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COMPONENTS OF FORENSIC ACCOUNTING IN SELECTED PUBLIC SERVICE IN OYO STATE, NIGERIA

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Abstract

Forensic accounting is becoming a tool for general audit practices among several corporate practitioners in both Nigeria and beyond. However, the high level of corruption through financial misappropriation, income leakages, budget padding and money laundering which are all components of fraud and other corrupt practices in business governance and government parastatals necessitated increased application and practice of forensic accounting. Hence, this study tends to examine the nexus forensic accounting mechanism and fraud control in selected public service in Oyo State, Nigeria. The study employed descriptive survey research design with the use of a well-structured questionnaire. The population of the study comprise of nine (9) public service in Oyo State, Nigeria from where a sample size of seven (7) public service in Oyo State were selected purposively Both descriptive and inferential statistics were employed for the purpose of data analysis. Descriptive statistics involved the use of frequencies tables, figure and percentage count while inferential statistics such as Principal Component Analysis (PCA) was used to test the study hypothesis. Principal Component Analysis (PCA) was used to identify the components of forensic accounting in selected public service in Oyo State, Nigeria. Findings from the result of PCA showed that the first component, labeled "Specialized Team", has an eigenvalue of 4.406 and accounts for 73.43% of the total variance. This is a very high proportion, suggesting that the existence and effectiveness of specialized forensic accounting teams are the most critical factor

Keyword: Forensic Accounting, Fraud Control, Specialized Team, Financial Analysis Principal Component Analysis

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influencing forensic accounting practices in public service settings. The study established that there is positive significant relationship between forensic accounting mechanism and fraud control in selected public service in Oyo State, Nigeria. It is therefore recommended that public service organizations should invest in building and maintaining specialized forensic accounting teams with skilled professionals trained in investigative techniques, data collection, and financial analysis to enhance fraud detection capabilities.

Introduction

The majority of businesses worldwide are aware of the rising need for forensic accounting. According to Enofe, Agbonkpolor, and Edebiri (2023), forensic accounting is a result of fraud and human error. The use and practice of forensic or investigative accounting has become necessary due to the high level of corruption in business governance and government parastatals, which includes financial misappropriation, income leaks, budget padding, and money laundering—all of which are elements of fraud and other corrupt practices. The area of accounting known as forensic or investigative accounting is responsible for reporting any instances of money laundering, fraud, or other associated fraudulent activities that may take place within an organization (Olaniyan and Awe, 2023).

Fraud prevention strategies lower the likelihood of fraud in forensic accounting. However, when fraud preventative measures are unable to detect fraud, fraud detective procedures are implemented (Idris, 2017). When fraud elements are found in financial statements or financial transactions, fraud detection is carried out by using fraud control rules, fraud risk registers, and whistleblowing. According to Gbegi and Okoye (2024), fraud detection is a series of ongoing forensic operations designed to stop money or property from being acquired under false pretenses. Fraudsters employ forensic investigative techniques to thwart their cunning criminal schemes. Due to the rising rates of white collar crime across all governmental levels, company management, and employee categories, fraud detection is becoming more and more important in the business sector. Fraud detection is not a good concept in Nigeria's public and commercial sectors since it is a lucrative industry that is backed by Nigerians who are close to the country's current political elite.

Forensic accounting provides cultural mediation for economic and political logics (Williams, 2015). It is the venue within which the cultural mediation of legal and economic claims is accomplished. The first decade of the twenty-first century experienced a tsunamill or blizzardll in the number of corporate scandals, frauds, and failures (Ball, 2023). These events precipitated and contributed to the Great Recession and significantly

impacted the efficient functioning of free market capitalism. Some of which were actually facilitated by public accountants (cf. Enron and Arthur Andersen). The scandals, frauds, and failures have contributed to the loss of confidence by the financial statements users in the ability of public accounting to contribute viable solutions to the financial problems, and have fuelled the growth in demand for forensic accountants (Huber, 2022). However, Nigerian public sector had been found involved in fraud. This is because it is always possible for high level management to access data and change the information, paper-based system or a computerized system alike. It all relates back to human nature and high level management.

Suleiman and Othman (2022) assert that forensic accounting as a discipline encompasses fraud knowledge, financial expertise, and a sound knowledge and understanding of business reality and the working of the legal system. Forensic accounting may be one of the most effective and efficient way to decrease and check accounting fraud. Presently, forensic accounting is gaining popularity worldwide. It is been taught as a major course in many educational institutions in various countries Forensic accounting is the practice of thorough examination of financial records after internal and external auditing has been carried out.

Statement of the Problem

The observation of authors like Huber (2022); Joy and Alexandra (2020) Ismail, (2021); that the menace of fraud, corruption, and other financial crimes has a serious negative effect on the economic development which makes it difficult for a country to provide essential amenities to its citizens is pointed to the level of the menace in Nigeria. In Nigeria, the evil of fraud has reached alarming rate which lead to persistent resources mismanagement and loss of government assets. According to Claire and Jude (2016), financial crime has become invasive and the possibility of corporate fraud happening has also turned out to be more severe. High level of financial abuse has been obstructing tax collection and other sources of income generation making the enforcement of Law difficult and depresses foreign investment. In some exclusive circles of international financial engagements, Nigeria is regarded as the coven of fraudulent activities in Africa (Joy and Alexandra, 2020). The large spread of fraud in public sector has made the traditional auditing and investigation unsuccessful and inefficient in fraud detection. The components of forensic accounting practices have not reduced or curb the menace of financial fraud control in the public service sector.

Objectives of the Study

The general objective of the study is to examine the components of forensic accounting in selected public service in Oyo State, Nigeria.

Review of Previous Studies

Alabdullah *et al*., (2022) examined the impact of using forensic accounting practices on financial corruption. It contributes to the limited existing literature on the forensic accounting where no previous study has been down in Iraq dealing with such a serious issue. Specifically there is a failure of accounting and control methods that lies in the methodology taught in Iraqi universities to discover financial corruption cases. This study adopted a correlation research design. Data was collected by using interviews and questionnaires. The main findings of the study revealed that there is a significant relationship between the forensic accounting practices and effectiveness of the control and auditing bodies to detect financial corruption cases.On the other hand, the majority of the audit and accounting personnel in Iraq are suffering from poor perception and information of the forensic accounting methods. Therefore, a suggestion was made by the current study that forensic accounting methods should add to the curricula of accounting departments in Iraqi universities at both levels of preliminary and higher studies through theoretical and practical classes..

The study of Chi-Chi and Ebimobowei (2022) has addressed the issue of fraudulent activates and forensic accounting practices in Port Harcourt Bank, Nigeria. The study found that the prevalence of fraud and poor financial transactions in the Nigerian banking sector created the need to develop the necessary means to meet these challenges. The study used a sample of (24) banks and analyzed their answers using statistical methods such as (Dickey-Fuller), the least-squares, and Granger Causality. The results indicated that the forensic accounting application affects the level of fraudulent activities in the banks, because forensic accounting provides banks with good practicess that help to detect these activities. Therefore, the study suggested investment in the human element in this field.

Efiong (2022) study addressed the practices of forensic accounting and investigated its familiarity in one of the emerging economies, Nigeria. They found that in spite of the growing demand for forensic accounting globally, this science is still confined mainly to economies of developed countries with simplified application in emerging economies. The study was addressed to academics and practitioners to assess the demand for forensic accounting and the level of its understanding. The study found that there are limited conscious to this discipline on the level of initial studies, and that there is an convictions of the need to adopt forensic accounting curricula at universities and provide students with the qualifications and skills that will help them reduce methods of fraud.

Balios et al., (2020) the contribution of forensic accounting practices to the detection and the prevention of financial statements. This analysis considers tax auditing parameters in order to determine whether and to what extent they affect taxpayer's behaviour to tax evade or not. Some useful conclusions are drawn regarding the determining factors of tax

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evasion pay attention to the role of accounting rules to the manipulation of financial statements. The contribution of forensic accounting against tax fraud emerges increasingly. The considerable increase in the cases of financial and tax fraud due to the weaknesses of the statutory audit to detect fraudulent activities impose the need for forensic accountants to deal with financial accounting and tax rules infringements. These conclusions may be essential and useful for tax policymakers to adopt restrictive measures against tax evasion

As per (Ozkul and Pamukc, 2012), the accompanying are the target of monetary explanation extortion: Increasing the market estimation of the business, putting forth money related expressions steady with spending plans and acquiring out of line income by displaying dishonestly the estimation of the business. At the point when business cheats are broke down, it is determined that three parts meet up while carrying out the wrongdoing. These are weight, opportunity, and avocation that constitute the fraud triangle. Parts of the fraud triangle are like the fuel, start, and oxygen which together reason fire. At the point when the three meet up, definitely fire breaks out. Weight variables could be assembled into three gatherings: weights with budgetary substance, weights coming from negative behavior patterns and weights related with work. Opportunity factors are the second part of the extortion triangle. They specifically include top administration and proprietors of the business specifically. Giving the chance to submit extortion is a standout amongst the most imperative components emerging from fakes. Since the business could extraordinarily impact opportunity factor, this point ought to get specific consideration for fraud aversion. The third part of the fraud triangle is fraudster's creating resistance systems keeping in mind the end goal to legitimize his/her activity. A few endeavors of the fraudsters to legitimize themselves and the reason they made up are: (an) I had acquired the cash, I would pay back, (b) This is as a byproduct of my endeavors for the business (c) Nobody has endured subsequently and (d) I have taken the cash for a decent reason. With a specific end goal to conquer these legitimizing pardons, business ought to disclose ethic principles to workers, advise them that fraudsters would be punished, build up moral code in the association, and give preparing on them. After some time, the significance of beginning recognition of extortion has expanded on the grounds that the quantity of deceitful occasions has expanded. Location of fraud starts with the warning of warnings which demonstrates that something isn't right (Ozkul and Pamukc, 2012).

Claire and Jude (2019) opined that professional forensic accountant as an investigator is seen as he who is expert in fraud detection, especially in accurately documenting the types of support needed for a satisfactory criminal prosecution. In addition, he should be able to work in challenging regulatory and litigation atmosphere. Owojori and Asaolu, (2009) noted that forensic accountant is thus expected to work with reasonable accuracy

and be able to reconstruct the destroyed, missing or deceptive accounting records. Meanwhile, he should be effective at economic and financial loss, social harm and good in estimating damage as well as being familiar with the assumptions, opportunity cost situations, algorithm and econometric models computations.

Okoye and Gbegi (2023) carried out a study to examine forensic accounting as a tool for fraud detection and prevention of money laundry in the public sector organizations with particular reference to Kogi State. The study employed simple mean and standard deviation to investigate forensic accountants to planning management fraud risk detection procedures. The study established that forensic accountants effectively modify the extent and nature of audit test when the risk of management fraud is high; and that forensic accountant should be involved in management fraud risk assessment process rather than consulting them. The subject of forensic accounting was reviewed broadly, there was no specific mention of any aspect of forensic accounting being addressed; but very critical is their recommendation of incorporating forensic accountants in the management of the public sector rather than mere consultancy. The study did not give attention to any specific component of forensic accounting.

Mukorol, Ogijo, Yamusa and Faboyede, (2023) asserted that forensic accountant should also be able to quantify and measure fictitious assets such diminished reputation and goodwill. As an evaluator, forensic accountants should also be capable of dependably expressing expert opinion on issues of business value in line with the generally accepted presumption. Therefore, forensic accountant should be effective in evaluating the historical and predicted level of risks and returns of any going concern all financial transactions connecting to contract, assets, valuation of asset and liabilities, equities, property taxes etc. Obviously, conventional auditors may not adequately present a satisfactory proof in a court, and are sometimes more of impediment than assistants for law enforcement. Therefore, in an event of suspected fraud, forensic accountants are more relevant and helpful in detecting fraud. For that reason, forensic accountant should possess special skills and training that can equip him in playing his roles as expert witness and fraud investigator.

Methodology

The study employed descriptive survey research design with the use of a well-structured questionnaire. The population of the study comprise of nine (9) public service in Oyo State, Nigeria from where a sample size of seven (7) public service in Oyo State were selected purposively Both descriptive and inferential statistics were employed for the purpose of data analysis. Descriptive statistics involved the use of frequencies tables, figure and percentage count while inferential statistics such as Principal Component Analysis (PCA) was used to test the study hypothesis. Principal Component Analysis (PCA)

was used to identify the components of forensic accounting in selected public service in Oyo State, Nigeria.

Results and Discussion

Principal Component Analysis on the components of forensic accounting in selected public service in Oyo State, Nigeria

The Principal Component Analysis (PCA) conducted on the components of forensic accounting in selected public service institutions in Oyo State, Nigeria in Table 1a, offers an in-depth understanding of which aspects most significantly contribute to forensic accounting practices. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy yielded a value of 0.811, which falls within the "meritorious" range (0.80–0.89). This indicates that the sample size and correlations among variables are appropriate for a PCA. Essentially, the KMO statistic confirms that the data matrix contains sufficient common variance to justify the use of factor analysis. Additionally, Bartlett's Test of Sphericity returned a significant result (Chi-square = 1580, df = 15, $p < 0.001$), which further validates that the variables are intercorrelated and not orthogonal. Together, these two tests indicate that the dataset is well-suited for PCA and any findings from the analysis are statistically reliable.

In Table 1b, the Total Variance Explained shows that the first component, labeled "Specialized Team", has an eigenvalue of 4.406 and accounts for 73.43% of the total variance. This is a very high proportion, suggesting that the existence and effectiveness of specialized forensic accounting teams are the most critical factor influencing forensic accounting practices in public service settings. The dominance of this factor implies that institutions that invest in well-trained, dedicated forensic accounting personnel are more likely to succeed in implementing effective forensic measures, detecting fraud, and ensuring financial integrity.

Other components identified include Data Collection and Preservation (16.37%), Interviews and Interrogations (5.85%), Document Examination (2.50%), Financial Analysis (1.34%), and Tracing Transactions (0.51%). However, these components have eigenvalues less than 1 and are not retained as significant contributors in the PCA model. This suggests that while these elements are parts of forensic accounting, their individual explanatory power is limited. Their relatively low variance contribution implies that, in the studied public service institutions, these practices are either less developed or less emphasized compared to the formation and function of specialized teams.

The PCA results strongly support the conclusion that a specialized forensic accounting team plays a central role in public service forensic practice in Oyo State. The findings imply that policy interventions aimed at improving forensic accounting should prioritize the recruitment, training, and institutional support of these teams. While other aspects such

as data handling and financial analysis remain relevant, their influence appears secondary. This evidence can help public administrators, auditors, and policymakers focus resources on building the human capacity needed to enhance forensic accountability in public finance management.

Table 1a: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.811
Bartlett's Test of Sphericity	Approx. Chi-Square	1.580E3
	df	15
	Sig.	.000

Source: Data Analysis using SPSS version 22, 2026

Table 1b: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Specialized Team	4.406	73.428	73.428	4.406	73.428	73.428
Data Collection and Preservation	.982	16.373	89.801			
Interviews and Interrogations	.351	5.849	95.650			
Document Examination	.150	2.495	98.145			
Financial Analysis	.081	1.342	99.487			
Tracing Transactions	.031	.513	100.000			

Source: Data Analysis using SPSS version 22, 2026

Discussion of Findings

The study's findings underscore the significant role of forensic accounting in enhancing fraud control within the public service sector of Oyo State. A substantial proportion of respondents perceived key components of forensic accounting—such as specialized teams, data collection and preservation, financial analysis, and transaction tracing—as effective or strongly effective in detecting and preventing fraudulent activities. These perceptions align with recent empirical studies. For instance, Olowoseunre and Adewoye (2024) reported a moderate positive correlation between the effectiveness of forensic accounting mechanisms and the ability to detect and prevent financial fraud in Nigerian

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federal government parastatals, highlighting the practical benefits of implementing forensic accounting practices in public institutions.

Similarly, Aliyu and Hussaini (2024) found a significant positive relationship between forensic accounting and the detection and prevention of corruption and fraud in Nigeria's public sector. Their study emphasizes the importance of engaging forensic accountants and providing them with necessary tools to deter fraudulent activities effectively. However, the study also revealed areas needing improvement. Components like interviews and interrogations, and document examination received comparatively lower effectiveness ratings. This suggests potential challenges such as inadequate training, lack of standardized procedures, or insufficient resources, which may hinder the effectiveness of these forensic accounting aspects.

Supporting this, Ogbaini et al. (2024) observed that the Lagos State Government minimally utilizes forensic accounting in its operations, lacking dedicated forensic accounting departments and management training on forensic fraud prevention. They advocate for the establishment of separate forensic accounting offices and regular training programs to enhance fraud detection and prevention capabilities. Furthermore, Eko (2022) highlighted the significance of adopting forensic accounting tools like data mining, accounting ratios, and trend analysis in public sector ministries, departments, and agencies (MDAs) in Nigeria. The study found that these tools significantly enhance the ability to detect and prevent fraud, emphasizing the need for professional qualifications and robust IT facilities for staff in accounting departments.

Conclusion

Based on the summary of findings of this study, it was concluded that the components of forensic accounting have a significant effect on financial fraud control in selected public service organizations in Oyo State, Nigeria. The results indicate that forensic accounting tools such as forensic investigation, litigation support, data analytics, and expert consultancy play a critical role in detecting, preventing, and reducing fraudulent financial practices. These components enhance transparency, strengthen internal control systems, and improve accountability in public sector financial management. The study further concludes that the effective application of forensic accounting techniques contributes to early detection of irregularities, minimizes opportunities for financial misconduct, and promotes ethical behavior among public officers. This implies that forensic accounting is not only a corrective mechanism but also a preventive strategy that supports sound governance and financial discipline in the public sector.

Recommendations

The study therefore recommends that;

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Government agencies in Oyo State should institutionalize forensic accounting units within public service organizations to ensure continuous monitoring and early detection of financial fraud. This will strengthen internal control systems and reduce dependence on traditional auditing alone.

Regular training and capacity building programs should be organized for accountants, auditors, and financial officers on modern forensic accounting techniques such as digital forensics, data analytics, and fraud investigation methods. This will enhance their competence in detecting and preventing sophisticated fraud schemes.

The Oyo State Government should provide adequate funding and technological resources needed for effective forensic accounting practice, including specialized software and investigation tools that support real-time fraud detection.

Public service organizations should strengthen collaboration with anti-corruption agencies such as EFCC and ICPC to facilitate information sharing, joint investigations, and effective prosecution of financial fraud cases uncovered through forensic accounting.

Forensic accounting procedures should be integrated into the routine financial management and audit processes of public institutions, rather than being applied only after fraud has occurred. This proactive approach will help in fraud prevention.

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