INTERNATIONAL JOURNAL OF BUSINESS AND MANAGEMENT (IJBM)
ISSN: 2815-9330 (Online)

VOL. 5, NO. 4 2026 https://iessociety.org/

The role of forensic auditing in addressing public sector procurement irregularities in Ghana

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Abstract

Procurement-related irregularities continue to undermine transparency, accountability, and effective public financial management in many African countries, particularly within the public sector. Despite regulatory reforms and conventional auditing mechanisms, procurement fraud, corruption, and financial misconduct remain persistent challenges in Ghana and other developing economies. This study systematically reviews existing literature on the role of forensic auditing in addressing procurement-related irregularities, with particular focus on Ghana's public sector and evidence from selected African countries. Scholarly publications published between 2016 and 2025 were retrieved from Google Scholar, Scopus, and Crossref databases using the Publish or Perish software. Following the screening and eligibility assessment process, twenty (20) relevant studies were selected and analyzed thematically. The findings reveal that forensic auditing significantly contributes to fraud detection, fraud prevention, procurement efficiency, transparency, and accountability when effectively implemented. Evidence from countries such as Nigeria, Zimbabwe, and South Africa indicates that forensic auditing enhances procurement accuracy, improves value-for-money practices, and strengthens anti-corruption efforts within public institutions. However, the review also reveals that the adoption and effectiveness of forensic auditing in Ghana and some other African countries remain limited due to weak forensic infrastructure, inadequate professional expertise, low institutional support, bureaucratic inertia, and insufficient policy implementation. The study concludes that forensic auditing represents an important complementary mechanism to traditional auditing in combating procurement-related corruption and financial irregularities within the public sector. The study recommends stronger institutional support for forensic auditing, investment in forensic education and training, policy reforms to encourage wider adoption, and enhanced collaboration between audit institutions and anti-corruption agencies. The study contributes to existing literature by synthesizing recent empirical evidence on forensic auditing and highlighting its governance and anti-corruption implications for Ghana and other developing economies.

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DOI: https://doi.org/10.56879/ijbm.v5i4.197

***Keywords*:** Forensic Auditing, Procurement Irregularities, Public Sector Procurement, Fraud Detection, Corruption

JEL Classification: H57, H83, M42

1. Introduction

Public sector procurement remains one of the most vulnerable areas to corruption and financial irregularities across many developing countries, particularly in Africa. Governments allocate substantial financial resources to the procurement of goods, works, and services in order to support national development and deliver essential public services. However, the large volumes of public funds involved in procurement activities often create opportunities for fraud, bribery, collusion, bid manipulation, and other forms of financial misconduct. These irregularities continue to undermine transparency, accountability, and efficient public financial management in many African countries, including Ghana. In Ghana, concerns about procurement irregularities within public sector institutions have increased considerably over the years. Reports of inflated contract values, sole sourcing abuses, misappropriation of public funds, and weak compliance with procurement regulations have negatively affected public confidence in the country's governance systems. Although the Government of Ghana introduced the Public Procurement Act, 2003 (Act 663), and later amended it through Act 914 in 2016 to strengthen procurement oversight and improve accountability, procurement-related corruption and financial irregularities remain persistent challenges. This situation raises questions about the effectiveness of existing auditing and monitoring mechanisms within the public sector. Traditionally, public sector institutions rely heavily on conventional auditing systems to ensure financial accountability and regulatory compliance. While traditional auditing plays an important role in examining financial records and internal controls, it is often limited in its ability to uncover sophisticated fraud schemes and intentional financial manipulation. Modern procurement fraud frequently involves complex networks, falsified documentation, digital manipulation, money laundering practices, and collusive arrangements that may not be easily detected through routine audit procedures. Consequently, there is growing recognition that traditional auditing alone may be insufficient for addressing contemporary procurement-related fraud.

This challenge has increased the importance of forensic auditing as a specialized investigative tool for fraud detection, fraud prevention, and corruption control. Forensic auditing combines accounting, investigative, legal, and analytical skills to identify financial misconduct, gather admissible evidence, and support litigation processes where necessary. Unlike traditional auditing, forensic auditing focuses specifically on uncovering hidden fraud, investigating suspicious financial activities, and identifying the individuals and systems responsible for financial irregularities. Studies have shown that forensic auditing contributes significantly to fraud detection, prevention, transparency, and accountability in both public and private sector

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institutions. Across Africa, several countries have increasingly adopted forensic auditing practices to strengthen anti-corruption efforts and improve governance systems. Evidence from countries such as Nigeria, Zimbabwe, and South Africa suggests that forensic auditing can enhance procurement efficiency, improve value-for-money practices, and support the detection and prevention of fraudulent activities. However, the level of adoption and effectiveness of forensic auditing differs considerably across countries due to institutional, legal, infrastructural, and professional capacity challenges. In Ghana, the application of forensic auditing within the public sector remains relatively limited despite the increasing complexity of procurement-related corruption cases. Although previous studies have examined forensic audting, public procurement irregularities and corruption in Ghana and other African countries, the available evidence remains dispersed across studies with different geographical settings, research objectives, and institutional contexts. Some focused on the technical contribution of forensic accounting to fraud detection and prevention. Others examnie procurement-related misconduct within the public sector. Thus, existing studies are often fragmented, country-specific, or focused broadly on fraud management without synthesizing empirical evidence regarding the effectiveness, governance implications, and limitations of forensic auditing in procurement systems. Also,, the relationship between forensic auditing and procurement outcomes is not not always considered alongside the institutional coditions that determine whether its potential benefits can be realized. These create a significant research gap, particularly within the Ghanaian context where procurement irregularities continue to attract national concern.

Against this background, the present study adopts a Systematic Literature Review (SLR) approach to examine the role of forensic auditing in addressing procurement-related irregularities in Ghana's public sector and Africa more broadly. Specifically, the study seeks to:

1. examine the effectiveness of forensic auditing in fraud control, procurement efficiency, and anti-corruption efforts in Africa;
2. explore the role of forensic auditing in promoting governance, transparency, and accountability; and
3. identify the factors limiting the effectiveness and adoption of forensic auditing in public sector procurement systems.

The study's distinctive contribution lies in synthesizing these dimensions within a single analytical framework and interpreting the wider African evidence in relation to Ghana's public sector context. Rather than assuming that findings from other countries can be transferred directly to Ghana, the review considers how differences in professional capacity, technological infrastructure, institutional support, and enforcement arrangements may influence the practical application of forensic auditing. This approach provides a more integrated basis for identifying research gaps and developing context-sensitive recommendations for strengthening procurement integrity in Ghana.

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2. Methodology

This study adopted a Systematic Literature Review (SLR) approach to examine the role of forensic auditing in addressing procurement-related irregularities within Ghana's public sector and across Africa. The SLR approach was considered appropriate because it enables the researcher to systematically identify, evaluate, and synthesize existing scholarly evidence on a specific research problem in a transparent and replicable manner. Unlike traditional narrative reviews, systematic reviews minimize researcher bias through clearly defined search procedures, screening criteria, and evidence selection processes.

2.1 Research Design

The study employed a qualitative systematic review design guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The PRISMA approach was adopted to ensure transparency, consistency, and methodological rigor throughout the identification, screening, eligibility assessment, and selection of relevant studies. The review focused on empirical and conceptual studies that examined forensic auditing, forensic accounting, procurement irregularities, fraud detection, anti-corruption practices, transparency, and accountability within public sector institutions.

2.2 Data Sources and Search Strategy

Relevant scholarly studies published between 2016 and 2025 were identified using the Publish or Perish software. The software facilitated the retrieval of academic publications from major scholarly databases, including Google Scholar, Scopus, and Crossref. These databases were selected because of their broad coverage of peer-reviewed academic literature in accounting, auditing, governance, fraud management, and public sector studies.

To ensure comprehensive coverage of relevant literature, the search process employed a combination of keywords and Boolean operators. The main search terms included: "forensic auditing", "forensic accounting", "public procurement", "procurement irregularities", "procurement fraud", "public sector corruption", "fraud detection", "governance and accountability", "Africa", and "Ghana". The search strings were combined using Boolean operators such as AND and OR. Examples of search combinations included: ("forensic auditing" OR "forensic accounting") AND ("public procurement" OR "procurement irregularities"), ("forensic auditing") AND ("fraud detection" AND "public sector"), and ("forensic accounting") AND ("anti-corruption" OR "governance") AND ("Africa" OR "Ghana"). The initial search produced a total of 1,136 records.

2.3 Inclusion and Exclusion Criteria

To improve the relevance and quality of the selected studies, inclusion and exclusion criteria were established before the screening process. Studies were included if they focused on forensic

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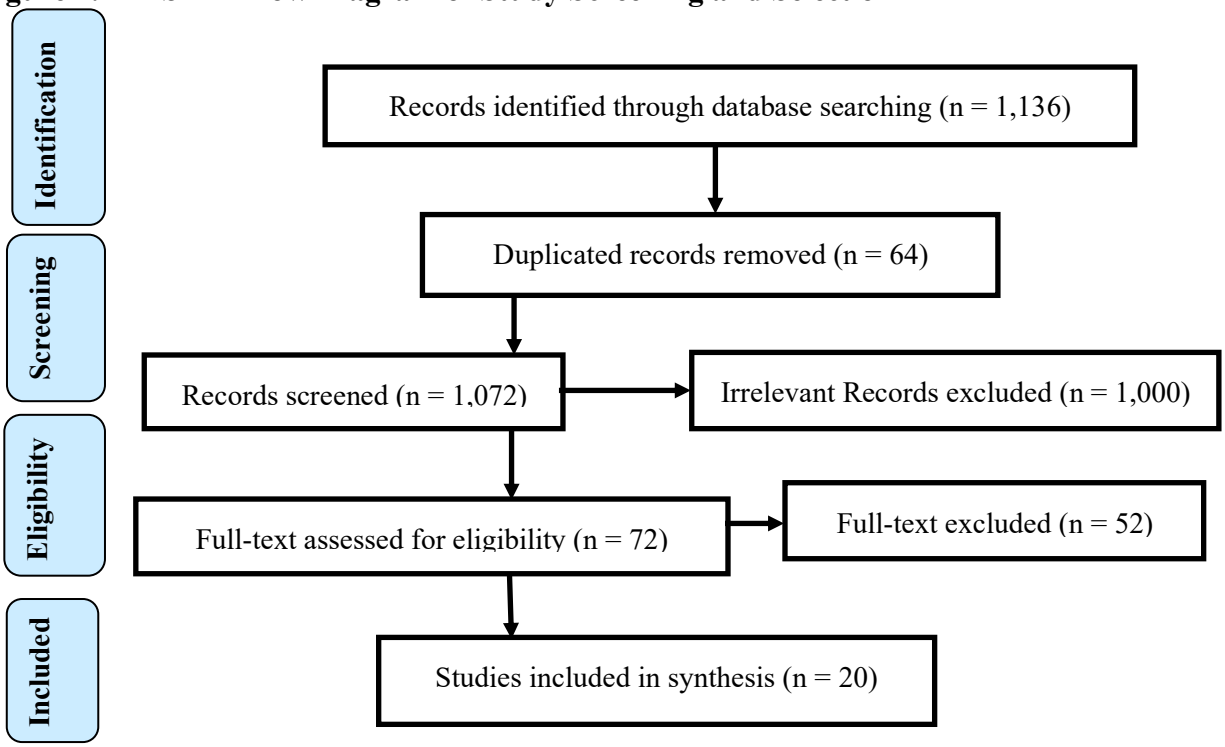
DOI: https://doi.org/10.56879/ijbm.v5i4.197

auditing or forensic accounting, examined procurement-related fraud, corruption, or irregularities, discussed public sector governance, accountability, or transparency, were published in English language; and were published between 2016 and 2025. Studies were excluded if they focused solely on traditional auditing without forensic auditing components, addressed unrelated accounting or financial topics, focused on private sector issues without relevance to procurement or governance, were duplicated records across databases, or were published in languages other than English.

2.4 Screening and Selection Process

The PRISMA screening procedure was used to refine the initial pool of studies. First, duplicate records were identified and removed. Out of the 1,136 studies initially retrieved, 64 duplicate studies were eliminated, leaving 1,072 unique records for further screening. The titles and abstracts of the remaining studies were then reviewed to assess their relevance to the objectives of the study. At this stage, 1,000 studies were excluded because they did not directly address forensic auditing, procurement irregularities, or public sector fraud-related issues. This resulted in 72 studies being assessed for eligibility through full-text review. During the eligibility assessment, 52 additional studies were excluded because their findings were either insufficiently related to procurement irregularities or lacked direct relevance to forensic auditing within public sector contexts. Consequently, 20 studies satisfied all inclusion requirements and were selected as the final sample for the review. Figure 1 presents the PRISMA flow diagram giving the pictorial view of the study screening and selection process.

Figure 1. PRISMA Flow Diagram of Study Screening and Selection



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2.5 Data Analysis

The selected studies were analyzed using thematic analysis. This approach enabled the identification, categorization, and synthesis of recurring patterns, concepts, and findings across the reviewed literature. The thematic analysis focused on three major themes aligned with the objectives of the study: the effectiveness of forensic auditing in fraud control, procurement efficiency, and anti-corruption efforts; the role of forensic auditing in promoting governance, transparency, and accountability; and the institutional and contextual factors limiting the effectiveness of forensic auditing. The thematic synthesis allowed the study to critically compare findings across different African countries and identify emerging trends, similarities, and gaps within the literature.

3. Results and Discussion

The systematic review examined twenty (20) studies that explored the role of forensic auditing in addressing procurement irregularities, fraud prevention, governance, and accountability within public sector institutions across Africa. The reviewed studies reveal growing recognition of forensic auditing as an important mechanism for combating corruption and strengthening financial accountability. However, the findings also indicate considerable differences in the level of adoption, effectiveness, and institutional support for forensic auditing across African countries.

Table 1 summarizes the principal characteristics of the studies included in the review. The table identifies each study's geographical context, research approach, and principal findings relevant to forensic auditing and procurement irregularities.

Table 1. Characteristics of the Studies Included in the Review

Study	Country/context	Methodology	Principal Findings
Apau & Koranteng (2020)	Ghana	Review and assessment	Limitations in digital forensic infrastructure constrain investigative capacity.
Afoakwah et al. (2023)	Ghana	Quantitative survey	Forensic accounting is discussed as an approach to addressing procurement-related corruption.
Laourou (2025)	Ghana	Mixed	Training limitations, bureaucratic resistance and weak institutional support constrain implementation.
Sulley & Quansah (2021)	Ghana	Case study	Limited forensic support and training affect investigative capacity.

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Owusu et al. (2020)	Ghana	Soft-computing approach	Procurement irregularities can be assessed using analytical approaches to construction supply-chain data.
Mvunabandi (2023)	South Africa	Quantitative survey	Forensic auditing is associated with improved fraud detection, prevention and investigation.
Mvunabandi & Nomlala (2022)	South Africa	Mixed	Proactive forensic auditing may strengthen fraud prevention and internal controls.
Guti & Kurauone (2025)	Zimbabwe	Quantitative design	Forensic accounting is associated with procurement cost-efficiency improvements.
Ocansey (2017)	Ghana	Survey	Forensic accounting influences economic and financial crimes.
Stephen et al. (2025)	Nigeria	Survey design	Forensic auditing skills and investigative procedures support fraud detection and prevention.
Aremu & Olayinka (2023)	Nigeria	Survey design	Forensic accounting techniques are linked to improved procurement practices and value for money.
Enigda et al. (2023)	Ethiopia	Quantitative survey	Forensic accounting's preventive contribution is constrained by limited institutional integration.
Rifai et al. (2023)	Indonesia	Conceptual review	Forensic auditing can help uncover procurement-related corruption.
Ongi et al. (2025)	Indonesia	Normative research	Forensic auditors can support corruption investigations and evidentiary processes.
Dako et al. (2020)	Multiple emerging markets	Mixed	Investigative forensic-accounting frameworks are discussed as mechanisms for fraud prevention.
Pina et al. (2022)	Colombia	Descriptive survey	Shortages in specialist forensic auditing skills can impede implementation.
Gavor et al. (2025)	Iraq	Survey	Forensic auditing is associated with fraud prevention and stronger oversight.
Pynzar (2024)	Ukraine	Content Analysis	Sophisticated methods of procurement crime complicate detection.

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Shakir & Abbas (2020)	Pakistan	Survey	Forensic auditing is considered in relation to organizational efficiency.
Essel (2021)	Ghana	Quantitative secondary	Procurement irregularities have consequences for public management.

The findings are further discussed under three major themes: effectiveness of forensic auditing in fraud control and procurement efficiency; forensic auditing as a governance and accountability mechanism; and factors limiting the effectiveness of forensic auditing.

3.1 Effectiveness of Forensic Auditing in Fraud Control, Procurement Efficiency, and Anti-Corruption Efforts

One of the dominant findings from the reviewed literature is that forensic auditing significantly contributes to fraud detection, fraud prevention, and procurement efficiency when effectively implemented. Several studies conducted in African countries reported positive outcomes associated with the use of forensic auditing techniques in both public and private sector institutions. Evidence from South Africa indicates that forensic auditing techniques have a statistically significant effect on fraud detection, fraud prevention, and fraud investigation among non-governmental organisations. The proactive application of forensic auditing methods was found to reduce financial statement fraud and strengthen internal control systems within organisations (Mvunabandi, 2023; Mvunabandi & Nomlala, 2022). These findings suggest that forensic auditing does not only serve as a reactive tool for investigating fraud after occurrence but also functions as a preventive mechanism capable of discouraging financial misconduct before it occurs.

Similarly, studies conducted in Zimbabwe reported that forensic accounting practices improved procurement efficiency, enhanced the accuracy of procurement records, and strengthened value-for-money practices within public procurement systems (Guti & Kurauone, 2025). These findings demonstrate the practical relevance of forensic auditing in promoting transparency and cost efficiency in government procurement activities. Improved procurement accuracy and stronger monitoring mechanisms can reduce waste, eliminate fictitious transactions, and enhance public confidence in procurement processes. The Nigerian experience further reinforces the effectiveness of forensic auditing in combating corruption and procurement fraud. Evidence from Nigeria revealed that forensic auditing skills and investigative procedures significantly enhanced fraud detection and fraud prevention within government organisations (Stephen et al., 2025). In addition, forensic accounting techniques were found to improve value-for-money practices in public institutions (Aremu & Olayinka, 2023). These findings imply that countries with relatively stronger institutional support for forensic auditing are more likely to achieve positive procurement and governance outcomes. The reviewed studies also highlight the broader anti-corruption role of forensic auditors. Forensic auditors were found to contribute to corruption investigations by

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uncovering concealed financial transactions, tracing illegal payments, and providing expert evidence during legal proceedings (Ongi et al., 2025). This demonstrates that forensic auditing extends beyond routine financial examination and serves as a critical instrument for supporting legal accountability and anti-corruption enforcement. Despite these positive outcomes, the findings suggest that the effectiveness of forensic auditing largely depends on the extent of institutional commitment, professional competence, and policy support available within each country. Countries where forensic auditing has received stronger recognition and implementation support appear to experience greater improvements in procurement accountability and fraud management.

3.2 Forensic Auditing as a Governance, Transparency, and Accountability Mechanism

Another important theme emerging from the review is the role of forensic auditing in strengthening governance, accountability, and transparency within public sector institutions. The literature consistently portrays forensic auditing as an important mechanism for promoting ethical financial management and restoring public trust in government systems. In Ghana, studies indicate that stakeholders increasingly recognize the importance of forensic accounting in improving transparency and accountability within public institutions. However, effective implementation remains constrained by limited training opportunities, bureaucratic resistance, and weak institutional support (Laourou, 2025). This finding reflects a broader challenge in many developing countries where awareness of forensic auditing is increasing faster than actual institutional adoption. The literature further suggests that forensic auditing strengthens corporate governance structures by improving financial oversight and increasing the likelihood of detecting financial misconduct (Govar Araz & Sangisetti, 2025). Through investigative procedures and evidence-based analysis, forensic auditors help organisations identify weaknesses within internal control systems and recommend corrective actions that improve governance practices.

Additionally, forensic auditing has been identified as an effective tool for uncovering corruption-related crimes involving public officials. Studies reviewed indicate that forensic auditing assists in exposing abuse of office, procurement manipulation, bribery schemes, and concealed financial transactions that would otherwise remain undetected through traditional auditing procedures (Rifai et al., 2023). This finding supports the argument that forensic auditing is particularly relevant in environments characterized by weak accountability systems and high corruption risks. The governance benefits of forensic auditing appear especially important in emerging economies where public institutions often face challenges relating to weak internal controls, political interference, and inadequate enforcement mechanisms. In such environments, forensic auditing contributes to financial transparency and enhances investor and public confidence in state institutions (Dako et al., 2020). In all, the findings demonstrate that forensic auditing has the potential to strengthen governance systems by promoting transparency, improving accountability, and supporting anti-corruption initiatives. However, realizing these benefits requires strong political commitment,

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institutional reforms, and continuous professional development within the accounting and auditing professions.

3.3 Factors Limiting the Effectiveness of Forensic Auditing

Although the literature acknowledges the benefits of forensic auditing, several studies identified major institutional, infrastructural, and professional challenges limiting its effectiveness, particularly within Ghana and some other African countries. One major challenge relates to weak forensic infrastructure and inadequate technological capacity. Studies conducted in Ghana indicate that digital forensic investigation systems remain underdeveloped despite increasing cybercrime and financial fraud risks (Apau & Koranteng, 2020). Weak technological infrastructure limits the ability of forensic auditors to effectively investigate sophisticated procurement fraud schemes involving digital transactions and electronic financial records. Another significant limitation is the inadequate availability of trained forensic accounting professionals. The reviewed literature suggests that many public institutions lack personnel with specialized forensic auditing skills and investigative expertise (Ester et al., 2022). In Ghana specifically, forensic science support for criminal investigations has been described as weak due to limited educational opportunities and insufficient institutional investment in forensic training (Sulley & Quansah, 2021). These professional capacity gaps reduce the effectiveness of forensic auditing initiatives and limit institutional confidence in the use of forensic investigations. The findings also reveal that low adoption levels continue to undermine the effectiveness of forensic auditing in some countries. In both Ghana and Ethiopia, forensic accounting was found to have limited impact on procurement fraud prevention because government institutions rarely integrate forensic auditing into their routine procurement oversight systems (Enigda, 2023; Afoakwah et al., 2023). This suggests that the mere recognition of forensic auditing is insufficient unless accompanied by actual implementation, policy enforcement, and institutional commitment. Furthermore, the reviewed studies emphasize the increasingly sophisticated nature of procurement-related crimes. Procurement fraud now involves document falsification, bid manipulation, collusion, money laundering, abuse of office, and concealment of illegal financial proceeds (Pynzar, 2024). Such complexities make it difficult for conventional auditing methods to effectively detect irregularities. Consequently, forensic auditing is increasingly viewed as a necessary complement to traditional auditing rather than a replacement for it. The findings therefore indicate that while forensic auditing has considerable potential to strengthen procurement integrity and anti-corruption efforts, its effectiveness depends heavily on institutional readiness, professional expertise, legal support systems, and technological development. Without addressing these structural challenges, many African countries may continue to struggle with persistent procurement irregularities despite growing awareness of forensic auditing practices.

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3.4 Discussion of Findings

The overall findings of the review demonstrate that forensic auditing is gradually emerging as an important anti-corruption and governance mechanism within African public sector institutions. Countries such as Nigeria, Zimbabwe, and South Africa appear to have made relatively greater progress in integrating forensic auditing into fraud prevention and procurement management systems. In contrast, Ghana and Ethiopia continue to face implementation challenges largely due to limited institutional support, weak forensic infrastructure, inadequate professional capacity, and low adoption rates. The findings further suggest that traditional auditing alone is increasingly insufficient for addressing modern procurement fraud because many irregularities involve sophisticated financial manipulation techniques that require specialized investigative skills. Forensic auditing, therefore, provides an important complementary approach capable of improving transparency, accountability, procurement efficiency, and public confidence in governance systems. For Ghana specifically, the review highlights an urgent need for institutional reforms, policy support, investment in forensic education, and stronger collaboration between anti-corruption agencies and audit institutions. Strengthening these areas could significantly improve the country's ability to detect, prevent, and investigate procurement-related financial irregularities within the public sector.

3.5 Implications for Ghana's Public Procurement System

The findings have several implications for strengthening public procurement oversight in Ghana. First, the evidence suggests that the value of forensic auditing depends not only on the availability of investigative techniques but also on whether public institutions possess the professional expertise, technological resources, and institutional authority required to apply them effectively. For Ghana, this means that expanding forensic auditing should involve more than introducing specialist procedures. It should also include developing the capacity of public-sector auditors and procurement officers to identify suspicious transactions, preserve relevant evidence, examine procurement documentation, and refer suspected misconduct to the appropriate investigative authorities.

Second, the findings highlight the importance of connecting forensic auditing to existing procurement oversight and accountability arrangements. Under Ghana's public procurement framework, forensic auditing could complement routine compliance checks and financial audits by providing more focused investigation where indicators of manipulation, collusion, unexplained cost variations, or irregular contract awards arise. Such an approach would allow investigative resources to be directed towards higher-risk transactions while maintaining the complementary roles of procurement monitoring, internal audit, external audit, and law-enforcement institutions.

Third, the review points to the need for stronger coordination among institutions responsible for public financial accountability. The contribution of forensic auditing may be limited if investigative findings are not followed by timely referrals, independent investigation, corrective

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action, or appropriate sanctions. Consequently, collaboration between the Ghana Audit Service, the Public Procurement Authority, the Economic and Organised Crime Office, and the Office of the Special Prosecutor could help strengthen the connection between the identification of procurement irregularities and the institutional processes required to address them. Such coordination would need to respect each institution's statutory mandate and applicable evidentiary requirements.

Finally, the evidence suggests that Ghana should approach the adoption of forensic auditing as an institutional reform rather than solely a technical intervention. Investment in digital forensic capacity, specialized professional training, and clear procedures for escalating suspected irregularities should be accompanied by institutional independence, management commitment, and consistent enforcement. The experiences reported in other African countries provide useful points of comparison, but their outcomes should not be assumed to transfer automatically to Ghana. The effectiveness of similar measures within Ghana's public sector requires context-specific evaluation using procurement records, audit findings, investigation outcomes, and evidence of corrective action. This would help establish whether greater use of forensic auditing produces measurable improvements in procurement integrity, value for money, and public accountability.

3.6 Theoretical Interpretation of the Findings

The findings can be interpreted through governance and accountability perspectives, fraud theory, and institutional theory. Together, these perspectives help explain the mechanisms through which forensic auditing may contribute to procurement integrity and why its effectiveness varies across public institutions. From a governance and accountability perspective, public procurement involves the management of public resources by officials who are expected to act transparently and in the public interest. However, information asymmetry between procurement officials, oversight bodies, suppliers, and citizens may make it difficult to identify inappropriate decisions or misuse of public funds. Forensic auditing can help reduce this information gap by examining transaction records, verifying supporting documentation, tracing suspicious payments, and developing evidence that can be used in accountability processes. The findings concerning improved transparency, financial oversight, and the investigation of procurement irregularities are consistent with this interpretation. Nevertheless, the production of audit evidence does not automatically ensure accountability; its impact depends on whether responsible institutions act on the findings.

Fraud theory provides a second explanation for the contribution of forensic auditing. Procurement irregularities may arise where individuals have opportunities to manipulate procedures, exploit weak controls, or conceal conflicts of interest and collusive arrangements. Forensic auditing can help identify these vulnerabilities through targeted examination of transactions, analysis of procurement patterns, and investigation of inconsistencies in records. Its preventive contribution

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also depends on the perceived likelihood that suspicious conduct will be detected and investigated. Thus, forensic auditing may influence both the detection of existing irregularities and the incentives that shape future behaviour. However, the reviewed literature does not establish that forensic auditing alone eliminates the motivations or opportunities for fraud.

Institutional theory helps explain the differences in implementation across the countries and organizations discussed in the review. The adoption of forensic auditing is influenced by professional norms, regulatory expectations, organizational resources, leadership commitment, and the institutional legitimacy accorded to investigative work. Where specialist expertise, technological infrastructure, management support, or effective enforcement arrangements are limited, forensic auditing may be recognized in policy but remain weakly integrated into routine procurement oversight. This perspective is particularly relevant to the Ghanaian findings, which identify capacity constraints, limited institutional support, and low adoption as barriers to effective implementation.

Taken together, these perspectives suggest that forensic auditing improves procurement outcomes through interrelated mechanisms: it can strengthen the availability of reliable evidence, increase the likelihood of detecting irregularities, support corrective and enforcement processes, and reinforce expectations of responsible conduct. These mechanisms operate within institutional settings that either enable or constrain their effectiveness. The theoretical implication is therefore that forensic auditing should be understood as a complementary governance and investigative mechanism rather than a stand-alone solution to procurement corruption. In Ghana, its potential contribution will depend on the interaction between technical investigative capacity, accountable institutions, professional competence, and the consistent use of findings in oversight and enforcement processes.

4. Recommendations

Based on the findings of the study, several recommendations are proposed to strengthen the use and effectiveness of forensic auditing in addressing procurement-related irregularities within Ghana's public sector and across similar developing economies. The Government of Ghana should formulate and implement comprehensive policies that promote the integration of forensic auditing into public sector financial management and procurement systems. Existing procurement and auditing regulations should be revised to provide clear legal authority, procedures, and operational guidelines for conducting forensic audits within public institutions. In addition, selected high-risk procurement transactions should be subjected to mandatory forensic review in order to improve accountability and reduce opportunities for corruption. Public sector institutions should establish specialized forensic audit units to investigate procurement-related fraud and financial misconduct. Institutions such as the Ghana Audit Service, the Economic and Organised Crime Office (EOCO), the Office of the Special Prosecutor, and the Public Procurement Authority should collaborate closely in conducting forensic investigations and sharing intelligence related to procurement

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irregularities. Such collaboration would strengthen enforcement mechanisms, reduce duplication of responsibilities, and improve the effectiveness of anti-corruption initiatives. One of the major challenges identified in the study is the shortage of professionals with specialized forensic auditing skills. Therefore, government institutions, universities, and professional accounting bodies should invest significantly in forensic accounting and forensic auditing education. Training programmes, professional certifications, workshops, and continuous professional development initiatives should be expanded to equip auditors, investigators, accountants, and procurement officers with modern forensic investigative skills and digital fraud detection techniques. The growing sophistication of procurement-related fraud requires stronger technological support systems. The government should therefore invest in digital forensic laboratories, forensic software, data analytics tools, and electronic procurement monitoring systems to strengthen fraud detection and investigation processes. Improved technological infrastructure would enhance the ability of forensic auditors to identify concealed financial transactions, detect procurement manipulation, and investigate cyber-related financial crimes effectively. There is a need to increase public and institutional awareness regarding the importance of forensic auditing in promoting transparency and accountability. Stakeholders such as policymakers, regulators, investors, civil society organizations, procurement officers, and public administrators should be educated on the benefits of forensic auditing as both a preventive and investigative mechanism. Increased awareness may encourage broader institutional acceptance and stronger support for forensic auditing reforms. Audit firms in Ghana, both public and private, should incorporate forensic auditing as a regular component of audit engagements rather than limiting its use to periods of major financial crises or suspected fraud. Integrating forensic procedures into routine audit activities would strengthen preventive controls and improve the early detection of procurement irregularities before substantial financial losses occur.

Future studies should examine the practical implementation of forensic auditing within Ghana's public institutions using empirical methods such as surveys, interviews, and case studies. Further research should also investigate the impact of forensic auditing on procurement efficiency and corruption control within Ghana's private sector. Comparative studies involving multiple African countries may additionally provide deeper insights into best practices, implementation challenges, and institutional differences influencing the effectiveness of forensic auditing.

5. Limitations of the Review

This review has some limitations. First, the synthesis is based on 20 selected studies, which provides a focused overview of the available literature but may not capture the full range of research on forensic auditing and public procurement. Second, the review was restricted to English-language publications. Relevant studies published in other languages may therefore have been excluded, potentially limiting the geographical and contextual diversity of the evidence. Third, the search was conducted using Google Scholar, Scopus, and Crossref through Publish or

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Perish. Although these sources provide access to a broad range of scholarly literature, reliance on the selected databases may have resulted in the omission of relevant publications available through other databases, institutional repositories, or official public-sector sources.

6. Conclusion

Procurement-related corruption and financial irregularities continue to pose serious challenges to transparency, accountability, and efficient public financial management across many African countries. The findings of this study demonstrate that forensic auditing has become an increasingly important mechanism for combating fraud, improving procurement efficiency, and strengthening governance within public sector institutions. Evidence reviewed from countries such as Nigeria, Zimbabwe, and South Africa indicates that forensic auditing contributes positively to fraud detection, fraud prevention, value-for-money practices, and anti-corruption efforts when effectively implemented.

Despite these benefits, the review also reveals that the adoption and effectiveness of forensic auditing in Ghana remain relatively limited due to weak institutional support, inadequate forensic infrastructure, insufficient professional expertise, and low integration of forensic auditing practices into public sector systems. The findings further suggest that traditional auditing alone is no longer sufficient for addressing the growing complexity of procurement-related fraud, which increasingly involves sophisticated financial manipulation, document falsification, collusion, and digital transactions. The study therefore concludes that forensic auditing should not be viewed merely as a reactive investigative tool but rather as a strategic governance mechanism capable of strengthening transparency, accountability, and public confidence in government institutions. Forensic auditing serves as an important complement to traditional auditing by providing specialized investigative approaches necessary for uncovering concealed financial misconduct and procurement irregularities.

For Ghana and many other developing economies, improving the effectiveness of forensic auditing will require stronger political commitment, institutional reforms, investment in professional training, enhanced technological infrastructure, and closer collaboration among anti-corruption agencies and audit institutions. Addressing these challenges will significantly strengthen procurement oversight systems and contribute to reducing corruption and financial losses within the public sector.

Therefore, this review contributes to the literature by bringing together evidence on the effectiveness of forensic auditing, its governance and accountability implications, and the institutional conditions that shape its implementation in public procurement. Its principal contribution is to connect these dimensions and interpret the wider African evidence in relation to Ghana's public-sector context. The synthesis indicates that the potential benefits of forensic auditing depend not only on investigative techniques but also on professional competence, technological capacity, institutional support, and the effective use of investigative findings. At the

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DOI: https://doi.org/10.56879/ijbm.v5i4.197

same time, the limitations of the available evidence underscore the need for Ghana-specific empirical research to establish the extent to which forensic auditing produces measurable improvements in procurement integrity and public accountability. By identifying these connections and evidence gaps, the review provides a basis for more context-sensitive policy development and future research on forensic auditing in Ghana and comparable developing economies.

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