



Effect of Regulatory Requirements on Financial Fraud Detection Among Listed Deposit Money Banks in Nigeria

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Abstract

This study examined the effect of regulatory requirements on financial fraud detection among listed deposit money banks in Nigeria. The research specifically investigated the impact of five key regulatory requirements: anti-money laundering (AML) requirements, know your customer (KYC) requirements, risk management and internal control (RMIC) requirements, financial reporting requirements (FRR), and consumer protection requirements (CPR) on fraud detection capabilities. Using a cross-sectional survey design, data were collected from 214 compliance officers, internal auditors, and risk managers across 14 listed deposit money banks in Nigeria through a structured questionnaire administered via Google Forms. The study employed descriptive statistics, Pearson correlation analysis, and multiple regression analysis using SPSS version 28.0 to analyze the data. The findings revealed that all five regulatory requirements have significant positive effects on financial fraud detection among Nigerian banks. Risk management and internal control requirements demonstrated the strongest effect ($\beta=0.356$, $p<0.05$), followed by consumer protection requirements ($\beta=0.287$, $p<0.05$), know your customer requirements ($\beta=0.198$, $p<0.05$), anti-money laundering requirements ($\beta=0.142$, $p<0.05$), and financial reporting requirements ($\beta=0.124$, $p<0.05$). The regression model explained 72.1% of the variance in fraud detection ($R^2=0.721$), indicating a very good model fit. All null hypotheses were rejected, confirming that each regulatory requirement significantly enhances fraud detection capabilities. The study concludes that regulatory requirements play a crucial role in enhancing fraud detection among Nigerian deposit money banks, with risk management and consumer protection measures being particularly important. The findings suggest that banks should adopt a holistic approach to regulatory compliance, prioritizing risk management frameworks while strengthening consumer protection mechanisms to optimize fraud detection effectiveness.

Keywords: Regulatory requirements, Fraud detection, Anti-money laundering, Banking sector.

1.0 INTRODUCTION

Financial fraud has remained a persistent challenge in the global banking sector, with developing economies like Nigeria experiencing significant impacts on their financial systems. The Nigerian Deposit Insurance Corporation (NDIC) reported that the banking sector recorded 37,817 fraud cases with losses of N12.06 billion in 2021, representing a 42% increase from 2020 (NDIC, 2022). The prevalence of financial fraud undermines public confidence in banking institutions, threatens financial stability, and impedes economic growth. In response to these challenges, regulatory authorities have established various requirements aimed at strengthening fraud detection mechanisms within the banking system.

The Nigerian banking sector operates under extensive regulatory frameworks established by the Central Bank of Nigeria (CBN), the Nigerian Financial Intelligence Unit (NFIU), and other relevant authorities. These regulatory frameworks include requirements for anti-money laundering, know your customer procedures, risk management and internal controls, financial reporting, and consumer protection (Abiola & Oyewole, 2018). These measures are intended to enhance the ability of banks to detect and prevent fraudulent activities.

Anti-money laundering (AML) requirements establish systems for identifying, monitoring, and reporting suspicious transactions that might indicate money laundering or terrorist financing activities (Fadipe-Joseph & Titiloye, 2019). Know Your Customer (KYC) requirements mandate customer identification processes to verify customer identities and assess risks associated with banking relationships (Ochei, 2021). Risk management and internal control requirements establish governance structures, policies, and procedures for identifying, assessing, and managing risks, including fraud risks (Okoye et al., 2021). Financial reporting requirements establish standards for financial disclosures that promote transparency and aid in detecting financial irregularities (Adegbe & Fakile, 2020). Consumer protection requirements establish frameworks for safeguarding customer interests, ensuring fair treatment, transparent pricing, effective complaint handling, and maintaining trust in the banking system, which collectively contribute to enhanced fraud detection through improved customer engagement and reporting mechanisms (CBN, 2019).

Despite the implementation of various regulatory requirements by Nigerian banking authorities, financial fraud continues to pose significant challenges to the banking sector. The NDIC (2022) statistics showing a 42% increase in fraud cases from 2020 to 2021 indicate that existing measures may not be achieving their intended effectiveness. This persistent increase in fraudulent activities raises critical questions about the actual impact of regulatory requirements on fraud detection capabilities of Nigerian banks.

Several problems underscore the need for this study. First, there is limited empirical evidence on the comprehensive relationship between the five key regulatory requirements (anti-money laundering, know your customer, risk management and internal control, financial reporting, and consumer protection) and fraud detection effectiveness in Nigerian banks. Most existing studies have examined these requirements in isolation rather than as an integrated framework.

Second, while regulatory authorities have invested significantly in establishing and enforcing these requirements, the continued rise in fraud cases suggests that there may be gaps in understanding how these requirements actually translate into improved fraud detection capabilities. This disconnect between regulatory intent and practical outcomes needs empirical investigation.

Third, there is insufficient evidence on the relative importance of different regulatory requirements in enhancing fraud detection. Without such evidence, banks may be allocating resources inefficiently across various compliance activities, potentially leaving them vulnerable to sophisticated fraud schemes.

Finally, the lack of comprehensive empirical analysis makes it difficult for policymakers to assess the effectiveness of current regulatory frameworks and make informed decisions about future regulatory enhancements. This study addresses these problems by providing empirical evidence on how regulatory requirements affect fraud detection among Nigerian banks.

The main objective of this study is to examine the effect of regulatory requirements on financial fraud detection among listed deposit money banks in Nigeria.

The following hypotheses were tested:

H₀₁: Anti-money laundering requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

H₀₂: Know your customer requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

H₀₃: Risk management and internal control requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

H₀₄: Financial reporting requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

H₀₅: Consumer protection requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

2.0 LITERATURE REVIEW

2.1 Conceptual Reviews

2.1.1 Fraud Detection in Banking Sector

Fraud detection refers to the process of identifying fraudulent activities, transactions, or behavior that deviate from normal patterns (Agu & Ezeani, 2022). In the banking sector, fraud detection encompasses the various mechanisms, tools, technologies, and procedures used to identify potentially fraudulent activities before they occur or to uncover them

after they have occurred (Ogbeide & Akenbor, 2018). These mechanisms include transaction monitoring systems, data analytics, staff vigilance, whistleblowing channels, internal audits, and regulatory examinations.

The importance of effective fraud detection in the banking sector cannot be overstated. According to Ajala et al. (2020), undetected fraud can lead to significant financial losses, damage to reputation, reduced shareholder value, diminished customer confidence, and in extreme cases, bank failure. Effective fraud detection is therefore critical for maintaining the integrity and stability of the banking system.

Fraud detection in Nigerian banks faces unique challenges including limited technological infrastructure, inadequate staff capacity, collusion between fraudsters and bank employees, and rapidly evolving fraud techniques (Adegbe & Fakile, 2020). Okoye et al. (2021) note that effective fraud detection in Nigerian banks requires a multi-faceted approach that combines technology, human resources, processes, and oversight mechanisms.

2.1.2 Regulatory Requirements in the Nigerian Banking Sector

Regulatory requirements in the Nigerian banking sector are established by various authorities, primarily the Central Bank of Nigeria (CBN), the Nigerian Financial Intelligence Unit (NFIU), the Securities and Exchange Commission (SEC), and the Financial Reporting Council of Nigeria (FRCN). These requirements aim to ensure the safety, soundness, and stability of the banking system (Fadipe-Joseph & Titiloye, 2019).

2.2. Empirical Reviews

2.2.1. Anti-Money Laundering Requirements and Fraud Detection

Abiola and Oyewole (2018) examined the impact of anti-money laundering compliance on banks' ability to detect financial crimes in Nigeria. Using a survey of 150 bank compliance officers across 10 Nigerian banks, they found that AML compliance significantly improves banks' ability to detect suspicious transactions ($\beta=0.624$, $p<0.05$). Their findings suggest that banks with comprehensive AML policies and procedures are more likely to detect and report suspicious transactions that might indicate fraud. Similarly, Fadipe-Joseph and Titiloye (2019) investigated the effectiveness of AML measures in preventing financial crimes in Nigerian banks. Using data from 120 bank employees across 8 commercial banks, they found that the implementation of AML measures is positively associated with the number of suspicious transactions detected ($r=0.573$, $p<0.01$). However, they also noted that the effectiveness of AML measures is constrained by challenges such as limited technology infrastructure and inadequate staff training.

Ezuwore-Obodoekwe et al. (2020) took a different approach, examining the relationship between AML compliance and fraud prevention in Nigerian deposit money banks. Using secondary data from 15 banks over the period 2014-2018, they found that banks with higher AML compliance scores recorded fewer fraud incidences ($r=-0.612$, $p<0.05$). They concluded that effective implementation of AML requirements serves as a deterrent to potential fraudsters and enhances banks' fraud detection capabilities.

2.2.2. Know Your Customer Requirements and Fraud Detection

Ochei (2021) examined the impact of KYC compliance on fraud prevention in Nigerian banks. Using data from 180 bank officers across 12 banks, the study found a significant positive relationship between KYC compliance and fraud prevention ($\beta=0.578$, $p<0.01$). The study concluded that effective KYC procedures enhance banks' ability to identify suspicious customers and transactions, thereby improving fraud detection.

In a related study, Adegbite (2022) investigated the effectiveness of KYC policies in mitigating identity fraud in Nigerian banks. Using a mixed-methods approach involving surveys of 200 bank employees and interviews with 20 compliance officers, the study found that comprehensive KYC procedures significantly reduce the incidence of identity fraud ($\beta=-0.643$, $p<0.05$). The study also found that technology-enabled KYC processes are more effective in detecting potential fraud than manual processes.

Olufemi and Oludele (2022) examined the relationship between KYC compliance and suspicious transaction reporting among Nigerian banks. Using data from 10 deposit money banks over the period 2016-2020, they found that banks with higher KYC compliance scores reported more suspicious transactions to the NFIU ($r=0.721$, $p<0.01$). They concluded that effective KYC procedures enhance banks' ability to identify and report suspicious transactions that might indicate fraud.

2.2.3. Risk Management and Internal Control Requirements and Fraud Detection

Okoye et al. (2021) examined the relationship between internal control systems and fraud detection in Nigerian banks. Using data from 217 bank employees across 15 banks, they found that effective internal control systems significantly enhance banks' ability to detect fraud ($\beta=0.702$, $p<0.01$). They also found that the most effective components of internal control for fraud detection are control activities, risk assessment, and monitoring activities.

Ojukwu-Ogba and Ojukwu (2020) investigated the impact of risk management practices on fraud prevention in Nigerian deposit money banks. Using a survey of 180 risk management officers across 10 banks, they found that comprehensive risk management frameworks significantly reduce the incidence of fraud ($\beta = -0.651$, $p < 0.05$). They concluded that effective risk management practices enhance banks' ability to identify and mitigate fraud risks before they materialize.

In a more recent study, Owolabi (2020) examined the relationship between corporate governance mechanisms and fraud detection in Nigerian banks. Using data from 14 listed banks over the period 2015-2019, he found that strong corporate governance, including effective risk management and internal control, is positively associated with fraud detection rates ($r = 0.587$, $p < 0.01$). The study concluded that banks with robust governance structures are more likely to detect fraudulent activities early.

2.2.4. Financial Reporting Requirements and Fraud Detection

Adegbie and Fakile (2020) examined the impact of IFRS adoption on financial fraud detection in Nigerian banks. Using data from 12 listed banks over the period 2012-2018, they found that the adoption of IFRS has significantly improved the detection of financial statement fraud ($\beta = 0.563$, $p < 0.05$). They concluded that the enhanced disclosure requirements under IFRS make it more difficult to conceal fraudulent activities.

Egbunike and Egbunike (2019) investigated the relationship between financial reporting quality and fraud prevention in Nigerian deposit money banks. Using a survey of 150 accountants and auditors across 10 banks, they found that high-quality financial reporting significantly enhances fraud detection ($\beta = 0.619$, $p < 0.01$). They also found that the most important aspects of financial reporting for fraud detection are transparency, accuracy, and completeness.

In a related study, Nwosu and Ndulue (2023) examined the impact of regulatory reporting requirements on fraud detection in Nigerian banks. Using data from 14 listed banks over the period 2018-2022, they found that compliance with regulatory reporting requirements is positively associated with fraud detection rates ($r = 0.642$, $p < 0.01$). They concluded that regular and accurate regulatory reporting enhances banks' ability to detect and report fraudulent activities.

2.2.5 Consumer Protection Requirements and Fraud Detection

Consumer protection requirements represent a critical regulatory framework designed to safeguard banking customers from unfair practices, ensure transparency in financial transactions, and maintain trust in the banking system. In Nigeria, the Central Bank of Nigeria (CBN) has established comprehensive consumer protection guidelines that mandate banks to implement robust mechanisms for customer education, fair treatment, transparent pricing, effective complaint handling, and data protection (CBN, 2019).

The relationship between consumer protection requirements and fraud detection has gained significant attention in recent banking literature. Mahmoud and Ibrahim (2021) argue that effective consumer protection frameworks create multiple touchpoints for identifying fraudulent activities through enhanced customer engagement and improved reporting mechanisms. Their study of Middle Eastern banks revealed that institutions with stronger consumer protection practices demonstrated 34% better fraud detection rates compared to those with weaker frameworks.

In a related study, Adeyemi et al. (2020) examined the impact of consumer protection regulations on financial fraud prevention in Nigerian banks. Their findings indicated that banks with comprehensive consumer protection programs experienced fewer fraud incidents and detected suspicious activities more efficiently. The authors attributed this to improved customer awareness, better communication channels, and enhanced trust between banks and their customers, which encouraged voluntary reporting of suspicious transactions.

Okafor and Nwankwo (2021) conducted a comprehensive analysis of consumer protection mechanisms in West African banks and found that effective complaint handling systems serve as early warning indicators for fraudulent activities. Their research demonstrated that banks with efficient customer complaint resolution processes detected fraud cases 2.5 times faster than those with inadequate systems. The study emphasized that consumer protection requirements not only safeguard customer interests but also enhance the overall risk management capabilities of financial institutions.

2.3. Theoretical Reviews

Fraud Triangle Theory

The Fraud Triangle Theory was propounded by Donald Cressey in 1953. The theory posits that fraud occurs when three elements are present: pressure (motivation), opportunity, and rationalization (Cressey, 1953). Pressure refers to the motivation to commit fraud, such as financial difficulties or pressure to meet targets. Opportunity refers to the conditions that allow fraud to occur, such as weak internal controls or lax oversight. Rationalization refers to the justification that fraudsters use to reconcile their behavior with commonly accepted notions of decency and trust.

The Fraud Triangle Theory influences this study by providing a framework for understanding how regulatory requirements might affect fraud detection. Specifically, regulatory requirements can reduce the opportunity for fraud by strengthening controls and oversight mechanisms, thereby enhancing fraud detection capabilities.

Agency Theory

Agency Theory, developed by Jensen and Meckling in 1976, addresses the principal-agent problem that arises when one party (the principal) delegates authority to another party (the agent). In the banking context, shareholders (principals) delegate authority to managers (agents) to run the bank on their behalf. However, information asymmetry and divergent interests can lead to agency problems, including fraudulent behavior by managers or employees (Jensen & Meckling, 1976).

Its assumption of rational economic behavior, its focus on shareholder interests at the expense of other stakeholders, and its limited consideration of ethical motivations are some of the limitations of this theory (Okafor et al., 2018).

Agency Theory influences this study by highlighting the role of regulatory requirements in addressing agency problems. Regulatory requirements such as risk management and internal control requirements and financial reporting requirements can reduce information asymmetry and align the interests of various stakeholders, thereby enhancing fraud detection capabilities.

Institutional Theory

Institutional Theory, developed by DiMaggio and Powell in 1983, examines how organizations are influenced by their institutional environment, including regulatory frameworks, social norms, and cultural expectations. The theory posits that organizations adopt practices and structures that are considered legitimate within their institutional environment, even if these practices are not necessarily efficient (DiMaggio & Powell, 1983).

Its limited consideration of organizational agency, its focus on similarity rather than diversity, and its limited explanation of institutional change are some of the limitations of this theory (Fadipe-Joseph & Titiloye, 2019).

Institutional Theory influences this study by providing a framework for understanding how banks respond to regulatory requirements. Banks may adopt fraud detection mechanisms not only for their instrumental value but also to gain legitimacy within their institutional environment. This perspective helps explain why some banks might adopt comprehensive fraud detection mechanisms while others adopt minimal measures to comply with regulatory requirements.

2.4. Critique and Identifications of Gaps in Literature

Most existing studies have employed limited sample sizes and narrow methodological approaches that fail to capture the comprehensive nature of regulatory compliance in the banking sector. For instance, Abiola and Oyewole (2018) used only 150 respondents from 10 banks, while Fadipe-Joseph and Titiloye (2019) examined 120 employees from 8 banks. These sample sizes may not adequately represent the diversity and complexity of the Nigerian banking sector, particularly given the heterogeneity among the 14 listed deposit money banks.

A critical limitation of existing studies is their fragmented approach to examining regulatory requirements. Studies like Ochei (2021) focused exclusively on KYC requirements, while Okoye et al. (2021) examined only risk management and internal controls. This piecemeal approach fails to capture the synergistic effects of multiple regulatory requirements working together, which is more representative of the actual regulatory environment banks operate in. Additionally, many studies lack robust theoretical foundations and employ inconsistent measurement approaches, making it difficult to compare findings across studies and develop cumulative knowledge.

The literature also reveals temporal and geographic limitations. Most studies are cross-sectional, providing only snapshot views of the relationship between regulatory requirements and fraud detection, while many exclude certain types of institutions or limit their scope to specific regions. These limitations restrict the generalizability of findings to the entire Nigerian banking sector.

Several significant research gaps emerge from this analysis. First, no study has comprehensively examined all five key regulatory requirements (AML, KYC, RMIC, FRR, and CPR) simultaneously and their combined effects on fraud detection, representing a significant gap given the interconnected nature of regulatory compliance. Second, there is a notable absence of studies specifically examining the relationship between consumer protection requirements and fraud detection in the Nigerian context. While international studies have explored this relationship, the Nigerian banking environment presents unique characteristics that warrant specific investigation.

Third, existing studies do not provide clear evidence on the relative importance of different regulatory requirements in enhancing fraud detection, limiting the ability of banks and regulators to prioritize resources and efforts. Fourth, no study

has included all 14 listed deposit money banks in Nigeria, limiting the representativeness of findings. Finally, many existing studies lack adequate statistical rigor, including tests for multicollinearity, heteroscedasticity, and other assumptions of regression analysis, which limits confidence in the reliability of findings.

This study addresses these gaps by providing a comprehensive, statistically rigorous examination of all five regulatory requirements and their effects on fraud detection among all listed deposit money banks in Nigeria.

3.0 METHODOLOGY

This study adopted a cross-sectional survey research design. This design is appropriate because it allows for the collection of data at a specific point in time from a sample that represents a larger population (Creswell & Creswell, 2018). The design was suitable for examining the relationship between regulatory requirements and fraud detection among listed deposit money banks in Nigeria. The population of the study consisted all 14 deposit money banks listed on the Nigerian Exchange Group as of December 31, 2025. The study targeted compliance officers, internal auditors, and risk managers as respondents because they are directly involved in implementing regulatory requirements and detecting fraud within their institutions. Based on preliminary investigations, there is a large population of these professionals across the banks, which cannot be ascertained within the scope of this work, however, the study is centred on 462 of these professionals, namely; compliance officers, internal auditors and risk managers across the 14 listed banks.

The sample size for the study is determined using Yamane's (1967) formula:

$n = N / (1 + N(e)^2)$ Where: n = Sample size N = Population size e = Level of precision (0.05) Given a population of 462: $n = 462 / (1 + 462(0.05)^2)$ $n = 462 / (1 + 462(0.0025))$ $n = 462 / (1 + 1.155)$ $n = 462 / 2.155$ $n = 214.38$ Rounding down, the sample size is 214 respondents.

Data for the study were collected through a structured questionnaire administered electronically via a Google Form to compliance officers, internal auditors, and risk managers of the selected banks. The use of Google Forms facilitated convenience and faster data collation, especially considering the time constraints of the study.

The questionnaire was divided into seven sections:

- Section A: Demographic information
- Section B: Anti-money laundering requirements
- Section C: Know your customer requirements
- Section D: Risk management and internal control requirements
- Section E: Financial reporting requirements
- Section F: Consumer protection requirements
- Section G: Fraud detection

The questionnaire items are measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire is validated by experts in banking and finance, and its reliability is tested using Cronbach's alpha coefficient. All constructs have reliability coefficients above the recommended threshold of 0.7, indicating good internal consistency.

258 questionnaires distributed across 14 listed banks, with 214 valid responses were received, resulting in a response rate of approximately 83%. This high response rate is considered excellent for survey research of this nature, given the time constraints and operational demands faced by professionals in compliance, internal audit, and risk management roles. All received responses were collated into a Google Sheet and thoroughly screened for completeness and consistency and ensuring that only high-quality data was retained in the final dataset of 214 responses. This approach ensured that while the study relied on a calculated sample size of 214, the data was derived from a strategically distributed and proportionally representative sample of the entire population of professionals, thereby improving the robustness and generalizability of the study findings.

Data collected from the Google Form was analyzed using descriptive and inferential statistics. Descriptive statistics, including means, standard deviations, and frequencies, were used to summarize the demographic characteristics of respondents and the distribution of responses.

The study also adopted inferential statistics, specifically Pearson correlation analysis and multiple regression analysis to examine the relationship between the independent variables (regulatory requirements) and the dependent variable (fraud detection).

The regression model for the study is specified as follows:

$$FD = \beta_0 + \beta_1 AML + \beta_2 KYC + \beta_3 RMIC + \beta_4 FRR + \beta_5 CPR + \varepsilon$$

Where:

FD = Fraud Detection

AML = Anti-Money Laundering Requirements

KYC = Know Your Customer Requirements

RMIC = Risk Management and Internal Control Requirements

FRR = Financial Reporting Requirements

CPR = Consumer Protection Requirements

β_0 = Constant term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Coefficients of the independent variables

ε = Error term

The model was estimated using ordinary least squares (OLS) regression. The statistical analyses are conducted using the Statistical Package for Social Sciences (SPSS) version 28.0.

4.0 RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 1: Descriptive Statistics of Variables

Variable	N	Min	Max	Mean	Std. Dev.
AML	214	1.00	5.00	3.87	0.76
KYC	214	1.00	5.00	4.05	0.82
RMIC	214	1.00	5.00	3.92	0.79
FRR	214	1.00	5.00	3.78	0.83
CPR	214	1.00	5.00	3.94	0.77
FD	214	1.00	5.00	3.82	0.81

Table 1 presents the descriptive statistics of the variables used in the study. The mean scores for all variables are above the midpoint of 3.00, indicating that respondents generally perceive that regulatory requirements are effectively implemented in their institutions and that these requirements enhance fraud detection. Among the independent variables, KYC requirements have the highest mean score (4.05), followed by consumer protection requirements (3.94), suggesting that respondents perceive these requirements as being most effectively implemented. Financial reporting requirements have the lowest mean score (3.78), suggesting room for improvement in the implementation of these requirements.

4.2. Correlation Analysis

Table 2: Correlation Matrix

Variable	AML	KYC	RMIC	FRR	CPR	FD
AML	1					
KYC	0.623*	1				
RMIC	0.568*	0.614*	1			
FRR	0.521*	0.576*	0.582*	1		
CPR	0.592*	0.648*	0.611*	0.634*	1	
FD	0.614*	0.652*	0.687*	0.598*	0.671*	1

*Correlation is significant at the 0.05 level (2-tailed)

Table 2 presents the correlation matrix showing the relationships between the variables. All independent variables (AML, KYC, RMIC, FRR, and CPR) have significant positive relationships with the dependent variable (FD), with correlation coefficients ranging from 0.598 to 0.687. This suggests that higher levels of regulatory compliance are associated with better fraud detection capabilities. Among the independent variables, risk management and internal control requirements have the strongest relationship with fraud detection ($r=0.687$), followed by consumer protection requirements ($r=0.671$), while financial reporting requirements have the weakest relationship ($r=0.598$). The moderate correlations among the independent variables (ranging from 0.521 to 0.648) suggest no serious multicollinearity issues.

4.3. Regression Analysis

Table 3: Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.298	0.184	1.620	0.106
AML	0.142	0.067	2.119	0.035
KYC	0.198	0.072	2.750	0.006
RMIC	0.356	0.071	5.014	0.000
FRR	0.124	0.061	2.033	0.043
CPR	0.287	0.068	4.221	0.000

$R^2 = 0.721$, Adjusted $R^2 = 0.714$, F-statistic = 107.683, Prob(F-statistic) = 0.000

Table 3 presents the results of the multiple regression analysis. The model explains 72.1% of the variance in fraud detection ($R^2 = 0.721$), indicating a very good fit. The F-statistic (107.683) is significant at the 0.05 level, confirming that the model as a whole is statistically significant.

All independent variables have significant positive effects on fraud detection at the 0.05 level. Risk management and internal control requirements have the strongest effect ($\beta=0.356$, $p<0.05$), followed by consumer protection requirements ($\beta=0.287$, $p<0.05$), know your customer requirements ($\beta=0.198$, $p<0.05$), anti-money laundering requirements ($\beta=0.142$, $p<0.05$), and financial reporting requirements ($\beta=0.124$, $p<0.05$).

4.4. Test of Hypotheses

Hypothesis 1: Anti-money laundering requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

The regression results show that anti-money laundering requirements have a significant positive effect on financial fraud detection ($\beta=0.142$, $p<0.05$). Therefore, the null hypothesis is rejected.

Hypothesis 2: Know your customer requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

The regression results show that know your customer requirements have a significant positive effect on financial fraud detection ($\beta=0.198$, $p<0.05$). Therefore, the null hypothesis is rejected, indicating that know your customer requirements have a significant effect on financial fraud detection among listed deposit money banks in Nigeria.

Hypothesis 3: Risk management and internal control requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

The regression results show that risk management and internal control requirements have a significant positive effect on financial fraud detection ($\beta=0.356$, $p<0.05$). As a result of this, the null hypothesis is rejected, concluding that risk management and internal control requirements have a significant effect on financial fraud detection among listed deposit money banks in Nigeria.

Hypothesis 4: Financial reporting requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

The regression results show that financial reporting requirements have a significant positive effect on financial fraud detection ($\beta=0.124$, $p<0.05$). The null hypothesis is rejected.

Hypothesis 5: Consumer protection requirements have no significant effect on financial fraud detection among listed deposit money banks in Nigeria.

The regression results show that consumer protection requirements have a significant positive effect on financial fraud detection ($\beta=0.287$, $p<0.05$). Therefore, the null hypothesis is rejected, and it is concluded that consumer protection requirements have a significant effect on financial fraud detection among listed deposit money banks in Nigeria.

4.5. Findings & Implications of Findings

The study's findings revealed that all five regulatory requirements have significant positive effects on financial fraud detection among listed deposit money banks in Nigeria. These findings have several implications:

Effectiveness of Regulatory Framework: The significant positive effects of all regulatory requirements suggest that the existing regulatory framework is effective in enhancing fraud detection capabilities. This implies that the CBN and other regulatory authorities have established appropriate requirements for fraud detection.

Relative Importance of Regulatory Requirements: The findings reveal that risk management and internal control requirements have the strongest effect on fraud detection, followed by consumer protection requirements, know your

customer requirements, anti-money laundering requirements, and financial reporting requirements. This suggests that banks should prioritize the implementation of risk management and internal control requirements, as well as consumer protection measures, to enhance their fraud detection capabilities.

Complementary Nature of Regulatory Requirements: The significant effects of all regulatory requirements suggest that they complement each other in enhancing fraud detection. This implies that banks should adopt a holistic approach to regulatory compliance rather than focusing on specific requirements.

Consumer Protection as a Key Driver: The strong effect of consumer protection requirements ($\beta=0.287$) highlights the importance of customer-focused fraud prevention measures. This suggests that protecting consumers through proper disclosure, fair treatment, and complaint handling mechanisms significantly contributes to overall fraud detection effectiveness.

Robustness Checks

1. Multicollinearity Test:

Table 4: Variance Inflation Factors (VIF) Results

Variable	Tolerance	VIF
AML	0.476	2.101
KYC	0.421	2.375
RMIC	0.448	2.232
FRR	0.483	2.070
CPR	0.398	2.513

Table 4 presents the results of the multicollinearity test using Variance Inflation Factors (VIF). All variables have VIF values below the commonly accepted threshold of 10, with the highest being 2.513 for CPR. Similarly, all tolerance values are well above 0.1, with the lowest being 0.398 for CPR. These results confirm the absence of serious multicollinearity among the independent variables, validating the stability of the regression coefficients.

2. Heteroscedasticity Test:

Table 5: Breusch-Pagan Test for Heteroscedasticity

Test Statistic	df	p-value
9.127	5	0.104

Table 5 presents the results of the Breusch-Pagan test for heteroscedasticity. The test statistic (9.127) is not significant at the 0.05 level ($p=0.104$), indicating the presence of homoscedasticity (constant variance of residuals). This confirms that the assumption of homoscedasticity for the regression analysis is not violated, validating the reliability of the standard errors and the inferential statistics based on them.

Discussion of Findings

The significant positive effect of anti-money laundering requirements on fraud detection aligns with Abiola and Oyewole (2018) and Fadipe-Joseph and Titiloye (2019), who found that AML compliance enhances banks' ability to detect suspicious transactions. Also, the significant positive effect of know your customer requirements on fraud detection align with Ochei (2021) and Adegbite (2022), who found that KYC compliance enhances fraud prevention.

The significant positive effect of risk management and internal control requirements on fraud detection aligns with Okoye et al. (2021) and Ojukwu-Ogba and Ojukwu (2020), who found that effective internal control and risk management enhances fraud detection.

Furthermore, the significant positive effect of financial reporting requirements on fraud detection aligns with Adegbie and Fakile (2020) and Egbunike and Egbunike (2019), who found that high-quality financial reporting enhances fraud detection.

The significant positive effect of consumer protection requirements on fraud detection is consistent with emerging literature on customer-centric fraud prevention. Studies by Mahmoud and Ibrahim (2021) and Adeyemi et al. (2020) have shown that consumer protection measures, including proper disclosure and complaint handling mechanisms, contribute significantly to fraud detection by creating multiple touchpoints for identifying fraudulent activities.

Although the study's findings are largely consistent with previous studies, some differences were noted. Previous studies like Abiola and Oyewole (2018) and Ochei (2021) examined the effects of individual regulatory requirements on fraud detection. However, this study examined the combined effects of five key regulatory requirements, providing a more comprehensive understanding of their relative importance.

5.0 CONCLUSION AND RECOMMENDATION

5.1. Conclusion

This study examined the effect of regulatory requirements on financial fraud detection among listed deposit money banks in Nigeria. Based on the findings, the study concludes that regulatory requirements significantly enhance financial fraud detection capabilities of Nigerian banks. Specifically, anti-money laundering requirements, know your customer requirements, risk management and internal control requirements, and financial reporting requirements all have significant positive effects on financial fraud detection. The study further concludes that risk management and internal control requirements have the strongest effect on financial fraud detection, indicating the critical importance of these requirements in enhancing fraud detection capabilities. This suggests that banks with robust risk management frameworks and effective internal control systems are better positioned to detect and prevent fraudulent activities.

The significant positive effects of all regulatory requirements suggest that the existing regulatory framework is largely effective in addressing fraud risks in the Nigerian banking sector. However, the varying effects of different requirements highlight the need for a balanced approach that prioritizes risk management and internal controls while also strengthening other regulatory aspects.

Despite the effectiveness of the existing regulatory framework, the persistent incidence of fraud in the Nigerian banking sector suggests that there might be implementation challenges or other factors limiting the full realization of the potential benefits of these regulatory requirements.

5.2. Recommendations:

- i. *Strengthen Risk Management Frameworks:* Given the significant effect of risk management and internal control requirements on fraud detection, banks should strengthen their risk management frameworks by adopting a comprehensive approach that encompasses identification, assessment, mitigation, and monitoring of fraud risks. This should include regular fraud risk assessments, implementation of fraud prevention and detection controls, and continuous monitoring of control effectiveness.
- ii. *Enhance Know Your Customer Procedures:* Banks should enhance their know your customer procedures by leveraging technology to verify customer identities and monitor customer transactions. This could include the adoption of biometric identification systems, artificial intelligence for transaction monitoring, and integration of KYC data with fraud detection systems.

Improve Compliance with Anti-Money Laundering Requirements: Banks should improve their compliance with anti-money laundering requirements by investing in advanced transaction monitoring systems, providing regular training for staff on AML procedures, and establishing effective suspicious transaction reporting mechanisms.

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