ISSN: 2635-2966 (Print), ISSN: 2635-2958 (Online).

Available online at http://www.atreview.org

Original Research Article

Forensic Accounting and Fraud Detection and Prevention in Imo State Public Sector

E. Eze[1]& E. I Okoye[2]

[1]Department of Accountancy,Rhema University, Aba, Nigeria

[2]Department of Accountancy, Nnamdi Azikiwe University, Awka, Nigeria

*For correspondence, email: ezemma20@gmail.com

Received: 20/02/2019 Accepted: 15/03/2019

Abstract

The study investigates the effects of forensic accounting and fraud prevention in the Nigerian public sector with Imo state as a case study. The research design used was the descriptive survey. The study adopted structured questionnaire for data collection after validity and reliability test with z-test for the hypothesis testing. The result revealed a significant relationship between forensic accounting and fraud detection and prevention in the public sector. It was recommended among other things, that forensic accounting should be strengthened in the public sector and that the top level management should be committed to the program while the anti-graft agencies like the EFCC and ICPC should be repositioned to adopt forensic accounting techniques.

Keywords: Forensic accounting, fraud prevention, fraud detection, public sector, investigative skills.

JEL Classification Codes: M410

Citation: Eze, E & Okoye, E. (2019). Forensic accounting and fraud detection and prevention in Imo State Public Sector. *Accounting and Taxation Review, 3*(1): 12-26

1. INTRODUCTION

The growing spate of fraud in different dimensions in the private and public sectors of the economy is on the increase in our contemporary times. Efiong (2012), states that financial fraud has been on the increase with a chain effect involving the parliamentarians, the top notch in the financial institutions, the civil and public servants, the teacher in the class room setting, the law interpreter to the one that enforces the law. This incidence has virtually brought many blue chip organizations to their knees; a tidal wave that occurred in the first decade in the twenty first century leading to the liquidation of many corporate entities and monumental looting of the treasury in the public sector! The negative effect is incident on the employees who were forced to join the army of the unemployed in the country where the successive government have been unable to execute the programs already budgeted for in the public sector which invariably exacerbate hardship with its attendant consequences on the entire system. In the private sector, frauds are multifarious as it involves many categories of employees ranging from small amounts of cash misappropriations to huge amounts embezzled by those in the management cadre and the high tendency to indulge on fraudulent financial reporting as a panacea to cover the white collar act. It appears that the situation is becoming a thing that the nation is adjusting her into, and this is certainly attracting both the already rich class and the poor to be involved in as many commit and go unscathed. This seemingly freedom to steal and misappropriate financial report has made many dubious officials in the public sector to become rich over night at the expense of the citizens and the development of the economy at large.

Fraud occurs everywhere in the world especially at the present cutting-edge technology where many employees who have the opportunity by virtue of the platform they access would simply apply their knowledge and colossal amount of fund disappears. In the advanced economies of the world, greater use of forensic accounting increasingly reduces the incidence. It is a modern preventive and detection fraud technique which is advancement to the traditional technique.

Forensic accounting is a rapidly growing field of accounting that involves investigative style of accounting employed to unveil the activities of individuals or corporate organizations as to ascertain whether the individuals or organizations are involved in any illegal financial activities. As Professional forensic accountants may work for government or public accounting firm, it is pertinent that this new and enhanced technique be introduced in many private and public sector organizations in Nigeria.

Statement of the Problem

The Obasanjo administration made a bold attempt to reduce the level of fraud in the public sector of the economy by establishing two paralleled but complementary agencies to help clean up the mess that was becoming embarrassing in the system. That was what brought the Economic and Financial Crimes Commission (EFCC) and the sister body, the Independent Corrupt Practices and other Related Offences Commission (ICPC). Many arrests were made by the two agencies but such plethora of arrests could not yield desired result and more so the public expectations concerning the looted funds could not be realized. This scenario calls for the question as to the technical capability of the anti-fraud agencies in fighting this perennial cankerworm that have led to stash away trillions of public funds in remote bank accounts in the world. Most of these fraudulent practices are occasioned by highly skilled fraudsters, employing complex methods, thus requiring highly skilled and capable individuals to undo the fraudulent schemes. There is a need to respond to this criminal threat and the skill of non-traditional investigators like accountants and legal expertise are needed to combat these corporate ills by highly skilled fraudsters. The failure of statutory audit to prevent and reduce misappropriation of corporate fraud and prevent increase in corporate crime has put pressure on the professional accountants and legal practitioners to find a better way of minimizing fraud in the public sector of the economy. This is the knowledge gap which this research is to fill.

Against the above backdrop, the primary objective of this paper is the effects of forensic accounting and fraud detection and prevention in the Nigerian public sector with keen interest in Imo State.

The specific objectives are to: ascertain the extent to which forensic accounting is applicable in the public sector; and determine the extent to which forensic accounting can prevent fraud in the public sector.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The review of related literature in this work is sub-divided into three sections namely, the conceptual framework, theoretical and empirical framework.

The Conceptual Framework

Conceptual framework makes distinctions and organizes ideas and thoughts together in a manner that is understood by readers and knits the descriptions being referred. The conceptual frame work in this research hinges on forensic accounting, forensic auditing, forensic accounting and auditing on fraud detection, investigation and prevention.

Forensic accounting

Forensic accounting has many definitions as there are many writers in this area of accounting literature. There is thus no single definition adjudged to be the best. By 1980, major academic studies were published on this area of study, (Rassey,2009), thus, leading toa new profession in the field of accounting and audit. This profession identified a field composed of accounting, auditing, and investigative skills (Ozkul & Pamukc, 2012). Forensic accounting is the specialty area of the accountancy profession which describes engagements that result from actual or anticipated disputes or litigation. “Forensic” entails “suitable for use in a court of law,” and it is to that standard and potential outcome that forensic accountants generally have to work (Crumbley, Heitger&Smith, 2005). Forensic accounting is identified as a particular form of professional knowledge and endowed with distinct attributes; the recognition comes from possessing a formal certification in forensic accounting which provides symbolic value (Williams, 2002). Forensic accounting is a science dealing with the application of accounting facts and concepts derived from auditing methods, techniques and procedures to resolve legal problems which requires the synthesis of investigative, accounting, and auditing skills (Arokiasamy & Cristal, 2009; Dhar & Sarkar (2010)

Stanbury and Paley-Menzies (2010) state that forensic accounting is the science of gleaning information and its presentation in a form that will be accepted by a court of jurisprudence against perpetrators of economic crime. Hopwood, Leiner, and Young (2008) argued that forensic accounting is the application of investigative and analytical skills for the purpose of resolving financial issues in a manner that meets standards required by courts of law. Degboro and Olofinsola (2007) noted that forensic investigation is about the determination and establishment of fact in support of legal case. That is, to use forensic techniques to detect and investigate a crime is to expose all its attending features and identify the culprits. In the view of Howard and Sheetz (2006), forensic accounting is the process of interpreting, summarizing and presenting complex financial issues clearly, succinctly and factually often in a court of law as an expert. It involves the use of accounting discipline to help determine issues of facts in business litigation (Okunbor & Obaretin, 2010). Forensic accounting is a special discipline that has its own models and methodologies of investigative procedures that search for assurance, attestation and advisory perspective to produce legal evidence. It involves facts finding that are vindicated in the form of accounting data, and as a practical field concerned with accounting fraud and forensic auditing; compliance, due diligence and risk assessment; detection of financial misrepresentation and white- collar fraud (Skousen & Wright, 2008); tax evasion; bankruptcy and valuation studies; violation of accounting regulation (Dhar & Sarkar, 2010). The America Institute of Certified Public Accountants (AICPA) defines forensic accounting as services that involve the application of specialized knowledge and investigative skills possessed by Certified Public Accountant utilizes the practitioner's specialized accounting, auditing, economic, tax, and other skills (AICPA 2010). Singleton and Singleton (2010), posit that forensic accounting is the comprehensive view of fraud investigation and includes preventing frauds and analyzing antifraud control which involves the gathering of nonfinancial information. Bhasin (2007) specifically infers that the objectives of forensic accounting include: assessment of damages caused by an auditor's negligence, fact finding to see whether an embezzlement has taken place, in what amount, and whether criminal proceedings are to be initiated; collection of evidence in a criminal proceedings; and computation of asset values in a divorce proceedings. He maintains that the primary interest or direction of forensic accounting is explanatory analysis (cause and effect) of phenomenon including discovery of deception (if any), and its effects introduced into the accounting domain. According to Bhasin (2007), forensic accountants are trained to look beyond the numbers and deal with the business realities of situations. Analysis, interpretation, summarization and the presentation of complex financial business related issues are prominent features of the profession. He further reported that the activities of forensic accountants involve: investigating and analyzing financial evidence; developing computerized applications to assist in the analysis and presentation of financial evidence; communicating their findings in the form of reports, exhibits and collections of documents; and assisting in legal proceedings, including testifying in courts, as an expert witness and preparing visual aids to support trial evidence. In the same vein Degboro and Olofinsola (2007) stated that forensic accountants provide assistance of accounting nature in a financial criminal and related economic matter involving existing or pending cases.

The Association of Certified Fraud Examiners (ACFE) defines forensic accounting as the use of professional accounting skills in matters involving potential or actual civil or criminal litigation, including but not limited to, generally acceptable accounting and audit principles, the determination of lost profits, income, assets, or damages, evaluation of internal controls, fraud related issue and any other matter involving accounting expertise in the legal system.

Forensic accounting has been pivotal in the corporate agenda after the financial reporting problems which took place in some companies around the world such as the case of Enron, Tyco, and WorldCom. These scandals which can at best be described as tsunami resulted in the loss of public trust and monumental amounts of money. In order to avoid fraud and theft, and to restore the badly needed public confidence, several companies took the step to improve the infrastructure of their internal control and accounting systems drastically. It was this development which increased the importance of accountants who have chosen to specialize in forensic accounting and who are consequently referred to as forensic accountants. According to Baird and Zelin (2009), forensic accounting is important investigative tool for detection of fraud. It provides an accounting analysis to the court for dispute resolution in certain cases and it also provides the court with explanation to the fraud that has been committed. That is why forensic accounting may play a vital role in detecting and reducing accounting frauds in the business sector. In this concept, forensic accountants provide an account analysis to determine the facts necessary to resolve a dispute before it is brought before the court or the lawsuit process takes its course (Ozkul & Pamukc, 2012).

The job of forensic accountants is to catch the perpetrator and fraud occurring in the companies per year. This includes investigating money laundering and identity theft activities as well as tax evasion. Insurance companies hire forensic accountants to detect insurance frauds such as arson, and law offices engage forensic accountants to uncover marital assets in divorce cases (Weygandt, Kieso, & Kimmel, 2008).

In the opinion of Kasum (2009) and Crumbley (2003), forensic accounting can also be viewed as investigative accounting or fraud audit, a discipline that combines forensic science and accounting. According to Crumbley, forensic science refers to the application of laws of nature to the laws of man. Extending this further, he asserted that a forensic scientist is one who examines and interprets evidence and facts in legal cases and also offers expert opinions regarding their findings in the court of law. Zysman (2004)views forensic accounting as a synthesis of accounting, auditing and investigative skills. Coenen (2005) asserts that forensic accounting uses accounting concepts and techniques in solving legal problems. The Association of Certified Fraud Examiners(2010), defines forensic accounting as the use of skills in potential or real civil or criminal dispute, including generally accepted accounting and auditing principles in establishing loss of profit, income, property or damage, estimations of internal controls, fraud and others that involve inclusion of accounting expertise into the legal system.

From the definitions presented so far, it is noteworthy to mention that forensic accounting involves the application of accounting concepts, auditing techniques and investigative procedures in solving legal problems. Also worthy of reference is an emphasis that the responsibility of preventing and detecting fraud in financial statements lies not only in the hands of management of an enterprise, but also other control institutions and mechanisms. System of internal control, internal auditing and audit committee are the key elements for prevention and detection of frauds that are created through property misuse as well as those that use financial statements as instruments of frauds. But external auditing and forensic accounting perform retrospective control of financial data with the aim of detecting omissions, frauds and securing the reliability and credibility of the financial statements. The emphasis of forensic accounting in the opinion of Kristic (2009), is on ensuring the reliability and credibility of financial statements which would be possible by the application of forensic accounting to unveil likely numerous financial frauds that seriously threaten the trust of many users of financial information. This is where forensic accounting reporting comes in to fill the gap so that accountability of fraud is established and the report considered as evidence in the court of law (Crumbley, 2003).

As Mckttrick (2009) puts it, forensic accounting primarily focuses on legal situations as well as the potential to reach beyond the legal focus into operating areas that could be of benefits to any organization including the public sector.

Forensic Auditing

This is the application of accounting methods to track down and collect evidence for litigation and subsequent prosecution of criminal acts involving embezzlement, fraud or fraudulent activities. The Institute of Forensic Auditors, Belgium (2004) defines forensic auditing as an activity that consists of gathering, verifying, processing, analyzing of and reporting on data in order to obtain facts and evidence in a predefined context in the area of legal/ financial disputes and or irregularities and giving preventive advice. Eze (2005) defined forensic auditing as the application of accounting methods to the tracking and collection of forensic evidence for investigation and prosecution of criminal acts such as embezzlement or fraud. Forensic c auditing can be conducted in order to prosecute a party for fraud, embezzlement or other financial claims. This aligns with the definition by Greek (2011) that forensic auditing is an examination and evaluation of a firm's individual financial information for use as evidence in court. According to Chatteriji (2009), it is an examination and evaluation of a firm's or individual's financial information for use as evidence in court. The reports of forensic auditors are used to prepare legal defenses as well as prosecute a party for fraud, embezzlement or other financial claims. Forensic auditing is the application of accounting, investigative, criminology, and litigation services skills for the purpose of identifying, analyzing, and communication of evidence of underlying reporting event (Enofe, Omagbon,& Ehigiator, 2015).

Forensic Accounting and Auditing on Fraud Detection, Investigation and Prevention

Fraud prevention entails enthroning measures that would stop fraud from occurring in the first place. Fraud detection arises when it becomes difficult to prevent fraud from occurring. In the opinion of (Bolton& Hand, 2002) the detection of frauds follows simultaneously with the commitment and must go on as it occurs. It has been observed that a fraud matter requires sophisticated approach from its preventive stage to its detection. According to Okafor (2004), it is necessary because human ingenuity devises all diverse ways to get advantage over other individuals or organizations. It also involves falsification of accounting records and other creative accounting techniques. According to Karwai, (2002); Ajie and Ezi, (2000); Anyanwu, (1993); Okafor, (2004) and Adeniji, (2004), various methods are devised on a daily basis which are but not limited to defalcation, suppression, outright theft and embezzlement, tampering with reserves, insider abuses and forgeries, fraudulent substitutions, unauthorized, unauthorized lending, lending to ghost borrowers, kite flying and cross firing, unofficial borrowing, impersonation, teeming and lading, fake payment, fraudulent use of the firms documents, fictitious accounts, false proceeds of collection, manipulation of vouchers, dry posting, over invoicing, inflation of statistical data, ledger accounts manipulation, fictitious contracts, duplication cheque books, computer fraud etc. In the view of (Arokiasamy & Cristal 2009), civil and criminal law suits are the end point of all these

Forensic accounting is one of the modern approaches that can be employed from the fraud prevention to the fraud detection stage.

Baird and Zelin(2009) stated that forensic accounting remains an important investigative tool for detection of fraud. This was corroborated by Curtis(2008), describing forensic accounting as essential to the legal system of providing expert services such as fake invoices, suspicious bankruptcy valuations, analysis of financial documents in fraud schemes. Kasum (2009) asserts that the services of forensic accountants are more required in the public sector than in the private sector. In the opinion of Ramaswamy (2005), the emergence of fraud cases are partly attributed to poor corporate governance and accounting failure which give loophole to the fraudsters in organizations. Cases of global crimes have been reported by Price Waterhouse and Coopers (PWC 2003) to be on the increase, leading to organizational failure. The report calls for the need to embrace forensic accounting and education.

At present, Computer forensics remains the investigators best tools in the detection and implementation of white-collar investigations. Degboro and Olofinsola (2007) described forensic accounting as the application of criminality methods, and integration of accounting investigative activities and legal measures to detect and investigate financial crimes and related accounting misdeeds. According to Dhar and Sarkar (2010), forensic accounting, also called investigative accounting or fraud audit, is a combination of forensic science and accounting. In the words of Crumbley (2003), forensic science is the application of laws of nature to the laws of man. He described forensic scientists as examiners and interpreters of evidence and facts in legal cases that also offer expert opinions regarding their conclusion in court of law. Baird and Zelin (2009) stated that forensic accounting is important investigative tool for detection of fraud. Gray (2008) reported that the forensic accountants' investigation include identification fraud. Gottschalk (2010) affirmed that the focus of forensic accounting is on evidence revealed by the examination of financial documents. The evidence collected or prepared by a forensic accountant may be applied in different contexts. According to Curtis (2008), forensic accountants are essential to the legal system, providing expert services such as fake invoicing valuations, suspicious bankruptcy valuations, and analysis of financial documents in fraud schemes. Hopwood, Young and Leiner (2013), acknowledged that fraud investigation is the systematic process of gathering and reviewing evidence for the purpose of documenting the presence or absence of fraud. It involves processes ranging from the engagement, the evidence collection, the reporting and the loss recovery processes respectively. Albrecht and Albrecht (2001) described forensic investigations as the deployment of specialized investigative skills in carrying out an enquiry conducted in such a manner that the outcome will have application to the court of law.

Theoretical Framework

Many theories and models have been formulated over the years on which intellectual discuss on fraud is anchored. Among the various theories on fraud are the fundamental observation theory, fraud Diamond theory, social learning theory, hyper motivation theory, anomie fraud theory, low handling theory, social control theory, fraud triangle theory, differential opportunity theory, social ecology theory, rotten apply theoryEze (2015), Wolf and Hermanson (2004), Crumbley, Heitger and Smith,(2007) .There is also the popular white-collar crime theory which dates back to 1949. However, in this discuss the fraud Triangle, the fraud Diamond and the white-collar crime theories are the focal points.

The Fraud Triangle

This is what the forensic accountants rely on to identify suspected fraud, the causes and the weakness in the system that prompted the fraud. Based on the fraud triangle concept the three factors that cumulate into the triangle are; incentive, opportunity, and rationalization. For any individual to be involved in a fraud, the incentive must be involved.

Opportunity: Employees use their position to commit fraud when internal controls are weak, or where there is poor management oversight on internal control implementation. Most Employees who commit fraud do so, because they have the opportunity to access assets and information that allows them obscure their fraudulent deeds. It is true that employees need access to certain platform to perform their jobs but the same access can provide the employee with opportunity to commit fraud.

Pressure/Incentive: Pressure can make a staff commit fraud. Pressure does not only mean financial difficulty. Lister (2007), states that there are three types of motivation or pressure: Personal pressure to pay for lifestyle, employment pressure from continuous compensation structures, or management's financial interest, and external pressure such as threats to the business financial stability, financier covenants, and market expectations. The identified matters are the motivation that can influence fraud.

Rationalization: Rationalization is an attempt by an employee to justify why they commit fraud. For example, where an employee is having accommodation issues, this can be used to justify fraudulent act. So also an employee who feels being underpaid may argue that it is a way of augmenting the payment received. As such the rationalization is an act of employee who commits fraud to justify his action. It is a way of covering up for the wrong done to the employer. By making the employers feel guilty of the circumstance. Forensic accounting relies on the fraud triangle to identify weak points in the business systems and find possible suspects in cases of fraud. It consists of three core concepts which together create a situation ripe for fraud: incentive, opportunity, and rationalization. People must have the incentive and opportunity to commit financial fraud, as well as the ability to justify it.

Fraud Diamond

Eze (2015) stated that the diamond theory of fraud explains an individual's capability, personality traits and abilities to contribute a major role in determining whether fraud may occur. According to Wolf and Hermanson (2004), Crumbley, Heitger and Smith (2007), perpetrator of fraud must have the necessary traits, abilities, or positional authority to pull off his crime. Eze (2015) further noted that while opportunities can open the doorways to fraud, incentive and rationalization will attract people to it, but such an individual must have the capability to recognize the open doorway as an opportunity and should be able to take an undue advantage of the identified loopholes. By way of illustration, if someone does not understand how to make journal or ledger entries in the books of accounts, they would not know how to manipulate numbers no matter what the incentive or opportunity is (Rasey 2009).

White-collar crime

This theory was coined by Sutherland (1949) as cited in Michael (2004) which attributed different characteristics and motives than typical street criminal. In fact this is a type of crime committed by a respected person of high social status in the course of his occupation. It is different from the blue collar street crimes such as arson, burglary, theft assault, rape and vandalism which are most likely associated with psychological, associational and structural factors. White-collar criminals are opportunists, who over time learn how they can take advantage of their circumstances to accumulate financial gain. They are educated, intelligent, affluent, individuals who are qualified enough to get a job which allows them the unmonitored access to often large sum of money.

The federal Bureau of Investigation (FBI) has adopted a narrow approach defining white- collar crime as those illegal acts which are characterized by deceit, concealment, or violation of trust and which are not dependent upon the application or threat of physical force or violence.

The blue collar crime will more often use physical force, whereas, in the corporate world, the identification of a victim is less obvious and the issuer of reporting is complicated by a culture of commercial confidentially. Fredrichs (2007) stated that the only way one crime differs from another is in the backgrounds and characteristics of its perpetrators. Almost all white-collar offenders are distinguished by lives of privilege, much of it with origins in class inequality. It is estimated that a great deal of white-collar crimes is undetected or if detected, it is not reported. Because of the high status of the perpetrators of these crimes, the services of a highly trained and experienced examiner or investigator like the Professional Forensic Accountant is needed to obviate the occurrence of such high profile fraud. .

Review of Prior Studies

Studies by Boritz, Kotchetova, and Robinson (2008) confirm that forensic accountants could prevent significantly higher number of fraud than auditors. Okoye and Gbegi (2013) investigated forensic accounting on fraud detection and prevention in the public sector in Kogi State using survey research methods of 370 questionnaire and analysis of variance. Their result reveals that forensic accounting does significantly reduce the occurrence of fraudulent activities in the public sector. A study conducted by Dauda, Ombugadu and Aku (2016) on forensic accounting: a preferred technique for modern fraud detection and prevention in the public sector of Nasarawa State, their study shows that forensic accounting is relevant in fraud detection and prevention in Nigeria public sector. Igweonyia (2016) focusing her study on forensic accounting on fraudulent practices in Nigeria public sector using questionnaire and chi-square for data analysis, shows that forensic accounting will significantly reduce the occurrence of fraud cases in the public sector. In an empirical study conducted by Akani and Ogbeide (2017) on forensic accounting and fraudulent practices in the Nigeria public sector, it was revealed that there is a significant relationship between forensic accounting and reduction of fraudulent practices in the Nigeria public sector.

Sidharts and Fitriya (2015) studied forensic accounting and fraud prevention in Indonesia public sector Their study showed that the use of forensic accounting significantly reduces the occurrence of fraud cases in the public sector.

Flowing from the objectives of the study and relying on the position of extant literature, the following hypotheses were formulated in their null form: H_01: There is no significant application of forensic accounting in the public sector organization and H_{O2}: Forensic accounting does not prevent fraud in the public sector organization.

3. METHODOLOGY

For the purpose of this study a research survey design was adopted with a population of four (4) ministries out of the entire ministries in Imo state and a sample size of about seventy (70) respondents which comprises auditors and accountants and top executives from the four ministries selected. The choice of this type of design is based on the fact that it assists in the collection of large amount of data and also enhances the quality of research by addressing research questions. The four ministries used underscores Ogolo's argument that in an instance of known population, a ten percent minimum can constitute a sample size that is researchable. The questionnaire was designed using the five point likert scale and sixty of them were administered to the four ministries. They were administered to the accountants, auditors and top executives of the selected ministries (Crumbley, 2003). For the purpose of this study, the data were obtained from primary and secondary sources. The primary data comprised structured questionnaires that were administered to respondents in the various ministries. The structured questionnaires were used to generate data from respondents. They were administered to respondent of the four ministries in which fifty questionnaires were filled and returned.

The test of validity which concerns the extent to which a measuring instrument(questionnaire) measures what it is supposed to measure (Ofason &Aigbokhaevbolo),were reviewed by experts and correction effected .The consistency of the instrument was determined by adopting test re-test reliability. The data were summarized and presented in form of frequencies and percentages. The analysis was done using the weighted mean and the Z-test statistics. Weights were attached to responses in the research instrument based on a 5-point Likert scale ranging from 5 for SA, 4 for A, 3 for UN, 2 for D and 1 for SD. The weighted mean was computed for each statement by performing the following procedure:

$$\mu = \frac{As \times 0B}{n}$$

Where μ is the weighted mean
As is the assigned score 1 to 5; 0B is the observation under each standard response, SA, A, UN, D, SD, and n is the overall total number of respondents i.e. 50

In this study, a weighted mean score of 3-points and above was considered higher while a weighted mean score below 3.0 was considered low and interpreted to be a consensus on the statement among respondents.
Two hypotheses were formulated in this study and tested using z-test statistics.

Model specification

This research work aims at examining the effects of forensic accounting and fraud detection and prevention in the Nigerian public sector. The Z-score for population proportion was adopted at 5% level of significance under the 2- tail test. The formula for the Z-test is thus:

$$Z = \frac{\dot{\rho}-\pi}{\sqrt{\acute{P}.q/n}}$$

Where π is the hypothesized proportion (0.50)
$q = 1-\acute{P}$
$\acute{P} = x/n$ and x is the respondents with affirmative response.

Sample and Sampling Techniques
The sample for the study is obtained from the population of the accountants, auditors and top executives from four different ministries in Imo state civil service. The ministries involved in the study are: Ministry of Health, Ministry of Local Government, Ministry of Agriculture and the Ministry of Works respectively. The population sample is shown on the table below:

Population Distribution

Source	**Accountants**	**Auditors**	**Top Executives**	**Total**
Ministry of Health	7	1	9	17
Ministry of Local Government	8	1	10	19
Ministry of Agric	6	1	9	16
Ministry of works	7	1	10	18
Total	**28**	**4**	**38**	**70**

Source: Field survey: 2019

Sample Size Determination
The sample size for the study has been determined to be sixty (60) by the use of the Yaro-Tamene formula as follows:

$n= N/1+N(e)^2$

Where n is the sample size
N is the sample population
E is the stochastic error.

The selection of sample from each stratum was conducted using the Bowley's proportionate allocation technique as shown below.

nh=nNh/N

Nh is the number of staff in each department or cadre
n is the total sample size

N is the actual population.

The allocations of the sample among the various departments or cadre in the selected ministries are displayed on the table below.

Table 1:**Allocation of sample size**

Source	**Accountants**	**Auditors**	**Top Executives**	**Total**
Ministry of Health	6	1	8	15
Ministry of Local Government	7	1	8	16
Ministry of Agric	5	1	8	14
Ministry of works	6	1	8	15
Total	**24**	**4**	**32**	**60**

Source: Field survey, 2019

4. RESULTS AND DISCUSSION

This section presents results obtained from the data collected. Descriptive statistics was used to do the analysis as shown on the table below.

Table 2: Return of questionnaire by respondents

Accountants	20	40%
Auditors	3	6%
Top Executives	27	54%
Total	**50**	**100%**

Source: field survey,2019

From the table above, 50 questionnaires were returned out of 60 distributed which represent 83%Response rate and is considered adequate for the analysis. Of the returned questionnaires, 20 were from accountants, 3 from auditors and 27 from top executives representing 40%, 6% and 54% respectively.

Table 3: Percentage distribution of respondents

Questions	**SA**	**%**	**A**	**%**	**UN**	**%**	**SD**	**%**	**D**	**%**
Awareness of forensic Accounting	14	14	3	3	12	12	31	31	40	40
knowledge of the concept of forensic Accounting	7	7	11	11	2	2	37	37	43	43
Forensicaccounting services and fraud prevention	21	42	19	38	2	4	5	10	3	6
Need for forensic Accountants most important in public sector	21	42	18	36	2	4	4	8	5	10

Source: field survey 2019

From the table of response, to the question on the awareness of forensic accounting 14% strongly agreed, 4% agreed, 12% were undecided, 30% strongly disagree being aware of it and 40% disagreed. Similarly, on the question of the knowledge of the concept of forensic accounting, 36% strongly disagreed, 46% disagreed, 2% were undecided, 6% strongly agreed and 10% disagreed. On the need for forensic accounting being important in the public sector, 42% strongly agreed, 36% agreed, 4% were undecided 6% strongly disagreed while 10% disagreed.

Table 4: Frequency and mean to research questions

Items	**SA 5**	**A 4**	**UN 3**	**D 2**	**SD 1**	**∑x**	**No. of Respondents**	**Mean**	**Decision @ 3 point**
Awareness of forensic Accounting	35	8	18	20	30	111	50	2.22	Unaccepted
Knowledge of concept of forensic accounting	15	20	3	23	36	97	50	1.94	Unaccepted
Requirement of forensic accounting services in Imo state	105	76	6	3	12	197	50	3.94	Accepted
Need for forensic accountant most important in public sector	105	72	6	5	6	194	50	3.88	Accepted

Source: field survey 2018

Test of hypotheses

Table 5:There is no significant application of forensic accounting in the public sector.

Variables	**Question one**	**Question two**	**total**	**Percentage**
Strongly agreed	7	3	10	10
Agreed	2	5	7	7
Undecided	6	1	7	7
Strongly disagreed	15	18	33	33
Disagreed	20	23	43	43
Total	**50**	**50**	**100**	**100**

Source: field survey 2019

$X = 17\ (10 + 7)$

$\dot{\rho} = X/n = 17/100$

$\dot{\rho} = 0.17$

$q = 1 - \dot{\rho} = 1 - 0.17$

$q = 0.83$

$$Z = \frac{0.17 - 0.50}{\sqrt{0.17 * 0.83/100}}$$

$= -8.68$

From Z-table at 5% level of significance under the two tailed test, the critical value,Z-value is $\pm$ 1.96

$\alpha = 0.05/2 = 0.025$

i.e $0.50 - 0.025 = 0.475$

Under the normal curve table, 0.475 is located at 1.9 under 0.06. Therefore $1.9 + 0.06 = \pm 1.96$

Since the calculated value of -8.68 is less than ±1.96, it implies that the null hypothesis is accepted to conclude that there is no significant application of forensic accounting in the public sector.

Table 6: Forensic accounting does not prevent fraud in the public sector organization.

Variables	**Question three**	**Question four**	**Total**	**Percentage**
Strongly agreed	21	21	42	42
Agreed	19	18	37	37
Undecided	2	2	4	5
Strongly disagreed	5	4	9	8
Disagreed	3	5	8	8
Total	**50**	**50**	**100**	**100**

From $Z = \frac{\dot{\rho}-\pi}{\sqrt{\acute{P}.q/n}}$

Where $\dot{\rho}$ is x/n and x is the respondents with affirmative response

Π is the hypothesized proportion (0.50).

X= 79(42+37)

$\dot{\rho}$=x/n=79/100=0.79

q=1- $\dot{\rho}$=1-0.79

q=0.21

$z=\frac{0.79.0.50}{\sqrt{0.79*0.21/100}}$

z=7.13

At 5% level of significance under the two tailed test, the critical value,Z-value is ± 1.96.
The null hypothesis is rejected as the z calculated is greater than the critical value. Thus, we conclude that forensic accounting prevents fraud in the public sector.

Discussion of Findings
The study carried out by Okoye and Gbegi (2013) investigated forensic accounting on fraud detection and prevention in the public sector in Kogi State using survey research methods of 370 questionnaires. The study analysis revealed that forensic accounting does significantly reduce the occurrence of fraudulent activities in the public sector.

The study by Igweonyia (2016) focused on forensic accounting and fraudulent practices in the Nigeria public sector using questionnaires as basis for data generation. The chi-square technique was adopted for data analysis. The study results show that forensic accounting significantly reduce the occurrence of fraud cases in the public sector.

While Dauda, Ombugadu and Aku (2016) conducted a study on fraud detection and prevention in the public sector of Nasarawa State, Sidharts and Fitriya (2015) also carried out a study on fraud prevention in Indonesia public sector. Their studies respectively revealed that there is a significant relationship between forensic accounting and reduction of fraudulent practices in the public sector.

The result of this study is in agreement or consonance with the findings of Igweonyia (2016), Dauda et al., (2016); Sidharts and Fitriya (2015) and Okoye and Gbegi (2013) which say forensic accounting does significantly reduce the occurrence of fraudulent activities in the public sector.

5. CONCLUSION ANDRECOMMENDATIONS
The study tried to present a detailed investigation of the effects of forensic accounting and fraud detection and prevention in the Nigerian public sector using four ministries in Imo state civil service as case study. The empirical literature provides convincing evidence of the effectiveness of forensic accounting on

fraud detection, investigation and prevention. The findings of this study show that there is low awareness of forensic accounting in the public sector as indicated by the response rate and the mean average employed in the decision. The findings however reveal that forensic accounting is important in the public sector given the huge amount of public fund that is rampantly embezzled or swindled. This is evident from the responses and the result of the z-test conducted which shows that forensic accounting prevents fraud in the public sector. This in line with studies carried out by Sidharts and Fitriya (2015), Okoye and Gbegi (2013) and Ombugadu and Aku (2016) in the reviewed empirical literature.

On the basis of the findings, the following recommendations were made:

The public sector organization should embrace the forensic accounting technique especially in the current cutting-edge technology with its attendant high level of fraud.

The Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices and other related offenses Commission (ICPC) should encourage the implementation of forensic accounting through adequate training of their staff and ensure that the top level employees of the anti-graft agency are committed to the program.

Where prosecution is needed, proper forensic accounting mechanism should be put in place to gather all available evidence surrounding any fraud.

Forensic accounting technique should be encouraged by the National Universities Commission as a field of study by its inclusion in the curriculum at the undergraduate and post-graduate studies.

The professional bodies should as well include forensic accounting in their professional examination.

References

Arokiasamy, L., & Cristal-Lee. S. (2009). Forensic accounting: Public acceptance towards occurrence of fraud detection. *International Journal of Business and Management. 145-160*

Baird, J. E., & Zelin, R. C. (2009). An examination of the impact of obedience pressure on perceptions of fraudulent acts and the likelihood of committing occupational fraud. *Journal of Forensic Studies in Accounting and Business, Winter, 1-14.*

Bhasin, M. (2007), Forensic Accounting: A new paradigm for Niche Consulting, *The Chartered Accountant, 1000-1010.*

Crumbley D.L., Heitger L.E., and Smith G.S. (2007). *Forensic and Investigative Accounting,* (3rd ed), Chicago: CCH.

Degboro, D. and Olofinsola, J. (2007), Forensic accountants and the litigation support engagement, *The Nigerian Accountant, 40*(2), *49-52.*

Efiong, E. J. (2012). Forensic accounting education: An exploration of level of awareness in developing economies - Nigeria as a case study. *International Journal of Business and Management, 7* (4).

Enofe, A.O., Omagbon, P. & Ehigiator, F.I. (2015). Forensic audit and corporate fraud. I*nternational Journal of Economics and Business Management, 1*(7).

Eze, G.P. (2015). *Corporate Fraud and Forensic Accounting,* Port Harcourt: Vinson Publishers. Gottschalk, P. (2010), Prevention of white collar crime: The role of accounting, *Journal of Forensic and Investigative Accounting, 3*(1), *23-48.*

Fredrichs K. (2007). *Extract from practices bureau in investigation,* (FBI) Publishers

Hopwood, W. S., Leiner, J.J., & Young G.R. (2008). Forensic Accounting. New York: McGraw-Hill/Irwin.

Howard, S. and Sheetz, M. (2006). *Forensic accounting and fraud investigation for non-experts*. New Jersey: John Wiley and Sons Inc.

Juliet (2005). A written article presented to the Senate, Retrieved July 14, 2011 Nigerian Tribune (2010).N3 Billion Scam; *An Article Published by Land Adewale*. Wednesday, 24 March

Karwai, S. A. (2002). Bank fraud: Can Shari'ah prevent it? *Journal of Business Administration, 2*(1),62-78.

KMPG. (2003). *Forensic and Fraud Survey*. Montvale, NJ.

Okafor, B. (2004). Strategic approach to reduction of employee, theft fraud and embezzlement. *Nigerian Accountant, 37*(4), *3-5.*

Okunbor, J.A., & Obaretin, O. (2010). Effectiveness of the application of forensic accounting services in Nigerian organisations. *Journal of Management Sciences, 1*(1), *171-184.*

Ozkul, F.U., & Pamukc¸A. (2012). *Fraud Detection and Forensic Accounting*, Istanbul, Turkey.

Rasey, M. (2009). History of forensic accounting. Retrieved from http://www.ehow.com/about_5005763_ history- forensic-accounting.html

Skousen, C. J., & Wright, C. J. (2008). Contemporaneous risk factors and the prediction of financial statement fraud. *Journal of Forensic Accounting, 9: 37-62.*

Stanbury, J., & Paley-Menzies, C. (2010). Forensic futurama: *Why forensic accounting is evolving*. Retrieved from http://www.aicpa.org/Publications/Newsletters/AICPACPAInsider/2010/jun28/Pages/ForensicFuturamaWhyForensicAccountingIsEvolving.aspx.

Weygandt, J. J., Kieso, D. E., & Kimmel, P.D. (2008). *Accounting principles*, (8th ed.). Wiley. Retrieved from http://www.kpmg.co.uk/news/detail.cfm ?pr¼3541.

Williams, J. W. (2002). *Playing the Corporate Shell Game*: The forensic accounting and investigation industry, law, and the management of organizational appearances. Doctoral dissertation, Toronto: York University.

Zysman A (2004) Forensic accounting demystified, world investigators network standard or investigative and forensic accounting engagement.