assurance to the respondents of the strict confidentiality of their responses.

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