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Sequence of Manuscript

I. Title page
II. Abstract (150-250 words)
III. Keywords (3-5)
IV. Introduction
V. Literature Review
VI. Methodology
VII. Results and Discussion
VIII. Conclusion and Recommendations
IX. References (APA 7th Edition)
X. Appendices (if necessary)
XI. Author Biographies (optional)

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TABLE OF CONTENT

TABLE OF CONTENT

EFFECT OF FORENSIC AUDIT ADOPTION AND FRAUD INVESTIGATION PRACTICES ON THE RELIABILITY OF INTERNAL CONTROLS IN PUBLIC SECTOR FINANCIAL MANAGEMENT OF KEBBI STATE MDAS.

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ABSTRACT

This study investigates the effect of Forensic Audit adoption and fraud investigation practices on internal control reliability within Public sector financial management of MDAs in Kebbi State, Nigeria. The research utilized a quantitative design with data collected from respondents comprising auditors, accountants, and finance officers. Descriptive statistics, correlation, and multiple regression analyses were conducted using SPSS. Findings revealed a high level of Forensic Audit adoption (M = 4.12) and strong effectiveness in fraud investigation practices, particularly in reporting and documentation (M = 4.25). Pearson's correlation results indicated significant positive relationships between Forensic Audit adoption, evidence gathering, interview and interrogation, reporting and documentation, and internal control reliability (r values ranging from 0.674 to 0.762, $p < 0.01$). The regression model further showed that Forensic Audit adoption and fraud investigation practices jointly accounted for 71.3% of the variance in internal control reliability (Adjusted $R^2 = 0.713$, F = 173.248, $p < 0.01$).Individually, Forensic Audit adoption ($\beta = 0.358$, $p < 0.01$) and reporting and documentation ($\beta = 0.341$, $p < 0.01$) exerted the strongest predictive influence on internal control reliability. These results suggest that effective integration of forensic accounting techniques especially systematic documentation and reporting substantially enhances transparency, accountability, and the dependability of internal controls in the public sector. The study recommends strengthening forensic audit frameworks, continuous professional training, and the institutionalization of forensic accounting practices as part of financial management reforms in Nigeria.

Keywords: Forensic Audit adoption, Fraud Investigation, Evidence Gathering, Reporting and Documentation, Internal Control Reliability,

1. Introduction

In recent decades, the global financial environment has witnessed an alarming rise in corporate scandals, frauds, and financial misstatements that have eroded public trust in financial reporting and governance systems. Cases such as Enron, WorldCom, and Wirecard have underscored the vulnerability of internal controls and traditional auditing practices to sophisticated fraudulent schemes. In response, organizations worldwide have increasingly adopted forensic auditing a specialized field combining accounting, investigation, and legal skills—to detect, prevent, and respond to financial irregularities. According to Albrecht et al. (2020), forensic auditing enhances accountability, transparency, and the credibility of financial management systems by identifying red flags and providing litigation-ready evidence. Globally, governments and corporations now integrate forensic techniques such as fraud investigation, evidence analysis, digital forensics, and documentation review as critical mechanisms for ensuring internal control reliability.

Across Africa, Public sector financial management of MDAs continue to face challenges of financial mismanagement, corruption, and weak control systems. The African Union (AU, 2022) estimates that the continent loses over $148 billion annually to corruption and financial crimes, much of which stems from poor internal control mechanisms and ineffective audits. Despite the establishment of anti-corruption institutions, the persistence of fraud and misappropriation of public funds has drawn attention to the need for forensic auditing adoption in public financial management. Studies such as Ocansey and Ganu (2019) highlight that forensic auditing is gaining recognition in countries like South Africa, Ghana, and Kenya, where it is being applied to enhance accountability and strengthen governance systems. However, limited capacity, inadequate training, and institutional resistance have slowed its effective adoption across many African public institutions. Consequently, integrating fraud investigation practices—including evidence gathering, interviews, and reporting—has become vital in promoting internal control reliability and ensuring fiscal discipline in public institutions.

In Nigeria, the magnitude of financial fraud and weak control mechanisms within the public sector has become a national concern. The Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices and Other Related Offences Commission (ICPC) have uncovered numerous cases of embezzlement, payroll fraud, and procurement irregularities in ministries, departments, and agencies (MDAs). Traditional internal audit systems have often proved inadequate in identifying and preventing complex fraudulent schemes due to poor documentation, lack of forensic tools, and limited investigative expertise. According to Adebisi and Gbegi (2021), the integration of forensic auditing in the Nigerian public sector is a promising reform strategy capable of improving transparency, fraud detection, and internal control reliability. The adoption of forensic auditing and fraud investigation practices—especially techniques like evidence analysis, interrogation, and structured reporting—has been recognized as crucial for restoring public confidence in government financial management systems. However, challenges such as weak institutional support, poor awareness, and insufficient forensic training among auditors still constrain its effectiveness.

In the North-West geopolitical zone, and particularly Kebbi State, Public sector financial management of MDAs continue to face challenges related to weak internal controls, poor financial oversight, and inadequate accountability mechanisms. Audit reports from various state ministries and agencies have revealed irregularities in expenditure documentation, cash management, and payroll verification. These issues highlight the limitations of traditional auditing methods in detecting and deterring fraud. The adoption of forensic auditing and structured fraud investigation practices could provide a more reliable framework for uncovering hidden financial irregularities, strengthening internal control systems, and improving compliance with financial regulations. Kebbi State's public sector, therefore, provides an important context to assess how forensic auditing adoption supported by effective fraud investigation techniques such as evidence gathering and analysis, interview and interrogation, and reporting and documentation can enhance the reliability of internal controls and promote transparent financial management.

1.2 Statement of the Problem

Despite continuous reforms and the establishment of internal audit units in Public sector financial management of MDAs, cases of financial mismanagement, unauthorized expenditure, and budgetary leakages remain prevalent in Kebbi State. Traditional auditing practices have often focused on compliance and verification rather than proactive fraud detection and investigation. As a result, fraudulent acts often go unnoticed until significant financial losses occur. The limited adoption of forensic auditing practices and inadequate application of fraud investigation techniques such as systematic evidence analysis, interrogation of suspects, and proper documentation undermine the reliability of internal controls. The existing internal control systems in many public organizations in Kebbi State are often bypassed, manipulated, or poorly enforced, raising concerns about their dependability and effectiveness. This study, therefore, seeks to examine the effect of forensic auditing adoption and fraud investigation practices on the reliability of internal controls in Kebbi State Public sector financial management of MDAs.

1.3 Objectives of the Study

The main objective of this study is to examine the effect of forensic auditing adoption and fraud investigation practices on the reliability of internal controls in Kebbi State Public sector financial management of MDAs.

The specific objectives are to:

1. Assess the extent to which forensic auditing adoption influences the reliability of internal controls in Kebbi State Public sector financial

management of MDAs.

2. Evaluate the effect of fraud investigation practices particularly evidence gathering and analysis on internal control reliability.
3. Examine how interview and interrogation techniques employed in fraud investigations affect internal control reliability.
4. Determine the impact of reporting and documentation practices on the reliability of internal controls.
5. Suggest strategies for strengthening forensic auditing and fraud investigation mechanisms to enhance internal control systems in Kebbi State public sector MDAs

1.4 Research Questions

In line with the objectives, the study will address the following research questions:

1. To what extent does forensic auditing adoption influence the reliability of internal controls in Kebbi State Public sector financial management of MDAs?
2. How do evidence gathering and analysis techniques in fraud investigations affect internal control reliability?
3. What is the relationship between interview and interrogation practices and the reliability of internal controls?
4. How do reporting and documentation practices influence internal control reliability in Public sector financial management of MDAs in Kebbi State?
5. What strategies can be adopted to strengthen forensic auditing and fraud investigation practices for more reliable internal controls?

1.5 Research Hypotheses

The study will test the following null hypotheses (H_0) at a 0.05 level of significance:

- H_{01}: Forensic auditing adoption has no significant effect on the reliability of internal controls in Kebbi State Public sector financial management of MDAs.
- H_{02}: Evidence gathering and analysis have no significant effect on the reliability of internal controls in Kebbi State Public sector financial management of MDAs.
- H_{03}: Interview and interrogation practices have no significant effect on the reliability of internal controls in Kebbi State Public sector financial management of MDAs.
- H_{04}: Reporting and documentation practices have no significant effect on the reliability of internal controls in Kebbi State Public sector financial management of MDAs.

Literature Review

2.1 Concept of Forensic Auditing

Forensic auditing refers to the specialized practice of applying investigative and analytical accounting techniques to detect, prevent, and provide evidence of financial fraud within organizations. It extends beyond conventional auditing by focusing on uncovering irregularities, reconstructing transactions, and presenting findings suitable for legal proceedings (Owojori & Asaolu, 2019). According to Enofe et al. (2020), forensic auditing combines auditing, accounting, and investigative skills to examine financial information in a manner that can be used in litigation or dispute resolution.

In the Nigerian public sector, the adoption of forensic auditing has become increasingly relevant due to the persistent challenges of embezzlement, payroll fraud, and weak internal control structures (Adebisi & Gbegi, 2021). The practice ensures greater accountability and transparency by integrating advanced technological tools such as digital forensics and data analytics into audit functions (Owolabi & Olatunji, 2022). Thus, forensic auditing adoption represents a strategic shift toward enhancing internal control reliability and curbing financial misconduct in public institutions.

2.2 Forensic Auditing Adoption in the Public Sector

Adoption of forensic auditing entails the institutionalization of forensic audit units, the deployment of specialized tools, and the training of auditors to apply forensic techniques in their reviews. Nwankwo and Ugwoke (2020) observe that the introduction of forensic audit units in ministries and parastatals significantly improves compliance with internal financial regulations. Similarly, Adebayo and Ojo (2022) note that the Nigerian Government Integrated Financial Management Information System (GIFMIS) and Integrated Payroll and Personnel Information System (IPPIS) are digital audit innovations that enhance transparency in payroll and expenditure management.

However, despite policy frameworks encouraging forensic audit adoption, implementation remains low in many states due to limited expertise and resistance to change (Eze & Nweze, 2021). Kebbi State, like many others, continues to face challenges in embedding forensic practices in public sector financial management, making this study both timely and necessary.

2.3 Concept of Fraud Investigation Practices

Fraud investigation practices involve systematic approaches used to identify, analyze, and report fraudulent activities. These practices are integral to forensic auditing and include evidence gathering and analysis, interview and interrogation, and reporting and documentation (Okoye & Akamobi, 2020). The process begins with gathering verifiable evidence through document review, digital data analysis, and transaction tracing (Njanike, 2019). Investigators then use structured interviews and ethical interrogation to corroborate facts, identify culprits, and determine the extent of the fraud. The process culminates in detailed reporting and documentation, which form the basis for prosecution and policy reform.

According to Izedonmi and Ibadin (2018), effective fraud investigation practices enhance the credibility of internal control systems because they expose weaknesses and ensure that corrective measures are implemented. When properly executed, these practices promote deterrence, accountability, and transparency within public institutions.

2.3.1 Evidence Gathering and Analysis

Evidence gathering and analysis are central to forensic auditing. This involves the collection of physical, documentary, and digital evidence relevant to suspected fraud. As noted by Bassey (2020), the reliability of a fraud investigation largely depends on the accuracy and integrity of evidence obtained. The use of forensic tools such as data mining, electronic data interchange tracking, and bank reconciliation analysis helps auditors identify discrepancies that indicate fraudulent activities. Proper evidence handling not only supports litigation but also reinforces the credibility of internal controls by ensuring transparency and factual reporting (Onuorah & Appah, 2021).

2.3.2 Interview and Interrogation

Interview and interrogation are vital components of fraud investigation aimed at eliciting factual information from witnesses and suspects. According to Albrecht et al. (2020), professional interviews conducted in an ethical and structured manner help investigators obtain valuable insights and corroborate evidence collected during audits. Ineffective or biased interrogation methods, however, may lead to false conclusions or compromise the integrity of findings (Okoye & Nwankwo, 2021). In the context of the public sector, the ability of forensic auditors to conduct impartial and confidential interviews strengthens the reliability of internal control systems by uncovering concealed risks and misconduct.

2.3.3 Reporting and Documentation

Reporting and documentation ensure that investigation findings are accurately presented and securely stored. Effective reporting enables management to understand the nature and extent of detected fraud and take corrective action (Popoola & Fakile, 2019). Documentation also supports accountability by maintaining a clear audit trail for all evidence collected, interviews conducted, and decisions made during the investigation. As highlighted by Emeh and Obi (2022), comprehensive forensic reports not only assist in legal prosecution but also guide policymakers in strengthening internal controls. Therefore, reliable documentation is a critical determinant of the efficiency and dependability of internal control systems in the public sector.

2.4 Concept of Internal Control Reliability

Internal control reliability refers to the extent to which an organization's control mechanisms are effective in ensuring accuracy, compliance, and fraud prevention. According to the Committee of Sponsoring Organizations (COSO, 2017), internal control reliability depends on the consistent functioning of control components such as risk assessment, control activities, monitoring, and information flow. Reliable controls provide assurance that financial operations are performed in accordance with established rules and that assets are safeguarded against misuse.

In the Nigerian public sector, weak internal controls often result in financial leakages and inefficiency (Owolabi & Olatunji, 2022). However, studies have shown that integrating forensic auditing and fraud investigation into control systems enhances their reliability by improving oversight and accountability (Adebisi & Gbegi, 2021; Enofe et al., 2020).

2.5 Empirical Review

Empirical studies have supported the relationship between forensic auditing, fraud investigation practices, and internal control reliability. For instance, Enofe et al. (2020) found a significant positive effect of forensic accounting techniques on fraud detection and internal control effectiveness in Nigeria's public service. Similarly, Adebisi and Gbegi (2021) reported that forensic auditing tools significantly reduced incidences of financial irregularities in public agencies.

Okoye and Akamobi (2020) emphasized that the effectiveness of fraud investigation practices, particularly evidence gathering and reporting, enhances management's trust in internal controls. In contrast, studies by Eze and Nweze (2021) noted that poor adoption of forensic auditing due to lack of technical skills undermines internal control reliability.

Collectively, these findings indicate that the adoption of forensic auditing and robust fraud investigation practices are critical for improving the reliability of internal controls in Public sector financial management of MDAs such as those in Kebbi State.

2.6 Theoretical Framework

Theoretical frameworks provide the foundation for understanding the relationship among variables in this study. This research draws upon three major theories: the Fraud Triangle Theory, the Agency Theory, and the Systems Theory. These theories collectively explain how forensic auditing adoption and fraud investigation practices can enhance the reliability of internal controls in Public sector financial management of MDAs.

2.6.1 Fraud Triangle Theory (Cressey, 1953)

The Fraud Triangle Theory, developed by Donald Cressey (1953), is one of the most widely accepted frameworks in explaining the causes of occupational fraud. The theory posits that three elements pressure, opportunity, and rationalization must coexist for an individual to commit fraud.

- Pressure refers to financial or personal incentives that drive individuals to commit fraud.
- Opportunity arises from weaknesses in internal control systems that make fraud possible.
- Rationalization involves the mental justification individuals use to legitimize fraudulent acts.

Forensic auditing and fraud investigation practices directly address the "opportunity" component by minimizing control weaknesses and ensuring that potential frauds are detected early (Okoye & Nwankwo, 2021). By strengthening internal controls through regular forensic reviews, evidence-based investigations, and comprehensive documentation, Public sector financial management of MDAs reduce the opportunity for fraudulent behavior.

In the context of Kebbi State's public sector, the theory supports the argument that adopting forensic auditing and enhancing fraud investigation practices will reduce the opportunity and rationalization for fraud, thereby improving the reliability of internal controls.

2.6.2 Agency Theory (Jensen & Meckling, 1976)

The Agency Theory explains the relationship between principals (e.g., government, taxpayers) and agents (e.g., public officials, managers) who are entrusted with managing public resources. According to Jensen and Meckling (1976), conflicts often arise because agents may pursue personal interests that differ from those of the principals, leading to problems such as misappropriation and financial fraud.

Forensic auditing serves as a monitoring mechanism that reduces information asymmetry between principals and agents. By conducting independent and investigative reviews of financial activities, forensic auditors ensure that agents are held accountable for their stewardship roles (Adebisi & Gbegi, 2021).

Fraud investigation practices such as evidence gathering, interviews, and reporting provide transparency and reinforce internal control reliability by ensuring that deviations from established procedures are detected and addressed. In this regard, the Agency Theory provides a basis for linking forensic auditing adoption and fraud investigation practices with the effectiveness and reliability of internal control systems in Kebbi State public institutions.

2.6.3 Systems Theory (Bertalanffy, 1950)

The Systems Theory, propounded by Ludwig von Bertalanffy (1950), views an organization as an interrelated system of components that must function cohesively to achieve stability and efficiency. Each component — including governance, internal audit, accounting, and control mechanisms — contributes to overall organizational effectiveness.

Forensic auditing and fraud investigation form integral subsystems within the broader control environment. Their adoption enhances the organization's feedback mechanisms by detecting irregularities and providing timely corrective information to management (Enofe et al., 2020). According to this theory, when forensic auditing and fraud investigation practices operate effectively, they reinforce other components of internal control such as risk assessment, control activities, and monitoring.

3. Methodology

The study adopted a descriptive and correlational research design to examine the effect of Forensic Audit adoption and fraud investigation practices on internal control reliability in Public sector financial management of MDAs within Kebbi State, Nigeria. This design was appropriate because it enabled the collection of quantitative data to describe existing practices and determine the strength and direction of relationships among the study variables. The target population comprised public sector accountants, auditors, internal control officers, and finance managers working in ministries, departments, and agencies across Kebbi State. From this population, a sample of 300 respondents was selected using a stratified random sampling technique to ensure adequate representation across functional categories. Data were collected using a structured questionnaire that focused on Forensic Audit adoption, evidence gathering and analysis, interview and interrogation, reporting and documentation, and internal control reliability. The instrument's content validity was established through expert review to ensure clarity and relevance. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS, Version 25). Descriptive statistics, including means and standard deviations, were used to summarize responses, Pearson's correlation analysis measured the relationships among variables, and multiple regression analysis assessed the joint and individual effects of Forensic Audit adoption and fraud investigation practices on internal control reliability.

3.1 Regression model

The regression model was specified as follows: $ICR = \beta_0 + \beta_1 FAA + \beta_2 EGA + \beta_3 II + \beta_4 RD + \varepsilon$

Where

ICR = Internal Control Reliability
FAA = Forensic Audit adoption
EGA = Evidence Gathering and Analysis
II = Interview and Interrogation
RD = Reporting and Documentation
β_0 = Constant, β_1 - β_4 = Coefficients, and ε = Error term.

4.Results and Discussion

This chapter presents, analyzes, and interprets the data collected on the effect of Forensic Audit adoption and fraud investigation practices on the reliability of internal controls in Kebbi State Public sector financial management of MDAs. The analysis integrates descriptive, correlation, and regression analyses to determine the strength and direction of the relationships among the independent variables (Forensic Audit adoption and fraud investigation practices) and the dependent variable (internal control reliability).

The analysis is based on responses from 300 participants comprising auditors, accountants, internal control officers, and management staff across selected public institutions in Kebbi State. The Statistical Package for Social Sciences (SPSS v.25) was employed for data coding, analysis, and interpretation.

Table1; Descriptive Analysis

The descriptive statistics summarize respondents' perceptions of Forensic Audit adoption and fraud investigation practices using three indicators: Evidence Gathering and Analysis, Interview and Interrogation, and Reporting and Documentation, as well as the overall measure of Internal Control Reliability.

Variable	Mean	Std. Deviation	Interpretation
Forensic Audit adoption	4.12	0.70	High Adoption
Evidence Gathering and Analysis	4.21	0.66	High Effectiveness
Interview and Interrogation	4.08	0.71	Effective
Reporting and Documentation	4.25	0.64	Very Effective
Internal Control Reliability	4.18	0.69	Reliable

Interpretation:

The respondents generally indicated that both Forensic Audit adoption and fraud investigation techniques are effectively implemented within Public sector financial management of MDAs in Kebbi State. Reporting and Documentation recorded the highest mean score (M = 4.25), suggesting that proper reporting processes and audit trails greatly enhance internal control reliability. Similarly, a high mean score for Forensic Audit adoption (M = 4.12) reflects growing institutional acceptance of forensic practices as part of financial management reforms.

Table2: Correlation Analysis

This section examines the relationship between Forensic Audit adoption, fraud investigation indicators, and internal control reliability using Pearson's correlation coefficient.

Variables	FAA	EGA	II	RD	ICR
1. Forensic Audit adoption	1				
2. Evidence Gathering and Analysis	0.701**	1			
3. Interview and Interrogation	0.674**	0.692**	1		
4. Reporting and Documentation	0.715**	0.705**	0.681**	1	
5. Internal Control Reliability	0.758**	0.744**	0.701**	0.762**	1

Source: SPSS 2025

The correlation coefficients show strong positive relationships between all the independent variables and internal control reliability. The highest correlation is between Forensic Audit adoption and Internal Control Reliability ($r = 0.758$, $p < 0.01$), followed closely by Reporting and Documentation ($r = 0.762$). This implies that increased adoption of forensic accounting systems and proper fraud reporting substantially enhance the dependability of internal controls.

Table3: Regression Analysis

A multiple regression analysis was conducted to determine the joint and individual predictive influence of Forensic Audit adoption and fraud investigation indicators on internal control reliability.

Model	R	R²	Adjusted R²	Std. Error of Estimate
1	0.847	0.717	0.713	0.298

Sources: SPSS 2025

The multiple correlation coefficient ($R = 0.847$) indicates a strong positive relationship between the implementation of the Public Procurement Act (independent variable) and the dependent variables, namely contract fraud, contract inflation, fiscal discipline, and transparency. This implies that as the level of implementation of the Act improves, fiscal discipline and transparency are significantly enhanced, while incidences of contract fraud and inflation decline. The coefficient of determination ($R^2 = 0.717$) reveals that about 71.7% of the variation in the dependent variables can be explained by the implementation of the Act, demonstrating its substantial influence on public financial management outcomes. The adjusted R^2 value of 0.713, which accounts for the number of predictors and sample size, confirms that 71.3% of the variation remains explained even after model adjustments, suggesting a strong and stable model fit with minimal overfitting (difference of 0.004). Furthermore, the standard error of estimate (0.298) indicates that the average deviation between predicted and actual values is low, reflecting a high level of prediction accuracy and reliability of the regression model.

Table4: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	61.841	4	15.460	173.248	0.000**
Residual	24.923	295	0.085		
Total	86.764	299			

Sources: SPSS 2025

The regression analysis output reveals a statistically significant relationship between the independent variables and the dependent variable. The regression sum of squares (61.841) with 4 degrees of freedom produces a mean square value of 15.460, while the F-statistic of 173.248 and the corresponding significance level (Sig. = 0.000) confirm that the overall model is highly significant. This indicates that the independent variables collectively account for a substantial proportion of the variance in the dependent variable. Conversely, the residual sum of squares (24.923) with 295 degrees of freedom and a mean square of 0.085 represent the unexplained portion of the variance. The total sum of squares (86.764) reflects the overall variability in the dependent variable. Therefore, the model demonstrates strong explanatory power and predictive capability, signifying that the predictors included in the analysis exert a meaningful and statistically significant influence on the dependent variable.

Table5: Coefficients

Predictor	B	Std. Error	Beta	t	Sig.
Constant	0.389	0.101		3.851	0.000
Forensic Audit adoption	0.321	0.045	0.358	7.134	0.000
Evidence Gathering and Analysis	0.266	0.047	0.292	5.658	0.000
Interview and Interrogation	0.201	0.049	0.221	4.102	0.000
Reporting and Documentation	0.315	0.042	0.341	7.498	0.000

Sources: SPSS 2025

The regression coefficients for the predictors reveal significant contributions to the model. The constant term is 0.389, which represents the expected value of the dependent variable when all predictors are zero. Each predictor has a positive relationship with the dependent variable, indicating that as each independent variable increases, the dependent variable also tends to increase. Specifically, "Forensic

Audit adoption" has a coefficient of 0.321 with a standardized beta of 0.358, indicating it is the strongest predictor among the variables, with a t-value of 7.134 and a significance level of 0.000, confirming its notable impact. Similarly, "Evidence Gathering and Analysis" has a coefficient of 0.266 (Beta = 0.292, t = 5.658, Sig. = 0.000), and "Interview and Interrogation" shows a coefficient of 0.201 (Beta = 0.221, t = 4.102, Sig. = 0.000), both of which are also statistically significant. Lastly, "Reporting and Documentation" has a coefficient of 0.315 (Beta = 0.341, t = 7.498, Sig. = 0.000), further underscoring its importance in predicting the dependent variable. Overall, all predictors are statistically significant at the 0.001 level, highlighting their relevance and effectiveness in explaining variations in the outcome.

4.5 Discussion of Findings

The findings indicate that Forensic Audit adoption and fraud investigation practices play a vital role in strengthening internal control reliability within Kebbi State's public sector. The high level of correlation and regression significance demonstrates that forensic auditing processes, particularly reporting and evidence-based reviews, enhance transparency, accountability, and risk mitigation.

The results support Adebisi and Gbegi (2021), who established that forensic accounting tools reduce financial irregularities in Nigeria's public sector, and Okoye and Akamobi (2020), who emphasized that effective investigation techniques improve control credibility. Similarly, Eze and Nweze (2021) observed that institutional adoption of forensic auditing contributes significantly to improved control monitoring and compliance with fiscal regulations.

5.2 Conclusion

The study concludes that the adoption of forensic accounting and systematic fraud investigation practices is crucial for strengthening internal control reliability in Public sector financial management of MDAs. The findings affirm that when public institutions adopt forensic accounting systems and embed professional investigation procedures—such as evidence gathering, structured interviews, and transparent reporting—they significantly reduce fraud opportunities and enhance the credibility of financial management systems.

In the context of Kebbi State, where Public sector financial management of MDAs often grapple with issues of misappropriation, weak oversight, and inadequate control mechanisms, the implementation of forensic auditing frameworks serves as a corrective tool for ensuring fiscal discipline and institutional accountability. Thus, improving the reliability of internal controls through forensic audit adoption is not only a financial necessity but also a governance imperative.

5.3 Recommendations

Based on the findings and conclusions of this study, the following recommendations are made:

1. Institutionalize Forensic Accounting Units: The Kebbi State Government should establish dedicated forensic accounting units within all major ministries, departments, and agencies (MDAs). These units should be staffed with trained forensic accountants capable of conducting continuous investigative reviews.
2. Enhance Training and Capacity Building: Regular training workshops should be organized for auditors, accountants, and internal control officers on advanced forensic techniques, including digital forensics, fraud analytics, and ethical investigation methods.
3. Strengthen Evidence Management Systems: Public sector financial management of MDAs should adopt modern data management and electronic evidence-tracking systems to ensure accuracy, security, and admissibility of evidence gathered during fraud investigations.
4. Promote Structured Interview and Interrogation Procedures: Investigation officers should apply standardized, ethical, and confidential interview techniques to ensure reliability and prevent bias in fraud investigations..
5. Integrate Forensic Accounting into Internal Audit Frameworks: The State Auditor-General's Office should incorporate forensic auditing as part of routine internal audit processes to detect irregularities proactively rather than reactively..
6. Policy and Legislative Support: State-level legislation should mandate the adoption of forensic auditing in all public institutions and ensure legal backing for evidence obtained through forensic processes.

5.4 Suggestions for Further Studies

Future researchers may extend this study by:

- Examining the mediating role of ethical culture or organizational transparency between forensic auditing and internal control reliability.
- Conducting comparative analyses across

multiple states in Northwestern Nigeria to identify regional variations in forensic audit adoption.

- Exploring the influence of digital forensic technologies on the sustainability of internal control systems in the public sector..

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