



Forensic Accounting and Fraud Detection in Nigerian Public Sector: A Case Study of Rivers State

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The study which examined the effect of forensic accounting and fraud detection in Nigerian public sector was fueled by rising incidence of fraud now common in the public sector. The study tried to probe if by adopting forensic accounting fraud can be detected. 357 accountants, directors and senior staff of various Ministries, Departments and Agencies (MDAs) participated in this survey and were selected using stratified random sampling method. Data were gotten from the 357 respondents using structured questionnaire and analysed using Spearman rank correlation method. Forensic accounting was studied using forensic accounting competency, forensic accounting techniques and proactive fraud audit, as the two fraud dimensions addressed were payroll and procurement fraud. With the response analysed, it was discovered that all three indicators of forensic accounting are negatively and significantly correlated with payroll and procurement fraud. The take home is fraud can be detected through forensic accounting. This study advises embracing the latest technology-inspired forensic accounting practices and organizing workshops and training for staff to build their competence level.

Keywords: *Forensic accounting; fraud detection; public sector; payroll fraud; procurement fraud.*

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1. INTRODUCTION

In recent time, fraud has become a disease working its way into the bloodstream of private agents and public servants. In the public sector, fraud has become a way of life as agents of government, right from the top being those in the Federal council to governors, assembly members, ward councillors, directors, and low-level government workers are enmeshed in one fraudulent act [1,2]. The occurrence of these financial malpractices, embezzlement and other fraudulent activities have become of concern to developing countries and also those that are developed. The alarming bell which countries are now sounding is not unconnected to Nagasaki that the perpetration of fraud leaves behind. Financial fraud has been responsible for the collapse and meltdown of the global economy, causing reputable organizations to go under. Cases in the literature points to this, from Enron, to Lehman Brothers, to WorldCom. In Nigeria, the devastation which fraud causes is still fresh in her memory from the collapse of Oceanic Bank Plc, to Cadbury Plc [14].

In the public sector, the devastating fraud can cause is better imagined. The idea that money is not free suggest the misuse of it could severely impact on the economy and development of Nigeria. In the public space, public holders are entrusted with huge resources to provide conducive business environment and promote citizen welfare. In Nigeria, there has been tremendous misuse of resources as public office holders engage in fraudulent vices and corrupt activities. These incessant events of fraud can have direct and indirectly impact, from the lack of provision of good road network or basic facilities, to increasing transaction costs, weakening domestic institutions, starving growth-enhancing sectors of resources, causing decline in human capital and increase in brain-drain, among others.

The vast direct and indirect consequences of fraud in the public sector, which most times are negative in nature, has spark the need to address such epidemic, necessitating the application of forensic accounting and its practice. Adebisi, Okike and Yoko [15] has emphasized the expectation of forensic accounting which is to tame the fraud that has engulfed the public sector in Nigeria.

Empirical literature has shown the capacity of forensic accounting to detect fraud and also

prevent its occurrence. Inyada, Olopade & John [3] who used data of 128 employees of banks in Nigeria and the multiple regression method report that forensic accounting is an effective tool in stemming the occurrence of fraud in the Nigerian banking industry. Bello, Mohammed & Javan [4] corroborated this submission when they studied 10 banks in Yola State and their regression results were promising as they found forensic accounting significant in detecting bank fraud. Other studies have revealed the potency of forensic accounting in detecting fraud [5,2,6,1]. Strengthened by this, this study seeks to examine the effect of forensic accounting in the detection of fraud in the Nigerian public sector.

1.1 Objectives of the Study

This study has as its aim the examination of the impact of forensic accounting on fraud detection in the Nigerian public sector. This aim is are sub-divided into specific objectives and they are to:

- i. examine the impact of forensic accounting competency on payroll fraud in the Nigerian public sector.
- ii. investigate the effect of forensic accounting techniques on payroll fraud in the Nigerian public sector.
- iii. assess the effect of proactive fraud audit on payroll fraud in the Nigerian public sector.
- iv. determine the effect of forensic accounting competency on procurement fraud in the Nigerian public sector.
- v. examine the effect of forensic accounting techniques on procurement fraud in the Nigerian public sector.
- vi. investigate the effect of proactive fraud audit on procurement fraud in the Nigerian public sector.

1.2 Research Hypotheses

The following hypotheses were formulated for this study:

H₀₁: forensic accounting competency do not significantly reduce payroll fraud in the public sector.

H₀₂: forensic accounting techniques do not significantly reduce payroll fraud in the public sector.

H₀₃: proactive fraud audit does not significantly reduce payroll fraud in the public sector.

H₀₄: forensic accounting competency do not significantly reduce procurement fraud in the public sector.

H₀₅: forensic accounting techniques do not significantly reduce procurement fraud in the public sector.

H₀₆: proactive fraud audit does not significantly reduce procurement fraud in the public sector.

2. LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 Fraud Triangle Theory (FTT)

The go-to theory in explaining why fraud is prevalent in organization is the fraud triangle. This theory is relied on in the identification of suspected fraud, what causes the act and identifying the weakness in a system that ensured such act was achievable. This hypothesis is to the credit of Cressy [16] who tried to grasp what pushes or motivates an individual to commit crime or fraud. The theory came from a survey conducted, as Cressy [16] exhaustively interviewed individuals who engaged in fraud and are incarcerated. On completion, his thesis was that; 3 denominating factors characterized every fraud: pressure, opportunity and rationalization. The postulation is that, these factors engendered people to fraud.

Fraud occurs because opportunity exist. An employee commits fraud because he/she find himself/herself in a situation or position where there is access to resources or control of it thereof. Factors creating these opportunities are weak internal controls, management oversight is weak, and when accountability are less prioritized. Second, pressure can propel someone to commit fraud. This pressure goes beyond financial need, encapsulating internal and external pressures such as paying for a particular lifestyle, threats to financial stability of the business, and others. The theory posits that, while opportunity and pressure to engage in fraud might exist, fraud may not be committed without rationalization. Rationalization portends to an individual justifying why they commit such act. For instance, an employ may tie his/her fraudulent acts to being underpaid, arguing that the act was just to augment his/her pay.

2.1.2 Fraud Diamond Theory (FDT)

This theory is considered an extended variant of the fraud triangle theory [19]. The FDT adds capability to the three fraud propelling factors considered in the FTT. The contention of the

FDT is that, fraud is unlikely to occur even though there is coexistence between pressure, opportunity, and rationalization. A fourth factor sparks fraud and that is capability. The FTT underpins that, fraud occurs when the intended perpetrator possesses the ability and skills to engage in it. Thus, assuming away individual's capability in the discuss of fraud will be erroneous. The FDT emphasized the potential overlapping of these factors, with the object lesson being that, an individual's capability should be assessed separately when conducting fraud risk assessment.

2.2 Conceptual Issues

2.2.1 Forensic accounting

Scholars have defined or given different perspective to forensic accounting. To Zysman (2001), forensic accounting is an integration of auditing, accounting and investigation skills. To Joshi [18], it is applying specific skill and specialized knowledge to an economic transaction with the intent of uncovering evidence pertaining to such transaction. Forensic accounting sits on a tripod of areas – dispute resolution, investigation, and supportive litigation [17]. According to Bello, Mohammed & Javan [4], forensic accounting is a tool with capability of been deployed for the detection and implementation of investigations, specifically white-collar. Bello, et al. [4] further noted that, forensic accounting involves examining and evaluating the books of a firm or financial records of an individual. During this process, the intent is to obtain evidence that are court worthy or can be put before a judge. It is also geared to uncovering criminal intent or behaviour or acts like embezzlement or fraud [4]. The conventional financial auditing process of planning, gathering sufficient evidence and report writing is followed in forensic accounting. Forensic accounting only adds the possibility of court appearance to the mix.

2.2.2 Fraud and fraud detection

Abdullahi & Mansor [19] has stressed the high frequency fraud has occurred and the growing demand for forensic accountants by organizations to arrest it. Bello, et al. [4] conceived fraud as any act, omission, or expression tactically undertaken to deceive someone to gain advantage. It involves concealing or misrepresenting material facts of a

transaction made knowing the falsity of such claim.

Bello, et al. [4] conceives fraud detection as chains of activities carried out primarily to forestall property or money being acquired through dubious means/false pretense. It is deliberating misstating, omitting, or misrepresenting the records (financial) of an organization, with an object of misleading record (financial) users and giving false impression of the financial standing of the firm [2].

2.2.3 Review of empirical literature

Inyada, Olopade & John [3] noticing the upscale in bank related fraud cases in Nigeria, investigated whether bank fraud occurring in Nigerian banks can be tamed through forensic audit. The study's objective centered on the effect forensic audit has on fraud detection and its prevention. They worked with 128 respondents from a population of 165 and employed primary data. This data was collected using structured questionnaire design in line with 5-point Likert scale. They crafted a model with multiple variables and analysed the relationship using ordinary least square method. The outcome was positive as analysis divulged that conducting forensic audit enhances fraud detection and ensures fraud are prevented.

Bello, Mohammed & Javan [4] sourced data using questionnaire and interview as they probe if a link exists between forensic audit and fraud detection. Their study focused on the banking sector in Nigeria as 10 persons from 10 banks operating in Yola State were sampled for the survey, using simple random method. In their paper, a model was setup as they tried to understand fraud detection through the prism of forensic audit. With OLS method applied, the estimated model revealed promising outcome as forensic audit contributed significantly to the detection of fraud in the 10 banks survey.

Uniamikogbo, Adeusi & Amu [5] tested three hypotheses in their study as assess the possibility of detecting and preventing fraud in 16 deposit money banks (DMBs) in Nigeria through forensic audit. The hypotheses which they test were if engaging in forensic audit affect the number of fraud cases experienced at the DMBs; the amount lost to such fraud and the number of staff that are involved in such fraud. This investigation was for a period of 5 years, from 2012 to 2016. Deploying the OLS method to

estimating the regression model crafted, the outcome from estimation disclosed satisfactory results. As found from the empirical result, the number of staff that engage in bank fraud, cases of bank fraud and the amount lost to fraudulent activities in the banks declined with the practice of forensic audit.

Oyerogba [7] study focus on the Nigerian public sector as it addressed the issue of fraud detection through the use of forensic auditing mechanism. The study drew respondents from the judiciary, federal, state, and private universities and forensic auditors, as 298 respondents participated in the survey. The data which the author used was collected using questionnaire and then subjected to descriptive and inferential statistical analysis. The linear logistic and OLS method was used for the latter, and mean and standard deviation for the former. In terms of finding, fraud detection in the public sector is predicted by forensic skills and techniques. Hence, to reduce the spate of fraudulent practices in the sector, it was advised that government rejig their internal control, scaling it up to forestall incidence of fraud.

Okoye, Adeniyi & James [1] used descriptive and inferential tools such as mean, standard deviation and regression method to investigate the effectiveness of forensic accounting in fraud management. In conducting this research, four manufacturing firms in Nigeria were focused on and one hundred and ninety (190) of the staff of these firms participated in the survey. The firms were Dupril Forma, Cadbury, Breweries, and Nigeria Bottling company, domicile in Aba, in Abia State. The outcome matched expectation as their work disclosed that more fraud will be detected and prevented as forensic accounting is undertaken in the companies studied. Their analysis also informed that engaging in fraud litigation really had little effect on the recovery of the funds lost to the perpetrated act.

Okoye & Ndah [2] examine how effective forensic accounting can be to preventing fraud in 10 manufacturing companies that undertake their activities in Port Harcourt, Nigeria. Fifty (50) staff of the 10 companies were involved in the survey and questionnaire were randomly distributed to them. The data collected were then analysed using OLS method. Like some studied that address this germane issue, their result showed fraud in the companies studied can be prevented using fraud litigation practices. Also, discovery

made revealed that fraud in the companies can be prevented through fraud investigation.

Eko, Adebisi & Moses [6] in their work x-rayed the issue of fraud prevention and detection, focusing on the use of forensic accounting techniques to achieving it. The bank considered for the study numbered 15 and were those operating in Cross Rivers State. With purposeful sampling, 150 employees comprising of IT specialists, auditors, economists and accountant were selected from a population of 170. The 150 respondents that participated were responded to questions posed to them using questionnaire, designed to reflect the 5-point scale. While relationship was modeled in a multiple framework, they found when the OLS method was applied that banks can forestall fraud and detect it by applying the forensic accounting techniques of commercial data mining software, trend analysis, and ratio analysis.

In Imo State, Eze & Okoye [8] revisited the issue of fraud in the public sector, investigating the potency of adopting forensic accounting to detect and prevent fraud in that sector. With a sample of sixty (60) employee which constitute accountants, top executives and auditors, the data retrieved from the questionnaire administered to them were collected and analysed using mean and Z-test. According to them, detecting and preventing fraud in Imo State private sector is achievable through forensic accounting, advising that management become committed to forensic accounting.

Oyebisi, Wisdom, Olusogo & Ifeoluwa [9] examined the issue of fraud in the banking sector, with specific focus on four (4) DMBs in Nigeria. For each bank, 25 questionnaires were issued, culminating to 100 respondents, comprising management members, accountants, and auditors, selecting using stratified sampling method. The work set out to probe how fraud investigation, litigation support, and expert consultancy prevents and detects fraud. With the questionnaire validated and response found to be reliable, the data was subjected to analysis, using the analysis of variance (ANOVA) and regression methods. Empirically, it was disclosed that the application of forensic accounting significantly prevent fraud and fraud can be detected by engaging in forensic accounting.

Lawal, Yinusa, Lawal, Oyetunji & Adekoya [10] engaged four hundred and forty-nine (449) employees of P.Z. Nigeria Ltd as they

investigated the detection of fraud using forensic accounting. The effect of forensic investigation, litigation and accounting in the detection of fraud was x-rayed. With the data instrument certified valid and reliable, the data collected using questionnaire was analysed using regression method. From analysis, increasing forensic investigation, litigation and accounting by management of PZ Ltd will increase fraud detection.

Alhassan [11] in his work based the result of his finding on the opinions of 50 respondents, which comprise of accountants and auditors, drawn from 10 ministries in FCT, Abuja, Nigeria. The survey geared towards examining the use of foreign accounting service in detecting and preventing fraud in the ministries. Those who were involved in the study were randomly selected, with ten experts each from the 10 ministries. In gathering data, questionnaire was favoured and analysis of variance (ANOVA) used to analysed the data obtained. The major discovery is that, forensic accounting is effective in the detection of fraud in the public sector and significant correlation was uncovered between forensic accounting and litigation service.

Owolabi & Ogunsola [12] studied the possibility of minimizing bank fraud through forensic auditing. The study which took place in Ibadan, Nigeria involved six DMBs and employees of these banks participated in the survey. In obtaining opinions of employees of these banks, questionnaire that reflect the 5 points scale were administered to 132 staff, with 120 returned. In turn, they combined the Pearson moment correlation and regression methods to analyse the obtained data. Evidently, they were able to show that forensic accounting skills, knowledge of forensic accounting and procedures, and legal background are significant measures that can help reduce incidence of fraud in DMBs studied.

Edheku & Akpoveta [13] in their work sampled 43 accounting officers to explore how instrumental forensic accounting can be in detecting fraud in the private and public sectors. In investigating this, they conducted the survey in Abuja, using four federal ministries and five private multinationals. With the questionnaire used to collect data validated and found reliable, the data gathered were analysed with mean, standard deviation and t-test, and they report that fraud in the two sectors can be detected by engaging in forensic accounting.

2.2.4 Gap in literature

This study investigated the effect of forensic accounting on fraud detection in the Nigerian public sector. The study considered public sector workers in Rivers State Nigeria. The study employed accounting competency, accounting techniques, proactive fraud audit and forensic accounting as measures of forensic accounting while payroll fraud and procurement fraud were captured as measures of fraud detection, these variables make the work different from what other scholars have done and also the geographical scope considered for the study.

3. METHODOLOGY

3.1 Research Design

Ogunbayo & Mhlanga (2022) defined research design as a roadmap that describes or details how research is intended to be undertaken. Given the peculiarity of this study, the descriptive survey design was used.

3.2 Population

The population of the study are accountants, directors and senior staff of various Ministries, Departments and Agencies (MDAs) in Rivers State. This make up a population of 3974. The Ministries comprise of 1324, Departments 1673 while Agencies 977.

3.3 Sample and Sampling Technique

The random sampling method was used for this study and 363 staff were sampled for the study. The sample was arrived using the Yamene formula below:

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n = size of the sample

N = size of the population

e = degree of significance or sampling error.

Using the Taro Yamene formula, the sample size is given below:

$$n = \frac{3974}{1 + 3974(0.05)^2}$$

$$n = \frac{3974}{1 + 3974(0.0025)}$$

$$n = \frac{3974}{1 + 9.935}$$

$$n = \frac{3974}{10.935}$$

$$n = 363$$

3.4 Instrument of Data Collection

Primary data was used and collected through the use of questionnaire. The questionnaire adopted were closed-ended and multiple-choice format. We divided the questionnaire into two (2) sections, and each section addresses a given interest. Section One (1) consist of set of items relating to the personal data of the respondents. Section two (2) consist of set of items on the dimensions used; forensic accounting competency, forensic accounting techniques and proactive fraud audit (for forensic accounting) and payroll fraud and procurement fraud (for fraud detection).

3.5 Validity and Reliability of Instrument

The study engaged in content validity of the instrument as the questionnaire used were assessed independent by lecturers in the Department of Management, University of Port Harcourt and their opinions, comments help shaped the questionnaire. The reliability of the instrument was determined using the test-retest method. We administered the questionnaire to 20 respondents separate from those that participated in the study. We then reissued the questionnaire to them after two weeks and correlated their responses using the Pearson Product Moment correlation method to obtain the Cronbach' alpha.

3.6 Method of Data Analysis

Two different set of analyses were adopted. These are descriptive and inferential analyses. The descriptive tools were percentages and frequency. The inferential analysis include the use of Spearman rank correlation method and we employed it to test the hypotheses formulated.

4. RESULTS AND DISCUSSION

4.1 Response Analysis

Table 1 details the distribution of the questionnaire to the respondents involved in the study. 363 copies of questionnaire were distributed to employees in the public sector and 357 were returned and deemed usable for the study as relevant information were provided. 6 of the questionnaires disbursed were not returned or had missing information. The 357 returned questionnaire gives a response rate of 98.3%, which is appropriate and formed the basis for this study.

Table 2 shows higher male participation in the survey. 217 males (60.8%) were respondents for this study; female participants were 140 or 39.2% of those sampled. The age distribution of the respondents plays critical role in determining the average age distribution of the respondents. Table 2 report more of the employees are in the age bracket of 36 – 40 years (142 or 39.8%); followed by those aged between 31 – 45 years (103 or 28.9%). The next age group are those

that are 41 years and above (which are 65 respondents or make up 18.2%). Analysing the data, we observed that 9.2% or 33 respondents are 26 – 30 years old, with the least age distribution being 18 – 25 years (14 respondents or 3.9%). Evidently, the pool of employees is young and vibrant and this group of persons are deemed to have technical knowledge. Next, we considered the marital status of the participants and discovered majority are married. Essentially, 201 or 56.3% of the total employees that partook in the survey are married. Next in line are those that are single and this make up 39.5% or 141 respondents. 15 of the employees divulged that they are divorced. The education level of the participants was also considered as forensic auditing skills are acquired within the educational setting and does affect efficiency and proficiency. Empirical data hints of an educated personnel as a combined number of 308 have atleast tertiary education. Disaggregating this reveals 186 or 52.1% have acquired B.Sc degree, another 100 have earned Master's degree and 22 have their doctorate degree. 49 respondents have SSCE/OND degrees and this pool of employees may assume the role of audit assistant. A further

Table 1. Analysis of questionnaire distributed response rate

Valid	Frequency	Percent	Cumulative Percent
Returned	357	98.3	98.3
Not Returned	6	1.7	100.0
Total	363	100.0	100.0

Source: Researcher Computation, 2023

Table 2. Demographic descriptive analysis

Details	Classifications	Frequency	Percent
Gender	Male	217	60.8
	Female	140	39.2
Age	18-25 years	14	3.9
	26-30 years	33	9.2
	31-35 years	103	28.9
	36-40 years	142	39.8
	41 years and above	65	18.2
Marital Status	Single	141	39.5
	Married	201	56.3
	Divorced	15	4.2
Education	SSCE/OND	49	13.7
	BSC	186	52.1
	M.Sc/MBA/MA	100	28.0
	PhD	22	6.2
Professional Qualification	ACCA	91	25.5
	ICAN	191	53.5
	ANAN	52	14.6
	Others	23	6.4

Source: Field Survey (2023)

dive was taken into the professional qualification of the employees to understand if they are professionals and have in-depth knowledge or grasp of forensic accounting. We observed that majority or 53.5% or 191 respondents have ICAN, 91 or 25.5% have ACCA training and 52 or 14.6% are ANAN certified.

4.2 Bivariate Analysis

The formulated six null hypotheses are tested in this section using Correlation analysis, specifically the Spearman rank variant.

Hypothesis One:

Forensic Accounting Competency do no significantly reduce payroll fraud.

Table 3 report negative correlation exist between forensic accounting competency and payroll fraud. This positive relationship is strong as indicated by the rho coefficient of -0.862. The indication is that, payroll fraud is expected to decrease with forensic accounting competency. This decline in payroll fraud as the competency

of accountants in forensic accounting improved is significant at 5% level. Evidently, the null hypothesis of forensic accounting competency insignificant reducing payroll fraud is rejected. By this, the alternative hypothesis is accepted and forensic accounting competency do significantly reduce payroll fraud.

Hypothesis Two:

Forensic Accounting Techniques do no significantly reduce payroll fraud.

From analysing responses provided, forensic accounting techniques is correlated with payroll fraud, but negatively. From this result, greater application of forensic accounting technique causes lesser payroll fraud in the public sector. The rho coefficient of -0.790 indicate that forensic accounting technique affect payroll fraud negatively and the p-value of 0.025 evident that the reduction in payroll fraud as forensic accounting technique is applied is significant. The null hypothesis is then rejected and it is concluded that forensic accounting technique significantly reduce payroll fraud.

Table 3. Relationship between forensic accounting competency and payroll fraud

Correlations			Forensic Accounting Competency	Payroll Fraud
Spearman's rho	Forensic Accounting Competency	Correlation Coefficient	1.000	-.862**
		Sig. (2-tailed)	.	.003
		N	357	357
	Payroll Fraud	Correlation Coefficient	-.862**	1.000
		Sig. (2-tailed)	.003	.
		N	357	357

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS V24 Output

Table 4. Relationship between forensic accounting techniques and payroll fraud

Correlations			Forensic Accounting Techniques	Payroll Fraud
Spearman's rho	Forensic Accounting Techniques	Correlation Coefficient	1.000	-.790**
		Sig. (2-tailed)	.	.025
		N	357	357
	Payroll Fraud	Correlation Coefficient	-.790**	1.000
		Sig. (2-tailed)	.025	.
		N	357	357

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS V24 Output

Hypothesis Three:

Proactive Fraud Audit do no significantly reduce payroll fraud.

The rho coefficient of -0.815 and p-value of 0.000 informed on negative correlation that exist between proactive fraud audit and payroll fraud. This finding indicates that, increased proactive fraud audit conducted in Ministries, Departments and Agencies (MDAs) in Rivers State will lead to lesser payroll fraud. The reduction in payroll fraud as MDAs adopt proactive fraud auditing is significant (as $p=0.000$). The null hypothesis is rejected, with the result indicating that proactive fraud audit does significantly affect payroll fraud, reducing it.

Hypothesis Four:

Forensic Accounting Competency do no significantly reduce procurement fraud.

The correlation result of Table 6 highlight strong negative correlation existing between forensic accounting competency and procurement fraud. This is reflected by the rho coefficient of -0.855. The coefficient portend that the adoption of forensic accounting competency is expected to lead to decrease in procurement fraud in the

MDAs in Rivers State. Further suggested by the p-value of 0.001 is that, the negative correlation is significant. This suggest rejecting the null hypothesis and accepting the alternative, with forensic accounting competency significantly reducing procurement fraud.

Hypothesis Five:

Forensic Accounting Techniques do no significantly reduce procurement fraud.

The problem of procurement fraud has been a plague in the public sector and this study test its reduction through the prism of forensic accounting technique. The result so summarized in Table 7 attest to the reduction of procurement fraud when MDAs in Rivers State adopt forensic accounting techniques. The rho coefficient of -0.903 informs on this and the p-value of 0.005 implies the negative correlation is significant. Procurement fraud that has now been ingrained in the public space can be significantly reduced through adoption of forensic accounting techniques.

Hypothesis Six:

Proactive Fraud Audit do no significantly reduce procurement fraud.

Table 5. Relationship between proactive fraud audit and payroll fraud

Correlations			Proactive Fraud Audit	Payroll Fraud
Spearman's rho	Proactive Fraud Audit	Correlation Coefficient	1.000	-.815**
		Sig. (2-tailed)	.	.000
		N	357	357
	Payroll Fraud	Correlation Coefficient	-.815**	1.000
		Sig. (2-tailed)	.000	.
		N	357	357

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS V24 Output

Table 6. Relationship between Forensic Accounting Competency and Procurement Fraud

Correlations			Forensic Accounting Competency	Procurement Fraud
Spearman's rho	Forensic Accounting Competency	Correlation Coefficient	1.000	-.855**
		Sig. (2-tailed)	.	.001
		N	357	357
	Procurement Fraud	Correlation Coefficient	-.855**	1.000
		Sig. (2-tailed)	.001	.
		N	357	357

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS V24 Output

Table 7. Relationship between forensic accounting techniques and procurement fraud

Correlations			Forensic Accounting Techniques	Procurement Fraud
Spearman's rho	Forensic Accounting Techniques	Correlation Coefficient	1.000	-.903**
		Sig. (2-tailed)	.	.005
		N	357	357
	Procurement Fraud	Correlation Coefficient	-.903**	1.000
		Sig. (2-tailed)	.005	.
		N	357	357

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS V24 Output

Table 8. Relationship between proactive fraud audit and procurement fraud

Correlations			Proactive Fraud Audit	Procurement Fraud
Spearman's rho	Proactive Fraud Audit	Correlation Coefficient	1.000	-.730**
		Sig. (2-tailed)	.	.013
		N	357	357
	Procurement Fraud	Correlation Coefficient	-.730**	1.000
		Sig. (2-tailed)	.013	.
		N	357	357

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS V24 Output

The estimated rho coefficient of -0.730 speaks to negative correlation found existing between proactive fraud audit and procurement fraud. This strong relationship implies that, procurement fraud is expected to reduce following the adoption of proactive auditing. MDAs can curb or fight procurement fraud by engaging in proactive auditing, this result suggest. The p-value of 0.013 is indicative of significant correlation among the variables. Following this, the stated null hypothesis is rejected as the conclusion is that, proactive auditing significantly mitigates procurement fraud.

4.3 Discussion

From analysis, it was found that forensic accounting and fraud detection is negative and significantly correlated, indicating that forensic accounting predicts fraud detection. The finding of this study implies that, to detect fraud in MDAs, it is imperative that forensic accounting needs to be adopted and practiced, in order to eschew corruption that is now an appendage of the public sector. The finding of this study corroborates the empirical results of Inyada, Olopade & John [3] and Bello, Mohammed & Javan [4].

The study observed the practice of forensic accounting (particularly forensic accounting competency, forensic accounting techniques and proactive fraud audit) significantly reduces payroll frauds in MDAs. The correlation result gives strength to this, as the results revealed negative correlation between indicators of forensic accounting and payroll fraud. The implication of these findings is that, to reduce payroll frauds in MDAs, personnel, directors and ministers in the MDAs must commit to adopting forensic accounting and ensuring forensic accounting are practiced to the letter in line with global best practices. The result of this study agrees with the work of Oyerogba [7] who found that forensic accounting significantly reduce the occurrence of fraud.

Likewise, the correlation analysis carried out suggest that forensic accounting does affect procurement frauds in MDAs. Specifically, the study found that all dimensions of forensic accounting are instrumental in creating a public sector environment where there is reduced procurement fraud, with the practice of forensic accounting pivotal in sanitizing the Nigerian public sector and reducing the cesspool of fraud that is now interchanged with the public sector. This will help increase efficiency in the public

sector and drive the needed growth that Nigeria so desires. This result of significant impact of forensic accounting on fraud detection is similar to the findings of Uniamikogbo, Adeusi & Amu [5] Okoye, Adeniyi & James [1] and Okoye & Ndah [2].

5. CONCLUSION AND RECOMMENDATIONS

The study was motivated by the high incidence of fraud present in the public sector. With the desire to arrest the situation and breath sanity and efficiency into the public sector, this study was championed to investigate the role of forensic accounting in taming fraudulent activities perpetrated in the public sector. Two dimensions of fraud was assessed – payroll and procurement fraud and three hundred and fifty-seven (357). Analysis of the opinion which these categories of personnels expressed produced inspiring results. The twin issue of payroll and procurement fraud can be curb through forensic accounting competency, adopting forensic accounting techniques and undertaking proactive auditing. Conclusively, fraud can be detected through forensic accounting. To detection fraud in MDAs in Rivers State, this study advises embracing the latest technology-inspired forensic accounting practices and organizing workshops and training for staff to build their competence level.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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