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ON

**THE EFFECT OF FORENSIC AUDIT TECHNIQUES ON FRAUD
DETECTION IN NIGERIA. A STUDY OF SELECTED DEPOSIT MONEY
BANKS**

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ABSTRACT

The study examined the effect of forensic audit techniques on fraud detection in Nigeria. A study of selected deposit money banks. The specific objectives were to: examine the effect of the substantive techniques on fraud control, determine the effectiveness of statistical principles on fraud control and ascertain the effect of data mining applications on fraud control. The study adopted desk survey methods in gathering relevant information which was extracted from textbooks, libraries, and published and unpublished journals. Ordinary least square of multiple regression was adopted in this study. The major findings revealed thus: there was a significant effect of the substantive technique on fraud control, there was a significant effect of statistical principle on fraud control and data mining application had a significant effect on fraud control. On the basis of these findings, the study recommended thus; Eradication of economic and financial crime through the adoption of forensic accounting in the system will improve the image of banks under review. Also, the detection and prevention of corruption have given rise to the profession of forensic accounting. Due to this fact, the most important thing banks have to do with regard to fraud is to prevent the crime from being committed. Finally, government and regulatory authorities should ensure the provision of standards and guidelines to regulate forensic activities and above all banking sector should embrace integrity, objectivity, fairness and accountability in their day-to-day activities.

Introduction

The growing demand for forensic accounting is a known characteristic of most companies in the world. Forensic accounting arises from the effect and cause of fraud and technical errors made by humans. Forensic accounting is quite new in Nigeria as companies have realized that the service of a forensic accountant is needed as fraud cases have substantially increased in number. Forensic accounting is the application of financial skills and investigative mentality to unsettled issues, conducted within the context of the rules of evidence. Sarkar, (2010) assert that forensic accounting as a discipline encompasses fraud knowledge, financial expertise, and a sound knowledge and understanding of business reality and the working of the legal system. Forensic accounting may be one of the most effective and efficient ways to decrease and check accounting fraud. Presently, forensic accounting is gaining popularity worldwide. It is been taught as a major course in many educational institutions in various countries.

According to Sarkar, (2010), forensic accounting generally involves the application of specialized knowledge and investigative skills possessed by CPAs to collect, analyze and evaluate data and evidential matter, forensic accounting services utilize the CPA's specialized accounting, auditing, economic, tax, fraud detection and other skills to perform various types of investigations and to communicate findings in a courtroom or administrative setting. Forensic accounting services include litigation support, bankruptcy support, fraud and special investigations, and dispute resolution, among many other services. (Sarkar, 2010).

Forensic accounting is perceived to have evolved in response to certain emerging fraud-related cases. The scandals that recently rocked the corporate world with classical examples being the often cited Enron and Worldcom cases have also brought the field of

forensic accounting to the forefront. Forensic accounting is seen as encapsulating all other investigation-related areas in uncovering financial fraud. The increasing sophistication of financial fraud requires that forensic accounting be added to the tools necessary to bring about the successful investigation and prosecution of those individuals involved in criminal activities.

Forensic accounting is the tripartite practice of utilizing accounting, auditing and investigative skills to assist in legal matters. It is a specialized field of accounting that describes engagements that result from actual or anticipated disputes or litigation. Forensic accounting can therefore be seen as an aspect of accounting that is suitable for legal review and offers the highest level of assurance. There is an alarming increase in the number of fraud and fraudulent activities in Nigeria, requiring the visibility of forensic accounting services. According to the Centre for Forensic Studies (2010) report, the increasing need for forensic and investigative accounting in manufacturing firms results from the complexities of modern-day manufacturing activities with large volumes of complex data. This makes it difficult to monitor transactions by applying manual audit processes. This in turn makes the control utility of auditing ineffective.

The general expectation is that forensic accounting may offer some respite to the seeming vulnerability of conventional accounting and audit systems to financial fraud. Consequently, the incorporation of modern forensic auditing techniques in audits in Nigeria is seen as timely in order to prepare the accounting profession to deal effectively with the problem of unearthing ingenious fraud schemes arising from audit failure to detect frauds in Nigeria. Centre for Forensic Studies (2010) report in Nigeria states that if well applied, forensic accounting could be used to reverse the leakages that cause corporate failures. This can be attributed to the fact that proactive forensic accounting

practice seeks out errors, operational vagaries and deviant transactions before they crystallize into fraud.

Statement of the Problem

Forensic accounting is recognized as having a particular form of professional expertise and endowed with identifiable attributes among which are rationality, neutrality, and independence. Forensic accountants possess a particular social recognition and observation that is critical to the translation of economic issues into symbolic displays of trust. The critical social value that forensic accountants possess is the symbolic capacity by which the translation is realized.

Forensic accounting provides cultural mediation for economic and political logic. It is the venue within which the cultural mediation of legal and economic claims is accomplished. The first decade of the twenty-first century experienced a tsunami or blizzard in the number of corporate scandals, frauds, and failures. These events precipitated and contributed to the Great Recession and significantly impacted the efficient functioning of free-market capitalism. Some of which were actually facilitated by public accountants. The scandals, frauds, and failures have contributed to the loss of confidence by the users of the financial statements in the ability of public accounting to contribute viable solutions to financial problems, and have fuelled the growth in demand for forensic accountants (Huber, 2012).

Forensic accountants have played an increasingly important role in the litigation and other legal disputes fomented by these recent frauds and failures. The fact is that very little has been written in this area. Based on the problem stated above, this study focuses on the impact of forensic accounting on fraud detection. Sarkar, (2010) submits that there is an alarming increase in the number of fraud and fraudulent activities in

Nigeria emphasizing the visibility of forensic accounting services. Consequently, there is a general expectation that forensic accounting may be able to stem the tide of financial malfeasance witnessed in most sectors of the Nigerian economy. However, there has not been an adequate emphasis, especially survey evidence on how forensic accounting can help curb financial crimes beyond the several anecdotal views that abound. Consequently, the study aims to examine the negative impact of forensic accounting on fraud detection

Objective of the Study

The general objective of the study is to examine the effect of forensic audit techniques on fraud detection in Nigeria.

The specific objectives are to

1. Examine the effect of the substantive technique on fraud control,
2. Determine the effectiveness of statistical principles on fraud control
3. Ascertain the effect of data mining applications on fraud control

Research Questions

The formulated questions are based on the objective of the study:

1. To what extent does substantive technique affect fraud control?
2. To what extent does statistical principle affect fraud control?
3. To what extent does data mining application affect fraud control?

Research Hypotheses

The formulated hypotheses are tested in null form:

1. **H₀**: There is no significant effect of the substantive technique on fraud control
2. **H₀**: There is no significant effect of statistical principle affect fraud control
3. **H₀**: There is no significant effect of data mining applications affecting fraud control

Significance of the Study

The significance of research of this nature cannot be over-emphasized. As such this study is significant to both public and private organizations, accounting bodies, financial institutions and other corporate bodies as well as the general public. This is in view of the fact that the application of forensic audit techniques in the accounting system of corporate institutions helps reduce the incidence of fraud and fraud-related cases to the barest minimum. The study is also significant as it ascertains convincingly, the importance of forensic accounting in the detection of corporate fraud in corporate institutions. The results obtained from the study are of immense benefit to the financial reporting council, government and its agencies, investing public, relevant stakeholders and policymakers in ensuring best practices in their financial operations and reports in order to ensure improved internal control.

Another significant aspect of this study is that it will create awareness among the accounting public and users of accounting information on the importance of forensic accounting in fraud detection and prevention.

Scope of Study

The scope of this study will cover the effect of forensic audits on fraud detection.

Literature Review

In discussing forensic audit as regards fraud prevention in corporate organizations, the following theories are adopted:

Fraud Triangle Theory

This theory is credited to American Criminologist Donald Cresset (1950). The fraud triangle is what the forensic accountant relies 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; pressure, opportunity and 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 to obscure their fraudulent deeds. It is true that employees need access to a certain platform to perform their jobs. The same access can provide the employee with an opportunity to commit fraud. Pressure/Incentive-Pressure can make a staff commit fraud. Pressure does not only mean financial pressure. Sarkar, (2010), 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's Financial stability, financial covenants, and market expectations. Rationalization - This is an attempt by an employee to justify why they commit fraud. For instance, an employee who is about to be evicted from his/her home can be used to justify a fraudulent act. The employee may say "I deserve to have a place to call my home", so also an employee who feels he/she is underpaid may say it is a way of augmenting the payment due to him/her. As such, rationalization is an act of an employee who commits fraud to give reasons for his action.

The Fraud Diamond Theory

This theory considers the four elements by Wolf and Hermanson (2004). This theory is an improvement in the existing fraud triangle. They believe that the fraud triangle could be enhanced to improve both fraud prevention and detection by considering the fourth element. In addition to addressing incentive, opportunity and rationalization, Wolf and

Hermanson's four-sided fraud diamond also considers an individual's capability personal traits and abilities that play a major role in whether fraud may actually occur even with the presence of the other three elements.

Fraud Scale Theory

The fraud scale theory was developed by Albrecht, Howe, and Romney (1984), as an alternative to the fraud triangle model. The fraud scale is very similar to the fraud triangle; however, the fraud scale uses an element called "personal integrity" instead of rationalization. This personal integrity element is associated with each individual's personal code of ethical behaviour. Albrecht (1984) also argued that, unlike rationalization in the fraud triangle theory, personal integrity can be observed in both an individual's decision and the decision-making process, which can help in assessing the integrity and determining the likelihood that an individual will commit fraud. Experts agree that fraud and other unethical behaviours often occur due to an individual's lack of personal integrity or other moral reasoning. Hence, to forestall the occurrence of such fraud, the service of a trained and experienced investigator like a forensic auditor is highly required.

Forensic Accounting

According to Ozkul and Pamukc (2012), forensic accounting is the speciality area of the accountancy profession which describes engagements that result from actual or anticipated disputes or litigation. "Forensic" means "suitable for use in a court of law," and it is to that standard and potential outcome that forensic accountants generally have to work. Forensic accounting is recognized as a particular form of professional expertise and endowed with specific attributes; the recognition comes from possessing a formal certification in forensic accounting which provides symbolic value. Forensic accounting

is a science dealing with the application of accounting facts and concepts gathered through auditing methods, techniques and procedures to resolve legal problems which require the integration of investigative, accounting, and auditing skills (Dhar and Sarkar (2010)., Stanbury and Paley-Menzies (2010) state that forensic accounting is the science of gathering and presenting information in a form that will be accepted by a court of jurisprudence against perpetrators of economic crime. Dhar and Sarkar (2010) argued that forensic accounting is the application of investigative and analytical skills for the purpose of resolving financial issues in a manner that meets the standards required by courts of law. Forensic investigation is about the determination and establishment of facts in support of a 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. 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 is concerned with the use of accounting discipline to help determine issues of facts in business litigation (Okunbor and Obaretin, 2010). Forensic accounting is a discipline that has its own models and methodologies of investigative procedures that search for assurance, attestation and advisory perspective to produce legal evidence. It is concerned with the evidentiary nature 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 financial statement fraud; tax evasion; bankruptcy and valuation studies; violation of accounting regulation (Dhar and 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 Accountants...Forensic accounting

services utilize the practitioner's specialized accounting, auditing, economic, tax, and other skills (AICPA 2010). Singleton and Singleton (2010), said forensic accounting is the comprehensive view of fraud investigation. It includes preventing fraud and analyzing antifraud control which includes the gathering of nonfinancial information.

Dhar and Sarkar (2010) noted that the objectives of forensic accounting include: the assessment of damages caused by an auditors' negligence, fact-finding to see whether embezzlement has taken place, in what amount, and whether criminal proceedings are to be initiated; a collection of evidence in a criminal proceeding; and computation of asset values in a divorce proceeding. He argues that the primary orientation of forensic accounting is explanatory analysis (cause and effect) of phenomena including the discovery of deception (if any), and its effects introduced into the accounting domain.

According to Dhar and Sarkar (2010), forensic accountants are trained to look beyond the numbers and deal with the business realities of situations. Analysis, interpretation, summarization and 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, Dhar and Sarkar (2010) stated that forensic accountants provide assistance of an accounting nature in financial crime and related economic matters involving existing or pending cases as specified by the Alliance for Excellence in Investigation and Forensic Accounting (Alliance) of Canada: assisting in obtaining documentation necessary to support or refute

a claim; review of the relevant documentation to form an initial assessment of the cases and identify areas of loss; assistance with the examination for discovery and the formulation of questions to be asked regarding the financial evidence; attendance at the examination from discovery to review the testimony; assist with understanding the financial issues and to formulate additional questions; reviewing of the opposing expert's damaging report, and reporting on both the strengths and weaknesses of the position taken; and attendance at trial, to hear the testimony of the opposing expert and provide assistance with cross-examination.

Fraud Detection

Defining fraud is as difficult as identifying it. No definite and invariable rule can be laid down as a general proposition in defining fraud as it includes surprise, trick, cunning and unfair ways by which another is cheated. Fraud is a legal term that refers to the intentional misrepresentation of the truth in order to manipulate or deceive a company or individual. Fraud is to create a misjudgement or maintain an existing misjudgement to induce somebody to make a contract". It involves enriching oneself intentionally by reducing the value/worth of an asset in secret."When companies undergo severe financial problems and end up in bankruptcy, fraud by senior management may be involved. Gottschalk (2010), states that fraud is not a possibility but a probability. He also explains that fraud can be better prevented if decisions are made by a group and not an individual. However, this is not the case if the group has the same interest in mind. Then fraud may not be prevented. Conversely, the group is influenced by the dominant decision maker who ends up deciding everything. Fraud assumes so many different degrees and forms that courts are compelled to context themselves with only a few

general rules for its discovery and defeat. It is better not to define the term lest men should find ways of committing fraud which might evade such definitions. Gottschalk (2010) also reported that fraud is a generic term and embraces all the multifarious means that human ingenuity can devise, which are resorted to by one individual to get an advantage over another in false representation. Fraud is an act or course of deception, deliberately practised to gain unlawful or unfair advantage; such deception is directed to the detriment of another. Accounting fraud is an act of knowingly falsifying accounting records, such as sales or cost records, in order to boost the net income or sales figures; accounting fraud is illegal and subjects the company and the executives involved to civil lawsuits. Company officials may resort to accounting fraud to reverse loss or to ensure that they meet earning expectations from shareholders or the public.

According to (Ozkul and Pamukc, 2012), the following are the objective of financial statement fraud: Increasing the market value of the business, making financial statements consistent with budgets and obtaining unfair earnings by presenting falsely the value of the business. When business frauds are analyzed, it is ascertained that three components come together when committing the crime. These are pressure, opportunity, and justification that constitute the fraud triangle. Components of the fraud triangle are similar to the fuel, spark, and oxygen which together cause a fire. When the three come together, inevitably fire breaks out. Pressure factors could be gathered into three groups: pressures with financial content, pressures stemming from bad habits and pressures related to the job. Opportunity factors are the second component of the fraud triangle. They directly involve top management and owners of the business in particular. Providing the opportunity to commit fraud is one of the most important factors arising from fraud. Since the business could greatly influence the opportunity factor, this point

should receive particular attention for fraud prevention. The third component of the fraud triangle is fraudsters' developing defence mechanisms in order to justify his/her action. Some efforts of the fraudsters to justify themselves and the excuse they made up are: (a) I had borrowed the money, I would pay back, (b) This is in return for my efforts for the business (c) Nobody has suffered as a result of this and (d) I have taken the money for a good purpose. In order to overcome these justifying excuses, businesses should explain ethical rules to employees, inform them that fraudsters would definitely be penalized, establish a moral code in the organization, and provide training on them. Over time, the importance of the initial detection of fraud has increased because the number of fraudulent events has increased.

Forensic Audit and Fraud Detection

The symptoms do not necessarily mean fraud is being undergone as it may be caused by mistakes. The writer advises are mainly to be cautious when fraud is reported as it may be false allegations. Fraud is not easily proven since frauds have themselves at a safe line where authorities could not convict them. This shows that the author is explaining that fraud defaulters are getting smarter due to the possible mistakes human can cause. This has made detecting and proving fraud hard work for a forensic accountant. There is a need for a deeper understanding of how these defaulters work their fraudulent acts. Without constant involvement of the public and improvement in forensic accounting, fraud cases will be hard to detect and thus lead to greater success in financial fraud, which also translates into the failure to meet the expectations of the public, shareholders or even other stakeholders. Forensic accounting is considered one of the factors in fraud prevention.

Okoye and Gbegi (2013) carried out a study on the evaluation of forensic accountants in planning management fraud risk detection procedures. The study reveals that forensic accountants effectively modify the extent and nature of audit tests when the risk of management fraud is high, forensic accountants propose unique procedures that are not proposed by auditors when the risk of management fraud is high, forensic accountants can make to the effectiveness of an audit plan when the risk of management fraud is high, involving forensic accountants in the risk of management fraud assessment process leads to better results than simply consulting them (Efiong, 2012).

Nature and Scope of Forensic Accounting

It is difficult to conceptualize forensic accounting without comparing it with auditing, mainly because auditing has been used to access business positions, and accounting malpractices and even today auditors do perform investigation jobs. They also perform fraud investigation, expert witness, due diligence, etc. probably as a new era and professional advancement unfolding various strengths and opportunities and also embracing various perspectives, there is no gainsaying that accounting is also in this same trend.

Forensic accounting is intimately related to auditing, particularly when we mention forensic auditing. Thus, observing the comparative differences, services provided by accountants include, amongst others: Expert witnesses and forensic services to give proof of accounting issues in litigations and auditing and to certify the veracity of accounting statements diligence. The forensic job is totally analytical in as much as in the end it tries to calculate the rate at which losses have been inflicted on the business. Generally, reporting in forensic accounting is programmed for a certain period. Yet, different from auditing, there are no regulatory organizations which control efforts to be

put into forensic accounting. The idea of separating financial auditing from forensic accounting supports the premise that, unless it is investigative, financial auditing is not meant to investigate fraud. Therefore, in the various types of research about the participation of auditors in the detection of fraud, one would observe that their statistics show low participation during the course of an audit. This attempt boldly explains the cornerstone of corporate auditing by distinguishing the levels of accountability, integrity, transparency, ethics, competence and independence, apart from emphasizing the scope of work, data gathering, review procedures and reporting.

Forensic accounting, therefore, emanates from social discourses, as the accounting profession tries to give an answer to typical problems brought by the growth and diversity of opinions in the social science structure. At the highest level, the social norms which guide the selection process are ideological. In order to expatiate on the peculiarities of forensic accounting, it is worthwhile giving it a broader view under the taxonomies of sub-activity of accounting. Such a breakdown for forensic accounting involves the following:

- (i) Financial accounting, economics analysis, fiscal and criminal law, psychological, administrative and investigative dispensation.
 - (ii) Application of forensic standards possibility to use the reports in proof of law in courts or tribunals.
 - (iii) Can be used in the following situations:
 - Investigation of fraud: Thorough investigation and calculation of the impact on the business and therefore suggesting the arrest of the culprit for a criminal suit.
- A general problem in forensic identification arises when a suspect is observed to

have a particular rare trait or combination of traits, also known to be possessed by the criminal (Stanbury, 2010).

- Legal disputes and/or arbitration
- Preparation and submission of expert reports.
- Verification of accounting records.
- Supporting in due diligence.

Yet, according to Zysman (2009), a capable forensic accountant should have the following characteristics:

- Curiosity
- Persistence
- Creativity
- Discretion
- Organization
- Confidence and sound professional judgement

Accordingly, a forensic accountant must be open to considering all alternatives, scrutinising the fine details and at the same time see the big picture. Again, a forensic accountant must be able to listen effectively and communicate clearly and concisely.

Techniques and Methods of Forensic Accounting

Signs of financial crime can be initially detected in a variety of ways by whistle-blowing, by accident, by auditors, by data-mining, by controls and testing or by the organization's top management requesting an inspection on the basis of mere suspicion. Ideally, fraud detection ought to be recognized as an important responsibility within every organization and every employee within an organization ought to be familiar with the disciplinary consequences for breach of trust, as well as to report

criminal misdeeds against the organization. On a practical level, however, there are steps to investigating methods to be used in an organizational context that are far from these ideas and reaching the “breakthrough” point is more an art than a science. There are certain investigative measures which need to be taken that may violate employee workplace rights or people’s constitutional rights. There are also special procedures for the gathering and handling of financial crime evidence. Fraud detection and prevention is a highly complex area of crime fighting where an investigation can easily backfire and one might be exposed to possibly more harm (Ozkul, 2012).

(i) Suspicion and probable cause

It is hard to define what it means to be “suspicious” of somebody or something, but it is an important element of investigation, nonetheless. Obviously, going on a hunch, rumour, whim or guess is “mere suspicion” and this violates everything that the principles of criminal procedure stand for. We can, however, talk sensibly about being reactive and proactive. The pattern is the keyword here and there is a maxim in forensic accounting called Benford’s law which states that fabricated figures (an indicator of fraud) possess a different pattern from random (or valid) figures.

(ii) Narrowing down the suspect

Give some initial thought to whether you have a conspiracy on your hands, a small group acting independently, or a solo offender, but be prepared to use a variety of approaches to narrow down the list of usual suspects. The “usual suspects” will be those who occupy key positions identified in the risk assessment or those who occupy positions that have historically been involved in fraud. If the organization you are investigating has a history of past fraud, use your knowledge of that history to provide a clue to future frauds that you can set up observation of (Singleton, 2010).

(iii) Gathering the evidence

The formal investigation is a follow-up to your preliminary investigation which essentially established that you acted upon a whistle-blowing or complaint by exercising “due care”. Due care should not be confused with “due diligence” which is another type of forensic accounting investigation that checks out the background, reputation and integrity of a prospective business partner. However, a due diligence investigation may be necessary if dealing with more than one organization or subsidiary of a parent company. Before you begin gathering evidence, care must be taken to conform to the standard procedures or at least the best practices in this newly emerging field.

(a) Direct and indirect technique

The direct method is also called the transaction method. When using the direct method of forensic accounting, the accountant examines cancelled cheques and invoices, contracts, agreements and public records and notices. The accountant may also interview management and employees. The indirect method has many forensic accounting techniques that fall under its name including the cash T-method, the source and application of funds method, the net worth method and the bank deposit method. Each one assists a forensic accountant in understanding what happened to the income or cash coming in for the specific litigious matter.

(b) Cash T-method and source and application of funds method

The cash T-method compares cash received to the amount of cash spent. It is used to determine if an organization or individual had understated income. Similarly, the source and application of funds method examines the amount spent on lifestyle versus assets and investments. Both the cash T-method and source and application of funds method are easily understood as they compare cash coming in with cash going out.

(c) Net worth method

The net worth method calculates total assets and subtracts the total liabilities of an individual or a company. The resulting number represents net worth. Net worth is compared to reported income over several periods. When there are un-reconciled differences, a forensic accountant may pursue an investigation of these differences.

(d) Bank deposit method

The bank deposit method analyses total deposits during the year and compares them with total expenses. Transfers between accounts and cheques re-deposited are subtracted from total deposits for the year to arrive at a net deposit. Total cash expenditures for the year are added to the net deposit to arrive at total receipts for the year. This number is compared to funds from known sources to determine the total funds from unknown sources. A forensic accountant then will investigate these unknown sources further by interviewing key individuals and tracing or searching for information about specific amounts.

2.0 Empirical Literature

Many studies were conducted on this study, similarly, Okoye and Gbegi (2013), conducted research titled “Forensic Accounting: A Tool for fraud detection and Prevention in the public sector of Kogi State”. The population consist of 5 ministries with a total of 5015 respondents of which 370 formed the sample size. The use of ANOVA was used in testing the hypotheses. It was discovered that Forensic Accounting significantly reduces the occurrence of fraud in the public sector and there is a significant difference between Professional forensic Accountants and traditional Auditors.

Okafor and Agbiogwu (2016) conducted a study on the effect of forensic accounting skills on the management of Bank fraud in Nigeria. In their research work,

they adopted a non-probability sampling technique to select the five (5) commercial Banks used as the population for the study. Based on the analysis of variance (ANOVA) the findings of their study reveals that possession of basic forensic skills significantly reduces the occurrence of fraud cases in the banking sector and that there is a significant difference between the services of forensic accountants and External auditors, and that the presence of forensic accountants in Banks can aid in reducing fraud cases.

Zachariah, Masoyi, Ernest and Gabriel (2014), work on the topic titled "Application of forensic auditing in reducing fraud cases in Nigeria money deposit Banks". The study analyzed the trend in fraud cases from 2001-2012, included are the amounts involved in fraud, the most frequent types of fraud, and the losses sustained by Banks. The descriptive analysis revealed that there are up and down movements in fraud cases. Since Banks continually lose huge sums of money as a result of the inability of the auditors and the supervisory regulators to curtail the trend, there is therefore the need to devise different means of tackling fraud in the Banks. According to the authors, Nigerian Banks over the past decades have suffered from the menace of fraud which resulted to distresses and liquidation which hampers the roles of Banks in the economy. The study, therefore, suggested the employment of forensic auditing in Nigerian Banks by amending the existing status, in such a way that forensic auditors are included in the audit team.

Onodi, Okafor & Onyali (2015), examined the effect of forensic investigation methods on corporate fraud deterrence in Nigerian Banks. This study adopted a survey research design and data from the primary source was collected through interviews and administration of questionnaires, while the secondary source consists of reports on fraud and forgery in the banking sector. Statistical tools used to analyze the data include

percentages, mean score, frequency tables, regression analysis and Z-test. The result revealed that there is a significant relationship between forensic investigative methods and corporate fraud deterrence. The finding revealed that expert services of forensic investigators are normally required in the prosecution of fraud, but a majority of the audit and accounting personnel in Nigeria are suffering from poor perception and knowledge of forensic investigative methods.

Okoye and Gbengi (2013), conducted research titled "forensic accounting: a tool for fraud detection and Prevention in the public sector of Kogi State". The population consists of 5 ministries with a total of 5,015 respondents of which 370 formed the sample size. The use of ANOVA was used in testing the hypotheses. It was discovered that forensic accounting significantly reduces the occurrence of fraud in the public sector.

Akhidime and Uagbala-Ekatakah (2014), in their exploration of the growing relevance of forensic accounting in Nigeria, found that though forensic accounting in Nigeria has helped fraud detection, it is lacking statutory backup. Hence, it has no significant impact on tackling corruption in Nigeria.

Pamuke and Ozkul (2012), in their investigation into fraud detection and forensic accounting, concluded that forensic accounting will be one of the best careers in the future and urge Companies and governments around the world to make a material and moral investment in this profession, in order to ensure better world economy free of fraud.

Enofe, Okpako & Atube (2013) conducted a study on the impact of Forensic Accounting on fraud detection. In their research work, they adopted the ordinary least square method. The choice of this technique arises as a result of the fact that it is subject to some crucial assumption of the error term and this provides the best of the parameter

estimates of a single equation model. Based on the finding, their study reveals that forensic accounting services provide firms with the necessary tools to determine fraudulent activities but does not curb fraudulent activities.

3.0 Research Methodology

The study adopted desk survey methods in gathering relevant information which was extracted from textbooks, libraries, and published and unpublished journals. The population of the study was twenty-one banks in Nigeria. A total of four banks were selected using systematic sampling with a total number of two hundred and fifty (200) staff. Taro Yamane formula was used to determine the sample size of one hundred and thirty-three (133). Data from research questions were analyzed using frequencies and percentages. To test the formulated hypotheses, a multiple regression statistical tool was adopted in this study.

Model Specification

For the purpose of this study, the empirical model for this study is specified thus;

$$FC = f(ST, SP, DMA)$$

Where

$$FC = \text{Fraud Control}$$

$$ST = \text{Substantive technique}$$

$$SP = \text{Statistical Principle}$$

$$DMA = \text{Data mining Application}$$

To obtain the ordinary least square model

$$FC = b_0 + b_1ST + b_2SP + b_3DMA + e$$

Where

$$a_0 = \text{Regression Constant}$$

$b_1 - b_3$ = Regression Parameters to be estimated

Results

Hypothesis one

H_0 : There is no significant effect of the substantive technique on fraud control

Independent variable: Substantive technique

Dependent variable: Fraud control

Test statistic: Least square regression statistic

Data in table 1 was used to test hypothesis one. The analysis shows a coefficient of determination (R-square) of 0.728, which implies that 73 per cent of the response variable in the dependent variable was explained or caused by the explanatory variable; while 16 per cent was unexplained. Thus, the remaining 27 per cent of unexplained responses could be caused by other factors or variables outside the model. The value of the R-square was high enough to indicate a good relationship between the dependent and independent variables. The Durbin-Watson value was 0.325 which implies that the test fell within the range of autocorrelation 2.879 in the conclusive region of the D.W partition curve. In testing for the statistical significance of the model, the F-statistic was adopted at a 5 per cent significance level. The computed value of the f-statistic was 8274 far greater than the tabulated value the of f-statistic of 3.84 at $df_1 = 1$ and $df_2 = 133$. Also, as confirmation, the calculated t-statistics of 54.38 was greater than the critical value of 1.64. With these, it is concluded that there is a significant effect of the substantive technique on fraud control.

TABLE 1

Least square regression result of the effect of the substantive technique on fraud control

Dependent variable – Fraud control

Variable		B		Standard error		T		Sig.	
Constant		.852		.176		4.840		.000	
ST		.765		.026		.918		29.42	
R	R ²	Adj. R ²	Std.Error	DW	Cal. F*	Cri. F*	df ₁	df ₂	Sig.
.718	.728	.871	.482	.325	8274.595	3.84	1	133	P<0,05

Source: SPSS output.

Hypothesis two

H₀: There is no significant effect of statistical principle affect fraud control

Independent variable: Statistical principle

Dependent variable: Fraud control

Test statistic: Least square regression statistic

Data in table 2 was used to test hypothesis two. The analysis shows a coefficient of determination (R-square) of 0.918, which implies that 92 per cent of the response variable in the dependent variable was explained or caused by the explanatory variable; while 15 per cent was unexplained. Thus, the remaining 8 per cent of unexplained responses could be caused by other factors or variables outside the model. The value of the R-square was high enough to indicate a good relationship between the dependent and independent variables. The Durbin-Watson value was 1.35 which implies that the test fell within the range of autocorrelation 2.879 in the conclusive region of the D.W partition

curves. In testing for the statistical significance of the model, the F-statistic was adopted at a 5 per cent significance level. The computed value of the f-statistic was 1.588 far greater than the tabulated value of the f-statistic of 3.84 at $df_1 = 1$ and $df_2 = 133$. Also, as confirmation, the calculated t-statistics of 58.90 was greater than the critical value of 1.64. With these, it was then concluded that there is a significant effect of statistical principle on fraud control

TABLE 2

Least square regression result of statistical principle on fraud control

Dependent variable – Fraud control

Variable			B	Standard error			B	T	Sig
Constant			.783	.073				1.072	.000
SP			.638	.021			.921	3.038	.000
R	R ²	Adj. R ²	Std. error	DW	Cal. F*	Cri. F*	df ₁	df ₂	Sig.
.791	.918	.879	.674	1.35	1.588	3.84	1	133	P<0,05

Source: SPSS output.

Hypothesis three

H₀: There is no significant effect of data mining applications affects fraud control

Independent variable: data mining application

Dependent variable: Fraud control

Test statistic: Least square regression statistic

Data in Table 3 was used to test hypothesis three. The analysis shows a coefficient of determination (R-square) of 0.749, which implies that 75 per cent of the response variable in the dependent variable was explained or caused by the explanatory variable; while 15 per cent was unexplained. Thus, the remaining 15 per cent unexplained

response could be caused by other factors or variables outside the model. The value of the R-square was high enough to indicate a good relationship between the dependent and independent variables. The Durbin-Watson value was 0.732 which implies that the test fell within the range of autocorrelation 2.879 in the conclusive region of the D.W partition curve. In testing for the statistical significance of the model, the F-statistic was adopted at a 5 per cent significance level. The computed value of the f-statistic was 325.9 far greater than the tabulated value of the f-statistic of 3.84 at $df_1 = 1$ and $df_2 = 133$. Also, as confirmation, the calculated t-statistics of 256.56 was greater than the critical value of 1.64. With these, it was then concluded that there is a significant effect of data mining applications on fraud control

TABLE 3

Least square regression result of data mining application on fraud control

Dependent variable – Fraud control

Variable		B		Standard error		T		Sig	
Constant		89.738		.090		997.1		.000	
DMA		56.452		.022		.926		256.6	
R	R ²	Adj. R ²	Std. error	DW	Cal. F*	Cri. F*	df ₁	df ₂	Sig.
.978	.749	.657	.458	.112	2105.872	3.84	1	133	P<0,05

Source: SPSS output.

Discussion of findings

Based on the analysis of the result, it was revealed that forensic audit has a significant relationship with fraud detection. The finding conforms to the works of scholars who posit that forensic accounting is the application of financial skills and an investigative mentality to unsettled issues. Also revealed that forensic accounting has a positive

impact on reporting quality. It conforms to the works of Gray (2008) who posit that forensic accounting may be one of the most effective and efficient ways to decrease and check accounting fraud. The finding revealed that forensic audit has a positive effect on fraud control.

4.0 Summary of Findings

The major findings are

1. There is a significant effect of the substantive technique on fraud control
2. There is a significant effect of statistical principles affect fraud control
3. There is a significant effect of data mining applications affects fraud control

5.0 Conclusion and Recommendations

On the basis of this finding, the study concludes that forensic audit services provide the banking sector with the necessary tools to deter fraudulent activities but do not curb fraudulent activities. The gap can be filled by introducing and adapting forensic audit as a financial strategy to curb economic and financial crime: Forensic audit techniques will provide litigation support services with appropriate provision of professional services in the banking sector. Forensic Accounting will institute good corporate governance in the educational sector which will instil public confidence in the government and the entire system. Traditional auditing has limitations in detecting fraudulent practices which forensic accountants will effectively fill. They have the professional ability backed up by law to break into the organization system and examine the books, make discoveries and present documentary evidence in the educational sector. This has an effect on the development, employment and standard of living of the people. The study, therefore, recommended thus;

1. Eradication of economic and financial crime through the adoption of forensic accounting in the system will improve the image of banks under review.
2. Detection and prevention of corruption have given rise to the profession of forensic accounting. Due to this fact, the most important thing banks have to do with regard to fraud is to prevent the crime from being committed.
3. Regulatory authorities should ensure the provision of standards and guidelines to regulate forensic activities and above all banking sector should embrace integrity, objectivity, fairness and accountability in their day-to-day activities.

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