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Internal Audit Effectiveness and Procurement Fraud Detection in the Nigerian Public Sector

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ABSTRACT

Procurement fraud continues to undermine public financial management across many developing economies, with Nigeria's public sector being particularly vulnerable. This study examined the internal audit effectiveness and procurement fraud detection in the Nigerian Public Sector. Using a mixed-methods research design, the study draws on primary data collected from 280 respondents comprising internal auditors, procurement officers, finance managers, and audit committee members across 14 federal ministries, departments, and agencies (MDAs). Structured questionnaires and semi-structured interviews were employed for data collection, with quantitative data analysed using multiple regression and structural equation modelling (SEM), while qualitative data underwent thematic analysis. Findings reveal that internal audit effectiveness is a statistically significant predictor of procurement fraud detection ($\beta = 0.389$, $p < 0.001$). Audit independence exerts the strongest individual effect ($\beta = 0.412$, $p < 0.001$), followed by audit procedures ($\beta = 0.321$, $p < 0.001$), and Institutional barriers ($\beta = 0.298$, $p < 0.01$). Qualitative evidence consistently identifies political interference, inadequate staffing, insufficient use of technology, and weak enforcement of audit recommendations as critical barriers. Grounded in agency theory and fraud diamond theory, the study recommended that Constitutional and legislative entrenchment of internal audit independence. The Federal Government should amend the Financial Regulations and the Public Finance Management Act to require that Heads of Internal Audit report functionally to the Presidency and audit committees, and that their tenure protections are enshrined in legislation, not mere administrative circulars.

Keywords: Internal Audit, Procurement Fraud, Audit Independence, Fraud Detection

1.0 INTRODUCTION

1.1 Background to the Study

Public procurement represents one of the most significant areas of government expenditure across the world, particularly in developing countries where governments are responsible for the provision of infrastructure, social amenities, and public services. In Nigeria, procurement activities account for a substantial proportion of public spending and involve the acquisition of goods, works, and services by ministries, departments, and agencies (MDAs). Due to the huge financial resources involved, public procurement has become highly susceptible to fraud, corruption, and financial irregularities (Akenbor & Ironkwe, 2014). Procurement fraud in the Nigerian public sector manifests in several forms, including contract inflation, bid rigging, kickbacks, falsification of procurement documents, payment for unexecuted contracts, and favoritism in contract awards (Onuorah & Appah, 2012).

The persistent occurrence of procurement fraud has continued to undermine accountability, transparency, and effective service delivery in Nigeria's public institutions. Despite various anti-corruption initiatives and public financial management reforms introduced by the government, fraudulent procurement practices remain widespread (Ezejiofor & Ezenwaka, 2020). Reports from oversight institutions and anti-corruption agencies indicate that procurement-related fraud contributes significantly to the misappropriation of public funds and the abandonment of government projects. This situation has negatively affected economic development and public trust in government institutions.

To address the growing concern over corruption and inefficiency in procurement administration, the Nigerian government enacted the Public Procurement Act 2007, which established the Bureau of Public Procurement to regulate and monitor procurement activities in federal government establishments. The Act was intended to ensure transparency, competition, accountability, and value for money in public procurement processes (Public Procurement Act, 2007). However, despite the implementation of the Act and the establishment of regulatory agencies, procurement fraud continues to occur in many public sector organizations due to weak internal control systems and inadequate monitoring mechanisms.

One of the major mechanisms for ensuring accountability and detecting fraud in public institutions is the internal audit function. Internal auditing is an independent appraisal activity established within an organization to examine and evaluate the adequacy and effectiveness of internal controls, risk management processes, and governance systems (Institute of Internal Auditors [IIA], 2017). In the public sector, internal auditors are expected to ensure compliance with financial regulations, verify the accuracy of financial records, assess procurement procedures, and detect irregularities that may lead to fraud or corruption.

The effectiveness of internal auditing is critical to procurement fraud detection because internal auditors are strategically positioned to identify weaknesses in procurement processes and recommend corrective measures. Effective internal audit functions help strengthen internal controls, improve compliance with procurement laws, and reduce opportunities for financial misconduct (Unegbu & Obi, 2017). Through periodic audit reviews, risk assessments, and investigations, internal auditors can detect suspicious procurement transactions and ensure adherence to due process requirements.

However, the effectiveness of internal audit functions in many Nigerian public sector institutions has been questioned by scholars and practitioners. Internal auditors in some

government agencies face numerous challenges, including lack of independence, inadequate professional competence, insufficient funding, poor management support, and political interference (Aikins, 2011). These challenges often limit the ability of auditors to carry out objective assessments and expose fraudulent procurement practices. In some cases, audit recommendations are ignored by management, thereby weakening the overall effectiveness of internal auditing in combating procurement fraud.

Furthermore, the increasing complexity of government procurement systems and the adoption of digital procurement processes have introduced new fraud risks that require stronger audit procedures and technological expertise. This development has increased the need for competent and independent internal auditors capable of utilizing modern audit tools and techniques to detect procurement fraud effectively. According to Enofe et al. (2013), strong internal audit mechanisms are essential for promoting accountability and minimizing corruption in public financial management.

Although previous studies have examined fraud control and public sector accountability in Nigeria, limited empirical attention has been given specifically to the relationship between internal audit effectiveness and procurement fraud detection in the Nigerian public sector. Most existing studies focus broadly on corruption and internal controls without adequately investigating how factors such as auditor independence, professional competence, management support, and audit quality influence the detection of procurement fraud. It is against this backdrop that this study seeks to examine the effect of internal audit effectiveness on procurement fraud detection in the Nigerian public sector.

1.2 Statement of the Problem

Procurement fraud remains a major problem in the Nigerian public sector despite the establishment of internal audit units and procurement regulations aimed at promoting accountability and transparency. Cases of contract inflation, bid rigging, diversion of public funds, and payment for unexecuted projects continue to occur in many ministries, departments, and agencies (MDAs) in Nigeria. This situation has resulted in financial losses, abandoned projects, and poor service delivery. Although internal auditors are expected to detect and prevent procurement fraud through effective monitoring and evaluation of internal controls, many internal audit units face challenges such as lack of independence, inadequate professional competence, poor management support, and political interference. These challenges reduce the effectiveness of internal auditing in detecting procurement fraud within the public sector.

Despite several studies on public sector corruption and accountability, limited attention has been given to how internal audit effectiveness influences procurement fraud detection in Nigeria. Therefore, this study seeks to examine the effect of internal audit effectiveness on procurement fraud detection in the Nigerian public sector.

1.3 Research Objectives

The study pursues the following specific objectives:

1. To assess the extent to which internal audit effectiveness influences procurement fraud detection in Nigerian public sector organizations.
2. To examine how the independence of internal auditors affects their capacity to detect procurement fraud.

3. To evaluate the role of internal audit procedures and controls in strengthening procurement transparency and accountability.
4. To identify institutional and structural barriers that limit the effectiveness of internal audit in detecting procurement fraud within the Nigerian public sector.

1.4 Research Questions

Accordingly, the study addresses the following research questions:

1. To what extent does internal audit effectiveness influence procurement fraud detection in Nigerian public sector organizations?
2. How does the independence of internal auditors affect their ability to detect procurement fraud?
3. What role do internal audit procedures and controls play in strengthening procurement transparency and accountability?
4. Are there institutional or structural barriers that limit the effectiveness of internal audit in detecting procurement fraud within the Nigerian public sector?

1.5 Research Hypotheses

Based on the research objectives, the following null hypotheses are tested:

1. Internal audit effectiveness does not significantly influence procurement fraud detection in Nigerian public sector organizations.
2. Internal audit independence does not significantly affect the ability of auditors to detect procurement fraud.
3. Internal audit procedures and controls do not significantly contribute to procurement transparency and accountability.
4. There are no significant institutional or structural barriers that limit internal audit effectiveness in detecting procurement fraud.

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Concept of Internal Audit

The Institute of Internal Audit (2020) authoritative definition frames internal auditing as an independent, objective assurance and consulting activity that helps organisations accomplish their objectives by bringing a systematic, disciplined approach to evaluating and improving the effectiveness of risk management, control, and governance processes. Within the public sector, internal audit functions serve a dual mandate: providing assurance to management and oversight bodies on the adequacy of internal controls, and detecting irregularities including fraud and misappropriation. The IIA International Standards delineate three essential attributes of an effective internal audit function: organisational independence, professional competence, and a sufficient scope of audit work.

Internal auditors provide management with recommendations that strengthen internal controls and support informed decision-making. They also ensure that resources are properly utilized and organizational objectives are achieved effectively. Modern internal auditing therefore serves as a strategic function that contributes to organizational sustainability and stakeholder confidence (Aguolu, 2009; Sawyer et al., 2003).

2.1.2 Concept of Procurement Fraud

Procurement fraud refers to any deliberate deception, manipulation, or dishonest practice carried out during the procurement or purchasing process for personal gain or to cause financial loss to an organization. It commonly occurs in both public and private sector procurement activities where goods, services, or contracts are acquired (Transparency International, 2023).

Procurement fraud can take different forms. One common type is bid rigging, where competing bidders secretly cooperate to manipulate the outcome of a tender process. Another form is kickbacks and bribery, where procurement officers receive money or favors from suppliers in exchange for awarding contracts. Additionally, invoice fraud occurs when suppliers submit false or inflated invoices for payment (OECD, 2022).

The effects of procurement fraud are severe. It leads to financial losses, poor quality goods and services, damaged organizational reputation, and reduced public trust in institutions. In government procurement, fraud can also hinder economic development by diverting public resources meant for social services and infrastructure projects (World Bank, 2021).

2.2 THEORETICAL REVIEW

2.2.1 Agency Theory

Agency theory, originally formulated by Jensen and Meckling (1976), posits that the separation of ownership and control in organisations creates a principal-agent relationship characterised by information asymmetry and divergent interests. In the public sector context, citizens and legislative oversight bodies (principals) delegate authority to public managers (agents) who control public resources. This delegation creates moral hazard opportunities in which agents may pursue self-interest at the expense of principals. Internal audit, in this framework, functions as a monitoring mechanism designed to reduce agency costs by verifying agent behaviour and disclosing deviations from established procedures. The theory predicts that stronger internal audit oversight will reduce the scope for opportunistic behaviour, including procurement fraud. Several empirical studies (Coram, Ferguson & Moroney, 2008; Mihret & Yismaw, 2007) have confirmed this prediction, finding significant negative associations between internal audit quality and fraud incidence.

2.2.2 The Fraud Diamond Theory (FDT)

The FDT was first presented by Wolfe & Hermanson (2004). It is generally viewed as an expanded version of the FTT. In this theory, an element termed capability has been added to the three initial fraud elements of the Fraud Triangle Theory (FTT). Wolfe and Hermanson (2004) argued that although perceived pressure or incentive might coexist with an opportunity to commit fraud and a rationalization for doing so, it is unlikely for fraud to take place unless the fourth element (That is capability) is also present. In other words, the potential perpetrator must have the skills and ability to commit fraud.

This theory is used as anchor theory because it provides a conceptual framework for investigating fraud, linking it directly to ICS effectiveness and policy interventions in procurement. It also aims to reduce opportunity, monitor behaviors, and enforce compliance.

2.3 Empirical Review

Kolawole (2026) examined the influence of internal audit and internal control systems on financial accountability in Nigerian local governments using a case study of Ilorin West Local Government, Kwara State. A quantitative survey of 125 accounting and audit personnel was conducted, and ordered logit regression was employed for analysis. The findings demonstrated that internal audit controls and internal control systems had significant positive effects on financial accountability, with internal control systems exerting the stronger influence. The study concluded that strengthening audit independence, compliance monitoring, and preventive control mechanisms enhances the detection of procurement fraud and promotes fiscal discipline in the Nigerian public sector.

Ariyo-Edu (2025) investigates the impact of internal control systems in limiting fraud within Nigeria's public sector, with a special focus on critical features such as asset protection, segregation of duties, and approval processes. The study also evaluates how these internal controls effect whistle-blowing initiatives, accountability initiatives, ethical standards, and management integrity. Data were collected from 300 participants across Nigeria's North Central area, and multiple regression analysis was utilized to examine the correlations between internal control mechanisms and fraud prevention techniques. The results demonstrate a strong influence of internal control systems on all dimensions of fraud deterrence. It suggests boosting control resources, promoting ongoing professional development, providing strong whistle-blower protections, and fostering a culture of honesty.

Ikoojo et al. (2025) examined the factors affecting internal audit effectiveness in the Nigerian public sector using the Ministry of Science and Technology as the study area. Primary data were obtained from 99 management staff and internal auditors through structured questionnaires and analyzed using SPSS. The results showed that management support, auditor independence, and organizational culture had positive and significant effects on internal audit effectiveness, whereas training and development had a positive but insignificant effect. The study concluded that an effective internal audit system depends largely on institutional support and auditor independence, both of which enhance the detection and prevention of procurement fraud in public organizations.

Nnabuenyi et al. (2025) examined the effect of internal audit quality on fraud prevention in Nigerian public sector organizations using a survey research design. Data were collected from 286 respondents comprising internal auditors, accountants, and administrative staff across selected public institutions in Nigeria. Descriptive statistics and inferential analyses were employed to evaluate the effectiveness of internal audit practices in fraud detection and prevention. The findings revealed that high-quality internal audit systems significantly improved fraud detection and reduced the occurrence of fraudulent practices. Specifically, competent audit personnel, adherence to audit standards, and continuous monitoring enhanced the ability of organizations to detect procurement-related fraud. The study concluded that strengthening internal audit quality enhances fraud prevention in the Nigerian public sector and recommended continuous professional training, improved audit independence, and investment in audit technologies

Adenodi, Okehigbeme & Eneh (2025) examines the effect of procurement fraud detection and prevention on organizational integrity within public sector organizations in Nigeria. Specifically, it investigates the impact of document examination, segregation of duties, and

whistleblower mechanisms on organizational integrity. Using a survey research design, the study targets 844 chartered accountants with forensic certifications and executive management staff across 10 prominent public sector organizations in Nigeria, all with significant procurement activities. A stratified sampling technique was employed, yielding a sample size of 271 respondents determined by the Taro Yamane formula. Data were collected through a Likert scale questionnaire and analyzed using multi-linear regression to assess the relationship between document examination, segregation of duties, and whistleblower mechanisms (independent variables) and organizational integrity (dependent variable). Findings reveal that all three mechanisms significantly and positively influence organizational integrity. The study concludes that robust document examination, stringent segregation of duties, and effective whistleblower systems are essential to safeguarding organizational integrity in Nigeria's public sector.

Edori & Iwene (2025) determine the effect of fraud control measures on payroll fraud. The cross-sectional survey research design was adopted for this study on the population of public sector parastatal. Using a convenience sampling technique, the study selected 140 employees [Directors of Finance (DFA), Accountants, Auditors, and payroll officers] as the sample size. The four likert-scale questionnaires were used as the instrument for data collection. Data collected were then analyzed using Pearson Correlation. The outcome of the analyses showed that both audit and internal control systems have a positive significant influence on the prevention of ghost workers fraud in government parastatal, with both results showing 0.000 significant value. The influence both have on the prevention of ghost workers fraud is solid with a correlation of 0.874 and 0.955, respectively. The study recommends that regular scheduled and surprised audits should be conducted; internal controls should be strengthened as a matter of urgency.

Hammayo et al. (2020) investigated the effect of auditor proficiency, audit quality, and information communication technology (ICT) on internal audit effectiveness in Nigeria's federal public service. The study adopted a cross-sectional survey design involving 139 internal auditors from 28 federal public organizations in North-East Nigeria. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used for data analysis. The findings indicated that auditor competence and audit quality had significant positive effects on internal audit effectiveness, while ICT showed a positive but statistically insignificant relationship. The study concluded that effective internal audit functions improve the detection of financial irregularities, including procurement fraud, and recommended continuous staff development, improved audit standards, and enhanced technological support for internal auditors.

Taiwo (2019) assessed the determinants of internal audit efficiency in the Nigerian public sector using selected government ministries. A survey research design was adopted, while data were analyzed using descriptive statistics and Z-test. The study found that internal audit efficiency significantly enhanced public sector performance by reducing financial irregularities and strengthening accountability. However, weak internal control systems, poor implementation of audit reports, and inadequate accounting procedures limited audit effectiveness. The study concluded that strengthening internal audit mechanisms would improve procurement fraud detection and overall financial accountability in public institutions.

3.0 METHODOLOGY

3.1 Research Design

This study adopts a pragmatist research philosophy, which recognises that complex social phenomena are best understood through the complementary application of quantitative and qualitative methods. A convergent mixed-methods design is employed, in which quantitative data from structured questionnaires and qualitative data from semi-structured interviews are collected concurrently, analysed separately, and integrated at the interpretation stage (Creswell & Plano Clark, 2018). This design is appropriate given the dual objectives of the study: statistical testing of hypothesised relationships (requiring quantitative rigour) and contextual interpretation of institutional dynamics (requiring qualitative depth).

3.2 Population and Sampling

The study population comprises all professional staff involved in internal audit, procurement, financial management, and audit oversight within Nigerian federal MDAs. Using a stratified purposive sampling strategy, 14 MDAs were selected to ensure representation across infrastructure (Ministry of Works, FERMA), social services (Ministry of Health, Universal Basic Education Commission), regulatory (NAFDAC, NCC), and revenue-generating (FIRS, NPA) categories. Within each MDA, respondents were selected using a combination of purposive and snowball sampling to capture individuals with direct knowledge of audit and procurement processes.

Table 1: Sample Composition by Respondent Category

Respondent Category	Sample Size	% of Total
Internal Auditors	98	35.0%
Procurement Officers	72	25.7%
Finance Managers / Accountants	56	20.0%
Audit Committee Members	32	11.4%
Senior Management / Accounting Officers	22	7.9%
Total	280	100%

Source: Author's computation

3.3 Research Instruments

3.3.1 Structured Questionnaire

The quantitative instrument consists of 62 items organised across seven sections: demographic profile, internal audit independence (12 items), auditor competence (10 items), scope of audit work (10 items), frequency of audit reviews (8 items), procurement fraud detection (12 items), and institutional barriers (10 items). All items measuring latent constructs used a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). The instrument was adapted from validated scales in prior studies (Endaya & Hanefah, 2016; Cohen & Sayag, 2010) and refined

through a pre-test administered to 30 respondents outside the main sample. Cronbach's alpha coefficients for all constructs exceeded the 0.70 threshold recommended by Nunnally (1978), with values ranging from 0.74 to 0.89, confirming satisfactory internal consistency.

3.3.2 Semi-Structured Interviews

Forty-two in-depth interviews were conducted with purposively selected participants including Heads of Internal Audit, Chief Procurement Officers, and Directors of Finance. Interviews averaged 52 minutes in duration and were conducted via a combination of face-to-face sessions in Abuja and video-conferencing for respondents in Lagos and Port Harcourt. Interview protocols were designed to explore the mechanisms through which audit processes shape fraud outcomes, and the institutional factors that enable or constrain audit effectiveness. All interviews were audio-recorded with informed consent and transcribed verbatim for analysis.

3.4 Data Analysis

3.4.1 Quantitative Analysis

Quantitative data were analysed using IBM SPSS Statistics 28 and AMOS 28. Descriptive statistics were computed for all constructs. Confirmatory Factor Analysis (CFA) was employed to assess the validity and reliability of the measurement model, with convergent validity established via Average Variance Extracted ($AVE > 0.50$) and discriminant validity verified using the Fornell-Larcker criterion. Multiple regression analysis tested the direct effects of independent variables on procurement fraud detection. Structural Equation Modelling (SEM) was subsequently employed to estimate a full structural model that simultaneously tests all hypothesised paths while accounting for measurement error.

3.4.2 Qualitative Analysis

Interview transcripts were managed using NVivo 14 software. A hybrid thematic analysis approach, combining deductive coding guided by the theoretical framework with inductive emergence of new themes from the data, was employed following the six-phase process outlined by Braun and Clarke (2006). Themes were validated through member-checking with eight participants, peer debriefing with two senior researchers, and triangulation against the quantitative findings. Negative case analysis was applied to examine outlier accounts that challenged emerging interpretations.

3.5 Ethical Considerations

Ethical approval was obtained from the Institutional Review Board of the affiliated university. Participation was voluntary, and all respondents provided written informed consent. Anonymity and confidentiality were maintained throughout; MDAs and individual respondents are identified using alphanumeric codes. Data are stored on a password-protected server with restricted access, and will be securely destroyed five years after publication.

4.0 FINDINGS AND DISCUSSION

4.1 Descriptive Statistics and Profile of Respondents

Of the 310 questionnaires distributed, 286 were returned, of which 280 were usable, yielding a response rate of 90.3%. The majority of respondents were male (67.1%), held at least a first degree (93.9%), and had between 6 and 15 years of professional experience (54.3%). A substantial proportion (41.8%) held professional accounting or auditing certifications (ICAN, ACCA, CIA). These demographic characteristics suggest a relatively experienced and credentialed respondent pool, reinforcing the reliability of the findings.

Table 2: Descriptive Statistics for Key Constructs (Scale: 1–5)

Construct	Mean	Std. Dev.	Interpretation
Internal Audit Independence	2.74	0.93	Moderately Low
Auditor Competence	3.12	0.87	Moderate
Scope of Audit Work	2.98	0.91	Moderate
Frequency of Audit Reviews	2.63	1.04	Moderately Low
Procurement Fraud Detection	2.89	0.96	Moderate
Institutional Barriers	3.87	0.79	High

Source: Author's computation

The descriptive data in Table 2 present a concerning picture. The relatively low mean scores for audit independence ($M = 2.74$) and review frequency ($M = 2.63$) indicate that these dimensions of internal audit effectiveness are perceived as inadequate by respondents. The high mean score for institutional barriers ($M = 3.87$) confirms that respondents perceive significant structural and political impediments to audit effectiveness. Moderate scores on competence and scope suggest some positive attributes but also room for substantial improvement.

4.2 Measurement Model Assessment

CFA results confirmed acceptable model fit ($\chi^2/df = 2.14$; CFI = 0.94; TLI = 0.93; RMSEA = 0.048; SRMR = 0.061), within the thresholds recommended by Hu and Bentler (1999). All standardised factor loadings exceeded 0.60, and composite reliability (CR) values ranged from 0.78 to 0.91, confirming convergent validity. AVE values ranged from 0.51 to 0.67, exceeding the 0.50 minimum. The Fornell-Larcker criterion was satisfied for all construct pairs, confirming discriminant validity. These results indicate that the measurement model provides a sound basis for structural analysis.

4.3 Regression and SEM Results

Table 3 presents the results of the multiple regression analysis testing the influence of audit effectiveness dimensions on procurement fraud detection.

Table 3: Multiple Regression Results — Predictors of Procurement Fraud Detection

Predictor Variable	β	Std. Error	t-value	Significance
Audit Effectiveness	0.389	0.071	5.48	$p < 0.001^{***}$
Audit Independence	0.412	0.064	6.44	$p < 0.001^{***}$
Audit procedures	0.321	0.079	4.06	$p < 0.01^{**}$
Institutional barriers	0.298	0.083	3.59	$p < 0.01^{**}$
$R^2 = 0.612$; Adjusted $R^2 = 0.607$; $F(4,275) = 108.4$, $p < 0.001$				

All four predictors are statistically significant at conventional levels, and together explain 61.2% of the variance in procurement fraud detection ($R^2 = 0.612$), indicating strong explanatory power. Audit independence emerges as the most influential predictor ($\beta = 0.412$), consistent with theoretical predictions from agency theory and prior empirical evidence (Goodwin-Stewart & Kent, 2006). Auditor competence ($\beta = 0.389$) closely follows, reflecting the critical role of technical capacity in identifying complex fraud schemes. The SEM results broadly replicate these findings while also confirming significant indirect effects operating through audit committee oversight ($\beta = 0.167$, $p < 0.05$) and management responsiveness to audit recommendations ($\beta = 0.143$, $p < 0.05$).

4.4 Qualitative Findings: Thematic Analysis

1. Independence Compromised by Organisational Politics

Across all 14 MDAs, interview participants articulated how organisational politics systematically undermine audit independence. A Head of Internal Audit at a federal ministry described the structural dilemma: internal auditors report administratively to the Permanent Secretary whose procurement decisions they are meant to scrutinise, creating an inherent conflict of interest. Several participants noted that reporting adverse findings against senior officials risked transfer to less desirable postings, a form of institutional retaliation that chills professional candour. One participant (MDA-07-IA) explicitly noted: 'You audit what you're allowed to audit. If you push too hard, you simply get reassigned.' This resonates strongly with Cressey's (1953) observation that opportunity for fraud flourishes where monitoring mechanisms are ineffective.

2. Capacity Deficits and Skill Gaps

A recurrent concern across interviews was the inadequate technical capacity of internal audit units. Participants in 11 of the 14 MDAs described persistent vacancies in their audit

departments, noting that budgetary constraints limited recruitment and retention of qualified auditors. More critically, fewer than 20% of internal audit staff in the sampled institutions had received training in Computer-Assisted Audit Techniques (CAATs) or data analytics in the preceding three years. As one senior auditor (MDA-03-IA) observed, complex procurement fraud today involves digital trails, multiple bank accounts, shell companies, and e-procurement manipulations that traditional audit approaches simply cannot detect. This finding aligns with the competence dimension identified by Endaya and Hanefah (2016) as central to audit quality.

3. Weak Follow-up on Audit Recommendations

Participants consistently identified the lack of a robust system for tracking and enforcing audit recommendations as a critical governance failure. In several institutions, audit reports containing findings of procurement irregularities were filed without eliciting corrective action. One audit committee member (MDA-11-AC) lamented that management presents explanations for unimplemented recommendations as if the issue were resolved, when in reality the same control deficiencies persist year on year. This institutional inertia reflects the decoupling phenomenon described by institutional theory where formal audit processes generate reports that satisfy procedural requirements without generating substantive change.

4. Inadequate Technology and Data Infrastructure

Despite Nigeria's partial implementation of GIFMIS across federal MDAs, participants highlighted significant gaps in the integration of digital audit tools with procurement data systems. In many institutions, procurement data resided in siloed, non-interoperable systems, limiting auditors' ability to conduct automated anomaly detection or trend analysis. Interview participants from IT-savvy institutions that had partially deployed data analytics described markedly improved detection of suspicious patterns, including duplicate payments and split contracts designed to circumvent approval thresholds.

5. Audit Committee Governance

The qualitative evidence reveals a bifurcated picture of audit committee effectiveness. In MDAs where committee members included professionals with financial expertise and where committees operated independently of management, audit findings were more likely to be acted upon and procurement processes were perceived as more transparent. Conversely, in MDAs where committee members were perceived as management nominees without independent standing, the committee functioned as a rubber-stamp rather than a genuine oversight mechanism. This finding corroborates quantitative evidence from the SEM on the moderating role of audit committee quality.

4.5 Hypothesis Testing Summary

H ₀	Null Hypothesis	Result	Decision
H ₁	Internal audit effectiveness does not significantly influence procurement fraud detection.	F = 108.4, p < 0.001	Rejected
H ₂	Audit independence does not significantly affect the ability to detect procurement fraud.	$\beta = 0.412$, p < 0.001	Rejected
H ₃	Audit procedures do not significantly contribute to procurement transparency and accountability.	$\beta = 0.321$, p < 0.01	Rejected
H ₄	There are no significant institutional barriers limiting internal audit effectiveness.	M = 3.87, p < 0.001	Rejected

All four null hypotheses are rejected, confirming that: (i) internal audit effectiveness significantly influences procurement fraud detection; (ii) audit independence is a significant predictor of detection capability; (iii) audit procedures and controls enhance procurement transparency; and (iv) meaningful institutional barriers to audit effectiveness exist within Nigeria's federal public sector.

4.5 INTERPRETATION AND DISCUSSION

The result of hypothesis one indicates that internal audit effectiveness has a statistically significant influence on procurement fraud detection. The p-value of less than 0.001 shows a very high level of significance, implying that effective internal audit systems improve the detection and prevention of procurement fraud within organizations. The high F-statistic further demonstrates that the regression model explaining the relationship is strong and reliable. This finding suggests that when internal auditors are competent, experienced, and properly equipped, they are more capable of identifying irregularities, ensuring compliance with procurement procedures, and reducing fraudulent practices in procurement activities.

The finding agrees with the study of Mihret and Yismaw (2007), who argued that effective internal auditing strengthens organizational control systems and enhances fraud detection mechanisms. Similarly, Arena and Azzone (2009) found that effective internal audit functions contribute significantly to accountability and fraud prevention in organizations. The result is also consistent with the Fraud Triangle Theory developed by Donald Cressey in 1953, which explains that strong monitoring systems such as internal audits reduce opportunities for fraud. However, the finding disagrees with studies that argue that internal audits alone may not significantly reduce procurement fraud due to management interference, corruption, and weak institutional frameworks. For instance, some scholars contend that ineffective implementation of audit recommendations limits the ability of internal audits to combat fraud effectively.

The result reveals that audit independence significantly affects the ability to detect procurement fraud. The beta coefficient ($\beta = 0.412$) indicates a positive relationship, meaning

that increased audit independence enhances procurement fraud detection. Since the p-value is less than 0.001, the relationship is statistically significant.

This implies that auditors who operate independently without interference from management are more objective, unbiased, and capable of uncovering fraudulent procurement practices. This finding supports the Agency Theory proposed by Michael Jensen and William Meckling (1979), which emphasizes the need for independent monitoring mechanisms to reduce opportunistic behavior and information asymmetry in organizations.

The finding aligns with the work of Koch, Weber & Wüstemann (2012), who found that auditor independence enhances transparency, accountability, and fraud detection effectiveness. Similarly, studies on public sector auditing have shown that independent auditors are more likely to expose financial irregularities and procurement violations. On the contrary, some studies disagree with this finding by arguing that audit independence may exist in theory but not in practice, especially in developing countries where political interference and organizational pressure often compromise auditor objectivity. These studies suggest that independence alone may not guarantee effective fraud detection without adequate professional competence and institutional support.

The result indicates that audit procedures significantly contribute to procurement transparency and accountability. The positive beta coefficient ($\beta = 0.321$) suggests that effective audit procedures improve openness, compliance, and accountability in procurement processes. The p-value of less than 0.01 confirms that the relationship is statistically significant. This means that well-designed audit procedures such as verification, documentation review, compliance checks, and risk assessments help ensure that procurement activities are transparent and accountable.

The finding agrees with the study of Sawyer (1995), who emphasized that systematic audit procedures strengthen internal control systems and improve organizational accountability. Likewise, Gramling noted that effective audit procedures enhance transparency and reduce opportunities for procurement misconduct. The finding is also supported by institutional theory, which argues that organizations adopt formal procedures and controls to improve legitimacy, accountability, and operational efficiency. However, some scholars disagree with this finding by arguing that the mere existence of audit procedures does not guarantee transparency if there is weak enforcement, corruption, or lack of compliance with audit recommendations. In some organizations, procurement fraud continues despite the presence of audit procedures because of collusion and manipulation of records.

The result indicates that significant institutional barriers exist and limit internal audit effectiveness. The mean score of 3.87 suggests that respondents generally agreed that institutional challenges affect the performance of internal auditors. The p-value of less than 0.001 confirms that the result is statistically significant. This implies that factors such as inadequate funding, management interference, lack of auditor independence, insufficient training, poor organizational support, and political influence hinder the effectiveness of internal audit functions.

This finding is consistent with the work of Al-Twajry (2003), who identified organizational constraints and management interference as major barriers to effective internal auditing. Similarly, Cohen and Sayag (2010) found that limited resources and weak institutional support reduce audit effectiveness. The finding also aligns with studies conducted in developing countries where institutional weaknesses, corruption, and inadequate regulatory enforcement

affect the efficiency of internal audit systems. Conversely, some studies disagree with this finding by arguing that modern organizations with strong governance structures and technological audit systems experience fewer institutional barriers. These scholars maintain that improvements in digital auditing tools and regulatory reforms have enhanced internal audit effectiveness in some sectors.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study has presented comprehensive empirical evidence drawing on the responses of 280 public sector professionals and 42 in-depth interviews across 14 federal MDAs to address a persistent question in Nigerian governance research: does internal audit effectively detect procurement fraud, and if not, why? The answer, in brief, is that while internal audit has demonstrable theoretical and empirical potential to serve as a robust anti-fraud mechanism, its realisation in Nigeria's federal public sector is severely constrained by structural, institutional, and capacity-related deficits. Quantitatively, all four dimensions of internal audit effectiveness examined - independence, competence, scope, and review frequency emerge as statistically significant predictors of procurement fraud detection, collectively explaining 61.2% of the variance in detection outcomes. The primacy of independence ($\beta = 0.412$) confirms that without structural insulation from managerial and political influence, technical improvements in other dimensions yield sub-optimal returns.

Qualitatively, the themes of political interference, capacity gaps, weak enforcement of recommendations, technological limitations, and variable audit committee quality paint a coherent institutional picture: formal audit architecture has been established, but the informal incentive structures of Nigeria's public sector continue to undermine its substantive effectiveness. Theoretically, the study demonstrates the continued relevance of agency theory, the fraud triangle framework, and institutional theory in explaining governance outcomes in developing country settings, while adding nuance to each through the specific empirical evidence generated. The decoupling of formal compliance from substantive outcomes a central prediction of institutional theory is compellingly documented, while the opportunity-reduction logic of the fraud triangle and the monitoring-efficiency argument of agency theory are empirically validated.

The study recommends the following:

1. Constitutional and legislative entrenchment of internal audit independence. The Federal Government should amend the Financial Regulations and the Public Finance Management Act to require that Heads of Internal Audit report functionally to the Presidency and audit committees, and that their tenure protections are enshrined in legislation, not mere administrative circulars.
2. The government should mandate that all officers appointed to internal audit roles at grade level 12 and above hold, or attain within two years of appointment, a recognised professional certification (CIA, ACCA, ICAN).
3. The government should complete the integration of all procurement modules within GIFMIS and mandate that internal audit functions have real-time read-access to

procurement transaction data, enabling continuous monitoring and automated exception reporting.

4. The Office of the Auditor-General should establish an electronic Audit Recommendation Implementation Tracking System (ARITS), with mandatory quarterly reporting by management on the status of all outstanding recommendations and escalation to the Presidency for unresolved items exceeding 12 months.

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