



Forensic Accounting and Fraud in the Public Sector (A Case of Imo State Ministry of Finance)

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Abstract

This study examines forensic accounting and fraud in the public sector. Primary data was used. 140 questionnaires were administered to staff of Imo state ministry of finance, Nigeria, interviews were conducted with those ministries out of which 90 were filled and returned. Tables and simple percentages were used to analyze data collected. The statistical tool used to test hypotheses was Analysis of Variance (ANOVA). Among the findings was that the fraud occurrences can be reduced using Forensic Accounting skills. The Forensic accountant can help to detect and prevent fraud in the public sector. The Forensic Accountants are significantly different from the External Auditors. It was recommended that adequate training of staff as well as good orientation and induction should be adopted by the Imo State Government, the practice of Forensic Accounting should be embraced.

Keywords: Forensic accountant, Fraud prevention and detection, Public sector, Ministry of finance.

Introduction

Forensic accounting is perceived to have evolved in response to certain emerging fraud related cases. The Enron and WorldCom scandals for example have introduced the field forensic accounting to the limelight. Forensic accounting is seen as the utilization of accounting, auditing and investigative skills to assist in legal matters and applies specialized body of knowledge to the evidence of economic transaction and reporting suitable for court proceedings and accountability. Sophistication of financial related fraud and increase in financial crime has led to the need of forensic accounting in order to aid investigation and prosecution of the syndicates of financial crimes.

Forensic accounting is a specialized field of accounting that encompasses financial expertise, fraud knowledge as well as stored knowledge and understanding of business reality and working of the legal system. Forensic accounting can, therefore, be seen as an aspect of accounting that is suitable for legal review and offering the highest level of assurance. Forensic accountant receives a special training in order to assist in legal process in the court of law as well as in dispute resolution.

The high increase in cases of fraud and fraudulent activities in Nigeria is alarming and requires the visible presence of forensic accounting services¹. The Centre for Forensic Studies report in Nigeria opined that the increasing need for forensic and investigative accounting in the banking sector results from the complexities of modern day banking with large volume of complex data². This makes monitoring of transactions, tracing

of errors, auditing manually difficult and internal auditing processes ineffective. This has posed a problem for the banking industries since the policy of banks consolidation by the Central Bank of Nigeria (CBN). The general expectation is that the investigative skills of forensic accounting may come into play in unraveling and reversing this menace of fraud scheming that has eaten deep into the financial system of banks hereby, questioning the safety of customer's monies and the general expectation of the masses. The Centre for Forensic Studies report in Nigeria remarked that the application of forensic accounting can be used to reverse the leakages that cause corporate failure. This is because forensic accounting seeks to find errors, detect red flags of fraud and suspicious transactions before it transcends into fraud². This study therefore, seeks to investigate the role of forensic accounting in the face of increasing financial crime and fraudulent activities, especially in the banking sector of Nigeria.

Statement of the Problem: Fraud and fraudulent activities in Nigeria in on an alarming increase, this emphasizes the visibility of forensic accounting services¹. The increasing incidence of fraud and fraudulent activities in Nigeria and these studies have argued that in Nigeria, financial fraud is gradually becoming a normal way of life^{3,4,5,6}. There s a general notion that the forensic accounting skills and expertise may be able to curb the menace of financial misfeasance witnessed in the banking sector. Although, so much emphasizes has not been placed on what a forensic accountant can do to stem the tide of fraud and misappropriation of fund. It is in the light of this that the researches basis their study.

The issue of corruption - misappropriation of funds, money laundering, embezzlement, bankruptcy, security fraud, breach of contract and poor internal control has necessitated forensic and investigative accounting. Independent auditors examine the financial statement of an entity to see whether they show a true and fair view. Even with the presence of internal and external auditors, financial statement fraud is still perpetrated in the public sector. The independent auditors checks whether there is uniformity in the preparation of financial statement, can report fraud warning signs and does not go in-depth or in detail to detect fraud⁷. The increase in white collar crime in the corporate world among public servants has been an ongoing issue for thousands of years and continues to be a problem today. Law enforcement personnel in recent years have become aware of white collar crimes, but lack expertise and training in combating such crimes⁸.

The huge amount of money melted out by government on daily basis without much development in the society has left the public through its legislators demanding to know how this huge amount are spent and yet there is little or no development in the society today. This huge amount of money carted away in the public sector is done under the supervision of internal auditors, some are of the opinion that internal auditors as employees of the public sector cannot give an unbiased opinion and external auditors fail to detect this fraud warning signs because of the increase in more sophisticated technology which has created opportunities for organized crime syndicates to groom their tactics and means of perpetrating crime.

The accounting scandals at Enron, WorldCom and other companies shocked the world and exposed corporate deceit and greed embedded in human minds. More recently, Enron WorldCom financial crisis has exposed a great number of fraud schemes, such as Bernie Madoff's multi-billion dollar Ponzi scheme.

Forensic accountants are tasked, among other things, with piecing together the financial puzzle after the fallout of such scandals. They rebuild entire financial systems, uncover financial statement fraud, trace funds, discover hidden assets, and more. These scandals, and the subsequent investigations and trials that have followed, have given the general public a glimpse into just one of many areas of forensic accounting⁹.

The general objective of this study is to examine how forensic accountants can help to reduce fraud in the public sector of Imo State. The specific objectives are: i. To examine how fraud cases can be reduced using forensic accountants in the public sector of Nigeria. ii. To examine what the accountant can do that the external auditors cannot do. iii. To investigate the effect of forensic accounting on the detection and prevention of fraud in the public sector.

Literature Review: Forensic and investigative accounting is the application of financial skills and investigative mentality to

resolve issues connected with the contacts of the rules of evidence¹⁰. Forensic accounting can be seen as the science of gathering and presenting financial information in a form that will be accepted by a court. A forensic accountant is called upon when there is a specific allegation of fraud in an organization. A forensic accountant has the knowledge of criminology and law, fraud detection and litigation support. He does his work according to the demands of the organization which is to detect the alleged fraud, its perpetrators.

As a discipline, it encompasses financial expertise and understanding of business reality, working of the legal system. Forensic accounting is the integration of accounting, auditing, and investigative skills¹¹. However, in a forensic accounting investigation materiality is not a factor and does not affect the scope; sample testing is generally not done. A review of all records for a time period is typically performed to determine trends and identify patterns. Transactions of all sizes can be reviewed. In fact, even the smallest transactions can lead a fraud examiner to a potential fraudulent scheme.

Forensic accountants possess a strong sense of professional skepticism and require original documentation to substantiate facts and circumstantial evidence to form opinions. In forensic accounting, the focus of concentration is on crimes and anomalies as well as their detection and unraveling. This includes any indications of fraud presented by errors and deviations, since the main objective is to gather evidence for litigation purposes. The forensic accountant's scope of responsibility is broader because it includes public interests.

Theoretical framework

Due to the expansion and complexity of the scope of commerce and industry in Nigeria and the world over, the need to track money and financial information has grown¹². The origination of forensic accounting to Kutilya, the first economist to openly recognize the need for the forensic accountant whom he said, mentioned 40 ways of embezzlement centuries ago. He however stated that the term "forensic accounting was coined by Peloubet in 1946. He said, forensic accounting is the application of accounting knowledge and investigative skills to identify and resolve legal issues¹³. It is the science of using accounting as a tool to identify and develop proof of money flow These tools and/or techniques, skills and knowledge can be invaluable for fraud and forensic accounting investigators."¹³. "white collar crime theory by Sutherland (1949) as cited in Okoye and Gbegi (2013)¹⁴. Sutherland was the first to coin the term, and hypothesis white-collar criminals, he attributed different characteristics and motives of fraudulent corporate workers than typical street criminals¹⁴. According to Modugu and Anyaduba (2013)¹⁵; in their work, Forensic accounting and financial fraud in Nigeria using binomial test in their data analysis, found out that there is asignificant agreement amongst stakeholders on the effectiveness of forensic accounting in fraud control, financial reporting and internal control quality.

Methodology

The structural framework of this study is based on survey design¹⁶, data was collected from primary; Questionnaire and interview. The population of this research is the Imo state ministry of finance. The respondents of these firms are the chartered accountants, accountants, practicing auditors and other staff of the ministry.

A total number of 140 questionnaires were distributed and 90 were filled and returned. Tables and simple percentage were used in the analysis of the data collected from the respondents and hypotheses were analysed using the Analysis of Variance (ANOVA). The formula is as follows:

Between group sum of square

Within group sum of square formula for between group sum of squares

$$\sum \frac{(\sum x)^2}{n} - \frac{(\sum x)^2}{n}$$

Formula for within group sum of squares

$$\sum \sum x^2 - \frac{(\sum x)^2}{n}$$

Test of hypothesis 1: Ho₁: the use of forensic accounting does not significantly reduce the occurrence of fraud cases in the public sector.

$$\sum \sum x = 401 = (\sum \sum x)^2 = 160801 \therefore (\sum \sum x)^2 / n = 13185 / 20 = 8040.05$$

Formula for between groups sum of squares

$$\sum \frac{(\sum x)^2}{n} - \frac{(\sum x)^2}{n}$$

$$\therefore 2637 - 8040.05 = 5403.05$$

Formula for within group sum of squares

$$\sum \sum x^2 - \frac{(\sum x)^2}{n}$$

$$13185 - 8040.05 = 5144.95$$

Degree of freedom (df) = K - 1 (number of groups minus one)

$$\therefore 4 - 1 = 3$$

Degree of freedom (df) for within groups = N - K (total number of respondents in the groups minus number of groups)

$$\therefore 20 - 4 = 16$$

Degree of freedom (df) for total variance = N - 1 (total number of respondents in the groups minus one). $\therefore 20 - 1 = 19$

Mean sum of squares (variance estimate)

$$= \frac{5403.05}{3} = 1801.02$$

Within group mean square

$$= \frac{5144.95}{16} = 321.56$$

$$F - \text{ratio} = \frac{1801.02}{321.56} = 2.05$$

Table-1
Forensic accounting reduces the occurrence of fraud cases in the public sector

	Chartered Accountants	Accountants	Practicing Auditors	Management Staff	
N	5	5	5	5	$\sum n = 20$
$\sum x$	48	72	80	201	$\sum \sum x = 401$
$\sum x^2$	690	1622	1860	9013	$\sum \sum x^2 = 13185$
$\sum x^2 / n$	138	324.4	372	1802.6	$\sum (\sum x^2 / n) = 2637$

Source: author's computation

Table-2
Summary of Anova

source of variation	sum of squares	Degree of freedom	Mean sum of squares variation	F
Between groups	5403.05	3	1801.02	5.60
Within groups	5144.95	16	321.56	
Total		19		

Source: author's computation

F table at 5% level for $V_1 = 3$
 $V_2 = 16 = 3.24$

$H_0 : X_1 = X_2 = X_3$

$H_1 : X_1 = X_2 = X_3$

decision rule

if $F_{cal} > F_{table}$ reject H_0 and accept H_1

if $F_{cal} < F_{table}$ accept H_0 and reject H_1

5.60 > 3.24 we accept the alternate (H_1) the use of forensic accounting reduces the occurrence of fraud cases in the public sector.

Test of hypothesis 2: H_{02} : forensic accountant cannot help in detecting and preventing fraud in the public sector.

$$\sum \sum x = 441 = (\sum \sum x)^2 = 194481 \therefore (\sum \sum x)^2 / n = 194481 / 20 = 9724.05$$

Formula for between groups sum of squares

$$\frac{\sum (\sum x)^2}{n} - \frac{(\sum x)^2}{n}$$

$$\therefore 3005 - 9724.05 = 6719.05$$

Formula for within group sum of squares

$$\sum \sum x^2 - \frac{(\sum x)^2}{n}$$

$$15025 - 9724.05 = 5300.95$$

Degree of freedom (df) = $K - 1$ (number of groups minus one)

$$\therefore 4 - 1 = 3$$

Degree of freedom (df) for within groups = $N - K$ (total number of respondents in the groups minus number of groups)

$$\therefore 20 - 4 = 16$$

Degree of freedom (df) for total variance = $N - 1$ (total number of respondents in the groups minus one). $\therefore 20 - 1 = 19$

Mean sum of squares (variance estimate)

$$= \frac{6719.05}{3} = 2239.68$$

Within group mean square

$$= \frac{5300.95}{16} = 331.31$$

$$F - \text{ratio} = \frac{2239.68}{331.31} = 6.76$$

F table at 5% level for $V_1 = 3$

$$V_2 = 16 = 3.24$$

$H_0 : X_1 = X_2 = X_3$

$H_1 : X_1 = X_2 = X_3$

decision rule

if $F_{cal} > F_{table}$ reject H_0 and accept H_1

if $F_{cal} < F_{table}$ accept H_0 and reject H_1

6.76 > 3.24 we accept the alternate (H_1) that is, forensic accountant can help in detecting and preventing fraud in the public sector.

Test of hypothesis 3: H_{03} : there is no significant difference between professional forensic accountants and traditional external auditors.

Table-3
Forensic accountant's aid in the detection and prevention of fraud in the public sector

	Chartered Accountants	Accountants	Practicing Auditors	Management Staff	
N	5	5	5	5	$\sum n = 35$
$\sum x$	60	90	90	201	$\sum \sum x = 441$
$\sum x^2$	874	3032	2106	9013	$\sum \sum x^2 = 15025$
$\sum x^2 / n$	174.8	606.4	421.2	1802.6	$\sum (\sum x^2 / n) = 3005$

Source: author's computation

Table-4
Summary of Anova for test of hypothesis 2

source of variation	sum of squares	Degree of freedom	Mean sum of squares variation	F
Between groups	6719.05	3	2239.68	6.76
Within groups	5300.95	16	331.31	
Total		19		

Source: author's computation

$$\sum \sum x = 359 = \frac{(\sum \sum x)^2}{n} = 128881 \therefore \frac{(\sum \sum x)^2}{n} = 128881/20 = 6444.05$$

Formula for between groups sum of squares

$$\sum \frac{(\sum x)^2}{n} - \frac{(\sum \sum x)^2}{n}$$

$\therefore 2554.6 - 6444.05 = 3909.45$

Formula for within group sum of squares

$$\sum \sum x^2 - \frac{\sum (\sum x)^2}{n}$$

$12773 - 6444.05 = 6328.95$

Degree of freedom (df) = K - 1 (number of groups minus one)

$$\therefore 4 - 1 = 3$$

Degree of freedom (df) for within groups = N - K (total number of respondents in the groups minus number of groups)

$$\therefore 20 - 4 = 16$$

Degree of freedom (df) for total variance = N - 1 (total number of respondents in the groups minus one). $\therefore 20 - 1 = 19$

Mean sum of squares (variance estimate)

$$= \frac{3909.45}{3} = 1303.15$$

Within group mean square

$$= \frac{6328.95}{16} = 395.60$$

$$F - \text{ratio} = \frac{1303.15}{395.60} = 3.29$$

F table at 5% level for $V_1 = 3$
 $V_2 = 16 = 3.24$
 $H_0 : X_1 = X_2 = X_3$
 $H_1 : X_1 \neq X_2 = X_3$

decision rule

if $F_{cal} > F_{table}$ reject H_0 and accept H_1

if $F_{cal} < F_{table}$ accept H_0 and reject H_1

$2.61 > 2.44$ we accept the alternate (H_1) that is, there is significant difference between professional forensic accountants and traditional external auditors.

Conclusion

The main purpose of this research has been to examine how forensic accountants can help to reduce fraud in the public sector of Imo State. This was to establish whether Forensic accountant can help in detecting and preventing fraud in the public sector and to examine if there is a significance difference between a Forensic Accountants and External Auditors. This was accomplished by conducting a survey among the chartered accountants, accountants, practicing auditors and other staff of the Imo State ministry finance. Among the findings was that the use of forensic accounting reduces the occurrence of fraud cases in the public sector. Forensic accountant can help in detecting and preventing fraud in the public sector. There is significance difference between a Forensic Accountants and External Auditors. It was recommended that government of Imo state needs to support induction and work related training, Imo State ministry should embrace the practice of Forensic Accounting.

Table-5
Difference between professional forensic accountants and traditional external auditors

	Chartered Accountants	Accountants	Practicing Auditors	Management Staff	
N	5	5	5	5	$\sum n = 20$
$\sum x$	48	72	80	159	$\sum \sum x = 359$
$\sum x^2$	848	2080	2136	7709	$\sum \sum x^2 = 12773$
$\sum x^2/n$	169.6	416	427.2	1541.8	$\sum (\sum x^2/n) = 2554.6$

Source: author's computation

Table-6
Summary of Anova for test of hypothesis 3

source of variation	sum of squares	Degree of freedom	Mean sum of squares variation	F
Between groups	3909.45	3	1303.15	3.29
Within groups	6328.95	16	395.60	
Total	10238.4	19		

Source: author's computation

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