

Forensic Investigation and Mitigation of Occupational Fraud in the Nigerian Public Sector

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Abstract

The high occurrence of occupational fraud in Nigeria has become common and persistent in public sector entities as shown by several reported and non-reported cases of bribery, embezzlement, cash theft, inventory theft, cheque tempering, payroll scheme, swindle, forgery and kickbacks in recent times. This study investigated the effects of forensic investigation and mitigation of occupational fraud in the Nigerian public sector. To achieve the objective of this study, two hypotheses were tested and relevant literature was explored with the adoption of fraud triangle theory, fraud diamond theory and fraud scales theory. The study used survey and correlational research design and the population consisted of accountants and internal auditors in the Bayelsa State Civil Service and Local Government Service. The data generated from the questionnaire were statistically tested with Spearman Rank Correlation Coefficient. The result suggested a negative significant association between forensic investigation techniques and occupational fraud in the Nigerian public sector. Hence, the paper concluded that the adoption of forensic investigation techniques in the Nigerian public sector would improve the level of accountability and transparency in public sector financial management due to the reduction in the level of corrupt practices. The study recommended amongst others that internal auditors, accountants and other employees in government MDAs should adopt scientific forensic investigation skills and techniques in order to achieve efficient and effective mitigation of occupational fraud in the public sector.

Keywords: *Forensic Investigation, Forensic Accounting and Auditing, Occupational Fraud.*

Introduction

The high incidence of occupational fraud in many public organisations in Nigeria is very alarming. Udukeke and Ezenwafor (2019) stated that occupational fraud has infested the fabrics of several public sector organisations in Nigeria. They further noted that occupational fraud has now become a way of life among employees all levels of bureaucratic entities. Inyada, Olopade and John (2019) noted that occupational fraud is an international phenomenon that has been in existence for several years and it increases on a daily basis due to the activities of man. Similarly, Ogutu and Ngahu (2016) suggested that occupational fraud have been on the rise in the 21st century and it is now a global concern. This is why Yar (2013) observed that occupational fraud incidents can be noted on a daily basis in the media. Udukeke and Ezenwafor (2019) noted that the occurrence of occupational fraud in Nigeria has become common and persistent in bureaucratic entities as shown by numerous reported and non-reported cases of bribery, embezzlement, cash theft, inventory theft, cheque tempering, payroll scheme, swindle, forgery and kickbacks in recent times. Oyejide (2008) in Ogiriki and Appah (2018) noted that occupational fraud is a subject that has received a lot of attention internationally. This interest has been heightened by several high profile cases white collar crimes involving several bureaucratic entities.

Ukoma (2019) viewed occupational fraud as the fraudulent acquisition of property or economic gain by means of deception, through either a misrepresentation or concealment such as bribes, cronyism, nepotism, kickbacks, artificial pricing and frauds of all kinds for personal benefit. Eze (2015) stated that occupational fraud crimes are those crimes that involves deceit, concealment or the violation of trust and are not based on threat of violence. According to Arnulf & Gottschalk's (2013) occupational fraud is the intentional behaviour of an individual that involves deceit, concealment, or violation of trust that results in the illegal enrichment, or the loss of avoidance, of financially valued property that has the opportunity to this intentional practice. The failure of internal and external audit functions in the mitigation of occupational fraud provided the basis for forensic investigations. Inyada, Olopade and John (2019) noted that a method that can be used to mitigate occupational fraud in the public sector should be applied. Onodi, Okafor and Onyali (2015) stated that the need for forensic investigation arises as a result of the failure of internal and external audit functions in the mitigation of occupational fraud in Nigeria. Okoye, Nwoye, Akuchi, and Onyema (2020) suggested that it is disturbing that the efforts of the anti-corruption agencies to minimize the high level of white collar crime seem to be proving unsuccessful because several public sector officials often get away with the fraudulent practice.

KPMG (2012) listed occupational fraud mitigation methods as the primary line of defense and the provision of the most effective method of occupational fraud management within a given entity. Haron, Mohamed, Jomitin and Omar (2014) stated that forensic investigation is essential for a bureaucratic organization with the intention of mitigating the level of occupational fraud occurrences in a public sector. Udukeke and Ezenwafor (2019) stated that forensic investigation techniques are employed to identify and collect evidence to reveal how long a particular fraud has been committed or how it was covered up by the perpetrators. Golden, Skalak and Clayton (2015) further noted that forensic investigation techniques are the various techniques employed by the forensic investigators for the provision evidence of occupational fraud.

Okoye, Nwoye, Akuchi, and Onyema (2020) suggested that the absence of successful prosecution of high profile occupational fraud is giving a serious cause of concern to the citizens of Nigeria. The onus therefore lies on how to effectively to mitigate occupational fraud in the public sector and successfully prosecute the perpetrators with the adoption of forensic investigation methods. However, it important to state that the prospect of forensic accounting and auditing has generated considerable research attention in Nigeria (Udukeke & Ezenwafor, 2019; Ogiriki & Appah, 2018; Akani & Ogbeide, 2017; Azih & Okoli, 2015; Adebisi & Gbegi, 2015; Akenbor & Ironkwe 2014; Okoye, Nwoye, Akuchi, and Onyema, 2020) there is not been adequate emphasis on how forensic investigation affects occupational fraud in bureaucratic organisations. It is in the light of the above, that this study intends to investigate the effect of forensic investigation in the mitigation of occupational fraud in bureaucratic organisations in Bayelsa State, Nigeria.

This study provides answers to the following research questions:

1. To what extent does the existence of forensic investigation mitigates occupational fraud in public sector organisations in Bayelsa State?
2. What is the extent of the relationship between forensic investigation and mitigation of occupational fraud in public sector organisations in Bayelsa State?
3. What is the extent of the relationship between forensic investigation techniques and mitigation of occupational fraud in public sector in Bayelsa State?

The following hypotheses were tested in this study:

Ho₁: There is no relationship between forensic investigation and mitigation of occupational fraud in public sector organisations in Bayelsa State.

Ho₂: There is no relationship between forensic investigation techniques and mitigation of occupational fraud in public sector organisations in Bayelsa State.

Literature Review

Conceptual Framework

Concept of Forensic investigation: This is the application of different methods of inquiry for the aim of providing evidence of fraudulent practices against an individual in the court of law (Udukeke & Ezenwafor, 2019). According to Okoye, Maimako, Jugu and Jat (2017), forensic investigation is the use of special investigative skills in conducting an investigation that is conducted in such a way that the result will be employed in the court of law. Hopwood, Young and Leiner (2013) noted that forensic investigation is the systematic process of collecting and reviewing documentary evidence for the purpose of explaining the presence or absence of fraudulent activity. Ogiriki and Appah (2018) also assert that forensic investigation involves the process of collecting, reporting and the loss recovery process. Albrecht and Albrecht (2001) further noted that forensic investigation is the employment of special investigative skills in conducting an enquiry to be used in the court of law. Nte (2012) stated that the purpose of forensic investigation is to obtain facts that can be used as evidence before a court of law. Okoye, Nwoye, Akudu & Onyema (2020) stated that forensic investigation is the use of forensic science to criminal or civil law issues. They further noted that it is the application of investigative and analytical skills for the purpose of resolving fraudulent practices. It entails the act of applying scientific methods to prove facts and evidence that would be employed for crime based proceedings.

Forensic Investigation Techniques: These are those techniques that are employed by a forensic investigator to identify and gather evidence to reveal how long fraudulent practices has been carried out or how it was conducted and covered up by fraudsters (Udukeke & Ezenwafor, 2019). Oyedokun (2013) stated that forensic investigation techniques such as interviewing, computer assisted review such as data mining, and document review techniques are used in detecting fraud. Also Ogiriki and Appah (2018) in their study of forensic accounting and auditing techniques in the public sector stated that data mining, continuous auditing, computer assisted tools and techniques, financial data analysis and Bedford analysis are tools that can be applied in fraud prevention and detection. Golden, Skalak and Clayton (2015) in Udukeke & Ezenwafor (2019) that fraud investigation techniques include data mining, background investigation and investigative interview.

Concept of Forensic Accounting: This is the application of accounting processes and procedures to an issue that may or is to be litigated. Hopwood, Young and Leiner (2013) state that forensic accounting is the use of investigative and analytical skills for the aim of resolving fraudulent and abusive practices that meets the requirement of law courts. Okoye, Maimako, Jugu and Jat (2017) stated that forensic accounting is the application of accounting procedures that is suitable for legal review, providing the highest level of assurance, and including the new generally accepted connotation of having been arrived at in a given scientific method. Enofe, Okpako, and Atube (2013) stated that forensic accounting is the science of gathering and presenting information in a manner that will be accepted by the law court against fraudsters. Similarly, the American Institute of Certified Public Accountants (2008) explained that forensic accounting is the employment of special skills in auditing, economics, management accounting, quantitative techniques, finance, information and

computer technologies, criminology, ethics and law to collate, analyse and examine documentary evidence with the sole aim of preventing and detecting fraudulent practices. Ngozi (2015) noted that forensic accounting entails an investigative process of accounting employed in ascertaining whether an individual or an organization has engaged in fraudulent activities. According to Ramaswamy (2007), forensic accountants are required to possess the following skills to effectively deal with fraudulent practices; (1) accounting and financial skills; (2) taxation, corporate and business law; (3) corporate governance; (4) information systems; (5) business valuation skills; (6) criminology procedures; (7) psychology; (8) business ethics; and (9) communication skills. Enofe, Okpako, and Atube, (2013) opine that forensic accounting involves the knowledge of fraud, expertise in accounting and financial and sound knowledge of business reality and working legal knowledge. Dhar and Sarkar (2010) also noted that forensic accounting is a scientific process that deals with the application of accounting, auditing methods and techniques to resolve legal problems which require integration of investigative, accounting and auditing skills.

Concept Forensic Auditing: The Institute of Forensic Auditors (IFA) stated that forensic audit is an activity that involves the collection, verification, analysis and reporting of data with the purpose of collecting evidence to use in a court of law. Inyada, Olopade & John (2019) noted that forensic auditing is the systematic application of auditing skills to circumstances that have legal consequences. According to Dada, Owolabi and Okwu (2011), forensic auditing involves the integration of accounting, investigative auditing, criminology and litigation services. Eyisi and Agbaeze (2014) stated that forensic auditors are experts in financial issues who are trained in detecting, investigating and preventing financial fraud and abuse which are to be presented to court of law for appropriate legal action. Knezevic, (2015) assert that forensic audit is the in-depth investigation, detection and prevention of fraudulent activities and the provision of litigation support services in a court of law. Similarly, Enofe, Omagbon and Ehigiator (2015) noted that forensic audit examines the detection, analysis and communication of evidence of fraudulent practices. Also Eze (2015) defined forensic auditing as the use of accounting methods to track and collect forensic evidence for investigating and prosecuting fraudulent activities. It consists of procedures conducted in order to collect reliable and acceptable documentary evidence for anticipated disputes or litigation. Ukoma (2019) stated that forensic auditing involves the process of gathering, verifying, processing, analysing and reporting of data so as to obtain documentary evidence to solve fraudulent practices. Inyada, Olopade & John (2019) state that forensic audit can be reactive or proactive. Eze (2015) stated that reactive forensic auditing investigates suspicion of fraudulent practices and once confirmed, the individual(s) involved are identified, and result of the investigation are supported with solid documentary evidences for criminal proceedings (Okoye, Maimako, Jugu & Jat, 2017). Proactive forensic auditing identifies mistakes and deviant financial transactions before they graduate into fraud. It revolve around a statutory audit, diagnostic tool and regulatory compliance.

Concept of Fraud and Occupational Fraud: It is a deliberate or intentional distortion of documents for the purpose of gaining an undue advantage. Ukoma (2019) noted that fraud consists of the acquisition of assets or economic benefit using deception, through either a misrepresentation or concealment. The Economic and Financial Crime Commission (2004) defined fraud as the non-violent criminal and illicit activity committed with objective of earning funds illegally either individually or in a group or organized manner thereby violating existing laws governing the economic and financial activities of government. According to Okoye, Maimako, Jugu and Jat (2017), fraud is an act of deceit or dishonest conduct

involving acts of omission or making fraudulent statements with the aim of obtaining financial benefits.

The Association of Certified Fraud Examiners (ACFE, 2014) stated that occupational fraud is when an individual uses his or her office to enrich himself or herself through the misuse or misappropriation of an organisation resources or assets. Eze (2015) noted that occupational fraud is the use of an individual's occupation or office through a deliberate misuse or misapplication of employer's resources. Okoye, Maimako, Jugu and Jat (2017) stated that occupational fraud can be divided into asset misappropriation, management fraud and fraudulent statements. Shanikat, Al-Farah and Dorgham (2014) argued that occupational fraud comprises of asset misappropriation (where an employee misapply an organisation's resources), corruption (where an employee goes against the responsibility given to him by the employer for personal benefits), and financial statement fraud (where an employee intentionally causes a misstatement or omission of material information in the financial statements of an organization.

Asset Misappropriation: This is the theft or misuse of assets and account. Cash theft occurs in the form of fraudulent disbursements, cash skimming and cash larceny/stealing/theft (Eze, 2015). Fraudulent disbursement involves fraudulent billing schemes, cheque tempering, expense reimbursement, payroll schemes and register disbursement. Cash skimming is the act of diverting business receipts to an individual's personal use (Okoye, Maimako, Jugu & Jat, 2017). The Association of Certified Fraud Examiners (2002), state that asset misappropriation is the misuse of employee's property including theft and payroll fraud in an organisation. This type of fraud accounted for 80% of all the cases reported in ACFE report (2012) and 85% in report (ACFE, 2014). The report stated that theft of cash; inventory and supplies are the common kinds of assets misappropriation (ACFE, 2012). It is observed that asset misappropriation involving theft, fraudulent disbursement are the most frequent scheme type represented in the frauds reports (ACFE, 2012) in (Umah, Samsudin & Mohamed, 2015). Similarly, Price Waterhouse Coopers (PWC)'s Global Economic Crime Survey suggests that assets misappropriation accounted for 72% of the global crimes committed (Price Waterhouse Coopers, 2014).

Management Fraud: This is a type of fraud that involves the use of an individual's influence in a given transaction in violation of responsibility for personal gains (ACFE, 2010). It is the use of public office for personal benefits. This type of fraud includes extortion, conflicts of interest, and bribery (ACFE, 2012). According to Eze (2019), management fraud is the deliberate misrepresentation of corporate performance levels committed by employees serving in managerial capacity who intend to gain financially from fraudulent practice such as promotions, stock prices, and debt financing terms, bonuses or other economic incentives and status symbols.

Fraudulent Statements Fraud: Financial statement fraud is the deliberate manipulation of reported financial results to misstate the economic condition of the entity (Eze, 2015). It is the conscious effort to mislead users of financial statements in terms of the financial health of an organisation. It includes manipulation, falsification, or alteration of accounting records or supporting documents; misrepresentation or omission of events, transactions, or other significant information; and deliberate misapplication of accounting principles (Okoye, Maimako, Jugu & Jat, 2017).

Theoretical Framework

This present study is anchored on fraud triangle theory, fraud diamond theory, and fraud scales theory.

Fraud Triangle Theory

This theory was developed by Cassey (1919 – 1987). The theory explains that individuals who are trusted could violate the trust once they believe that having a financial problem that is non-shareable can be solved by violation of a position of financial trust. Hence, these individuals can use their position to change their perception and those of others on their action. According to Eze (2015), this theory explains that every fraud has three things in common: (1) pressure (motivation or incentives); (2) knowledge or opportunity to commit crime and (3) rationalization.

Pressure (or incentive or motivation): It is the financial force that pushes an individual towards committing fraud and abuse. According to Eze (2015), pressure is something that occurred in the personal life of the fraudster that establishes the need that motivates him to commit fraud. He further stated that pressure centres on financial strain, but it could be the symptoms. Adebisi and Gbegi (2015) stated the issues that may result to pressure to commit fraud to include the relationship between employer and employee, isolation physically, personal failure of the individual, business reversals, gaining of status. Okoye, Maimako, Jugu and Jat (2015), pressure relates to perceived need for assets and it is as a result of greed. It is important to note that the pressure needs only to be perceived in the mind of the perpetrator to motivate the commission of fraud. This perceived needs not be visible to a third party observer. Pressures result from immediate needs not for cash or assets to support a lavish life style, pay debts, or purchase necessities.

Opportunity (Knowledge): This is the chance and ability of an individual to commit fraud. Adebisi and Gbegi (2015) opine that an opportunity gives the person the chance to violate a position of trust he holds in the organization. Individuals commit fraud where they find the chance to commit the fraud and get away with it. The opportunity could be in the form of weak internal control system and poor supervision in the entity. According to Eze (2015), opportunity not only means that chance exist, but either there is a lack of internal controls or the complexities related with the event are such that the fraudster examines the risk of being caught as very low. Okoye, Maimako, Jugu and Jat (2015) noted that opportunity facilitates the ability to commit fraud. It is created by a weak internal control environment, poor management oversight, and/or the misuse of position. They further noted that failure to establish adequate procedures to detect fraudulent activity also increases the opportunity for fraud to occur.

Rationalisation: This component of the fraud triangle theory explains the fraudsters self-justification of his actions and silence his conscious (Adebisi & Gbegi, 2015). Eze (2015) stated that rationalization is reconciling unlawful or unethical behaviour with the commonly accepted notions of decency and trust in his conscious or the one acceptable by members of the society. Okoye, Maimako, Jugu and Jat (2015) stated that rationalization is an important element in most fraud. It occurs when an employee justifies why he or she committed or should commit a fraud. They further stated that rationalization is the reconciliation of an individual fraudulent behaviour with the commonly accepted notions of decency and trust. The following some of the common rationalisations for committing fraud are:

1. The person believes that committing fraud is justifiable enough to saving a family member.
2. The person believes that they will lose everything, if they do not commit fraud.
3. They person believes that no reliable help is available.

4. The person labels the fraudster as borrowing and fully intends to pay the stolen money back to the entity later.
5. The person is unable to understand or does not care about the consequences of his or her actions.

This theory consists of advantages and disadvantages by researchers. Hogan, Rezaee, Riley and Velury (2008) stated that this theory is an important theory that can be employed in detecting, controlling and preventing fraud. However, Wolfe and Hermanson (2004) reported that two of the three components of pressure, opportunity and rationalization are inadequate to detect and control fraud.

Fraud Diamond Theory: This theory of fraud was propounded by Wolfe and Hermanson (2004). They added a fourth variable called capabilities to the three factor theory of fraud triangle of pressure, opportunity and rationalization. Adebisi and Gbegi (2015) stated that capabilities explain how the fraudster must possess certain skills and competencies to pull off his crime. Ukoma (2019), Adebisi & Gbegi (2015) reported that Wolf and Hermanson (2004) believed several frauds would not have been committed without the right individual with the right capabilities implementing the details of the fraud. They also explained four traits for committing fraud which includes authoritative position or function within the organization, the capacity to understand and exploit the weaknesses in the accounting systems and internal control system, confidence that the individual will not be detected or if caught will get out of it easily and capability to deal with the stress created within and otherwise good individual when he or she commits bad acts. Okoye, Maimako, Jugu and Jat (2015), also stated that opportunity provides the road to fraud, and incentive and rationalization can move a person towards fraud. They noted that the individual must have the capability to recognize the road and to take advantage of it by walking through. However, scholars have criticized this theory as an inadequate tool for deterring, preventing or detecting fraud. This is because, the theory omits some important variables like national value system and lack of corporate governance is omitted from the analysis (Adebisi & Gbegi, 2015).

Fraud Scales Theory: This theory was developed by Albretch (1984) as an extension of the fraud triangle. The theory explains the need for individual integrity rather than rationalisation. The theory introduced ranking to fraud triangle theory factors and it was to upgrade the elements of the fraud triangle. The theory state that fraud may occur where the pressure and opportunity for fraud are high and individual integrity is low and may not occur where individual integrity is high and the opportunity and environmental pressure are low. Puspasari (2016) stated that the fraud scale theory of Albretch (1984) provided three variables that are responsible for individual to commit fraud. These are situational pressures, opportunity to commit fraud, and personal integrity. He replaced rationalization elements with that of personal integrity. Albretch (1984) in Puspasari (2016) rationalization is more abstract to be recognised by other individuals, while the personal integrity of individuals can be traced from their historical records. Puspasari (2016); Riza, Agung and Ahmad (2019), note that the violation of ethical behaviour by fraudsters are the major cause of fraudulent activities. The ethical dimensions are as a result of rationalisation and to some extent the pressure factor related with fraud that can be traced by investigating the reasons of persons who are fraudsters by evaluating whether their actions are good or bad (Puspasari, 2016); Riza, Agung & Ahmad, 2019). Dormiley, Fleming, Kranacher & Riley (2010) assert that individuals with low integrity are at a very high risk of engaging in fraudulent activities and their moral standing would lead them to fraud.

Empirical Review

Udukeek and Ezenwafor (2019) carried out a study on forensic accounting techniques and fraud detection in Nigeria. The study employed descriptive survey design and the population consisted of two hundred and sixty with a sample of one hundred and sixty. Their study used questionnaire for the purpose of data collection and the data collected were analysed with mean and standard deviation for the purpose of homogeneity while t-test and analysis of variance (ANOVA) was employed for the purpose of hypotheses. The result suggested that the respondents lowly employed background investigation technique while investigative technique was moderately employed for fraud detection. Also their result revealed that the type and status of an entity in the Nigerian Stock Exchange does not significantly affect their ratings on the use of background investigation and investigative interview in detecting fraud. Therefore, their study concluded that accounting professionals do not employ of forensic investigation techniques for fraud investigation.

Ogutu and Ngalu (2016) examined forensic auditing skills in fraud mitigation in Kenya. Their study adopted the fraud triangle theory using descriptive research design with the target population of twenty-five respondent from sampled accounting firms. The study utilised questionnaire as the major source of primary data and the data obtained were analysed with frequency distribution tables, bar graphs and pie charts. Their study revealed that forensic accounting techniques are needed in the prevention and detection of fraud while their investigation further showed that forensic accountants should possess auditing, investigative, fraud and legal skills.

Ukuma (2019) carried out a study on forensic auditing and fraud reduction in Nigeria. The study employed survey research design with the use of questionnaire, interviews and secondary sources of data collection with a sample of 48 operational and general managers including bank auditors while only 16 banks was employed in data analysis. The data obtained was analysed with ordinary least square method and the result obtained showed that forensic auditing significantly relates with internal control and cash management system of banks but insignificantly related with loan processing and repayment systems.

Njanike, Dube and Mashayanye (2009), analysed forensic auditing and detection, investigation, and prevention of bank frauds in Zimbabwe. The study adopted survey research design with the assistance of questionnaires, personal interviews, and secondary data as methods of data collection for the study. Their study made use of a sample of 30 forensic auditors from 13 banks, 4 building societies, and 4 audit firms. The result showed that forensic auditing units are affected by several challenges such as lack of material resources, technical knowhow, interference from management, and unclear recognition of the profession.

Ogiriki and Appah (2018) investigated forensic accounting and auditing techniques in public sector fraud in Nigeria. The study employed ex post-facto research design with the assistance of questionnaire as the major source of primary data collection. The data obtained was analysed using ordinary least square. The result suggested that forensic accounting and auditing techniques such as continuous audit, computer assisted audit tools, data mining, Bedford law and financial ratio analysis shows a significant and positive relationship with public sector fraud prevention and detection in Nigeria.

Uniamikogbo, Adeusi and Amu (2019) examined forensic audit on fraud detection and prevention of banks in Nigeria. The study adopted ex post facto research design and secondary sources (annual reports) of data collection was employed as the source of data collection from census of sixteen banks in the country for a period of 2013 to 2016 and the data was analysed with charts, graphs, tables and regression. The findings of their study suggested that forensic audit has negative and significant effects on the number of fraud cases

in the Nigerian banking sector. Also the study showed that forensic auditing has insignificant effect on expected losses in the banking sector in Nigeria.

Bassey (2018) carried out a study on forensic accounting and management of fraud in microfinance institution in Cross Rivers State, Nigeria. The study employed a survey research design with the utilization of questionnaire, and other documentary evidence. The data collected was analysed with the assistance of least square technique. The results revealed that forensic investigation and litigation support affects the management of fraud in sampled microfinance institutions in Calabar the Cross Rivers State. It was recommended that microfinance institutions need to utilize forensic accounting techniques in the investigation and monitoring of fraudulent practices.

Aigienohuwa, Okoye, and Uniamikogbo (2017) investigated forensic accounting and fraud mitigation in the banking sector in Nigeria. The study adopted the survey research design with a well-designed questionnaire as the primary source of data collection. The result obtained from the questionnaire was analysed with ordinary least square and the findings showed that forensic accounting does significantly minimizes fraudulent practices in the banking sector in Nigeria. Furthermore, the study suggested that shareholders and regulatory agencies should employ forensic accounting services in the banking sector for internal control and audit staff to use.

Raymond, Nkiru, and Jane (2016) carried out a study on fraudulent activities and fraudulent practices in the banking sector in Nigeria. The study adopted survey research design with a well-designed questionnaire for a sample of fifty respondents in selected banks in Awka, Anambra State. The data obtained was analysed using t-test statistical technique. The findings of the study showed that forensic accounting techniques assists in reducing financial crimes in the Nigerian banking sector and improvement in corporate governance practices. The study recommended that the Central Bank of Nigeria should use forensic accounting experts in minimizing fraudulent practices to achieve good corporate governance in Nigerian banking sector.

Ogutu and Solomon (2016) analysed forensic auditing and reduction of fraudulent practices in Nakuru County in Kenya. The study adopted descriptive survey research design with a well-designed questionnaire with a sample of twenty five accounting firms. The data obtained from the questionnaire was analysed with ordinary least square technique and the findings suggested that forensic accounting experts should possess auditing, investigative, fraud and legal skills to be able to deal with modern fraud. Therefore, the study recommended that accounting firms and internal auditors should be trained with scientific forensic skills to reduce fraudulent activities.

Akenbor and Ironkwe (2014) carried out a study on forensic auditing techniques and fraudulent practices in Nigeria. The study employed survey research design and questionnaire was adopted as the primary source of data collection and the study used twelve public institutions as the population. The data obtained from the questionnaire was analysed with Pearson Product Moment Correlation Coefficient and the result revealed that proactive and reactive forensic auditing techniques have a negative and significant association with fraudulent practices in public institutions in Nigeria. The study suggested that anti-corruption institutions in the country should engage the services of forensic auditors and regular training and development programs should be established for forensic experts.

Enofe, Omagbon, and Ehigiator (2015) investigated forensic audit and corporate fraud in Nigeria. The study adopted the survey research design with the use of questionnaire as the primary source of data collection that was distributed to respondents using convenience sampling method. The data obtained from the questionnaire was analysed using ordinary least square regression method and the results revealed that forensic audit impacts on corporate fraud. The study further showed that the frequent employment of forensic services

significantly assists in the detection, prevention and reduction of corporate fraud. The study recommended that forensic audit should be made compulsory for corporate entities.

Oladejo and Oluwaseun (2015) carried out a study on forensic accounting and fraud reduction in Nigerian banking sector. The study adopted survey research design and questionnaire was utilized as the primary source of data collection and the population consisted of one hundred and twenty five senior and management staff of Eco Bank of Nigeria. The data obtained from the questionnaire was analysed using descriptive and chi-square statistical tools. The result of the study revealed that forensic accounting does significantly mitigate fraudulent practice and positively affects the performance of the bank. The study therefore suggested that the functions and responsibilities of forensic experts and auditors should be clearly stated.

Nonye and Okoli (2015) investigated forensic accounting and management of public sector institutions in Ebonye State, Nigeria. The study adopted the survey research design and questionnaire was used as the primary source of data collection. The population consisted of one hundred of fifty six accountants and the sample size of the study consisted of sixty two and only sixty was employed for analysis. The data obtained from the questionnaire was analysed using mean, standard deviation and t-test. The study revealed that forensic accounting assists in the computation of economic damage, ascertainment of bankruptcy or insolvency level, guide to reorgansiation activities, fraud security, money laundering cases, litigation support services etc. The study recommended that forensic accounting should be included in tertiary institutions and training and development programs should be established for public sector accountants and auditors in Nigeria.

Akani and Ogbeide (2017) carried out a study on forensic accounting and fraudulent practices in the public sector in Nigeria. The study adopted descriptive survey research design and the population comprised of public institutions in Edo State, Nigeria and ten government institutions were sampled. The study adopted questionnaire as the primary source of data collection and the data collected from the questionnaire were analysed using percentages and t-test. The findings of the study revealed a significant association between forensic accounting and fraud minimization in the Nigerian public sector. Hence, the study suggested that government and regulatory authorities should provide standards and guidelines for the regulation of forensic practice in Nigeria.

Adebisi and Gbege (2015) analysed fraud and public sector performance in Nigeria. The study employed survey research design and data was obtained from primary and secondary sources and the population consisted of one hundred and ninety senior officers of anti-corruption agencies with a sample of one hundred and twenty nine. The data obtained from the questionnaire were analysed using percentages and Analysis of Variance (ANOVA). The findings of the study showed that public sector fraud does significantly affect the economic growth of Nigeria and a positive and significant effect of forensic accounting and public sector performance in Nigeria. The study suggested amongst others that government should put in place public recovery fund where fund recovered from fraudulent practices should be kept.

Sidharta and Fitriyah (2015) carried out a study on forensic accounting and public sector fraud prevention in Indonesia. The study adopted survey research design and primary and secondary sources of data collection were employed for the purpose of data collection. The study utilized questionnaire as the primary source of data collection and two hundred questionnaires were distributed to four ministries, departments and agencies (MDA) in Indonesia and the results obtained from the questionnaire were tested using table, percentages and analysis of variance (ANOVA). The results showed that forensic accounting does decreases the level of fraudulent practices in the Indonesian public sector. Hence, the study

recommended that forensic accounting will assist in the prevention and reduction of fraudulent activities in Indonesia.

Ehioghiren and Atu (2016) examined forensic accounting and fraud management in Nigeria. The study employed survey research design and the population of the study consists of auditors, academics, accountants, and users of financial statements in Edo and Delta States, Nigeria. The sample consisted of five hundred and seventy two respondents. The study adopted questionnaire as the primary source of data collection and the data obtained from the questionnaire was analysed using descriptive statistics, paired sample z-test and regression analysis. The results showed that forensic accounting does significantly affect fraud detection and control and a significant difference between the responsibilities of forensic accountants and external auditors. Therefore, the study recommended that forensic experts should be engaged where evidence of fraud exists and necessary sanctions be taken.

Igweonyia (2016) investigated forensic accounting and fraudulent practices in Enugu State, Nigeria. The study employed survey research design and the population comprised of thirty six respondents from twelve ministries made up of chief accountants and internal auditors. The study adopted purposive sampling method and data was obtained from primary and secondary sources of data collection. The primary data comprised of questionnaire, observation and personal interview. The data obtained from the questionnaire was analysed using descriptive statistics and chi-square method. The results showed that forensic accounting does minimize the incidence of fraudulent practices in the public sector. Hence, the study concluded that significant difference does exist between forensic accounting and external auditing skills that are applied in fraud detection and prevention. Therefore, the paper recommended that the Institute of Chartered Accountants in developing nations should establish faculties for forensic accounting and government should use forensic experts to investigate reported cases of fraudulent practices.

Dauda, Ombugagu and Aku (2016) carried out a research on forensic accounting techniques and fraud detection and prevention in Nasarawa State public sector. The study employed survey research design and the population consisted of one hundred and twenty three professional accountants and the sample size consisted of ninety three respondents. The study adopted questionnaire as the primary source of data collection and the data obtained were analysed using descriptive statistics and chi-square. The results revealed that forensic accounting techniques does significantly affects the detection and prevention of public sector fraud in Nasarawa State, Nigeria. The study recommended that agencies engaged in the fight against financial crime should employ the services of forensic experts to complements other professionals in other to minimize the level of public sector fraud in Nigeria.

Okoye, Nwoye, Akuchi & Onyema (2020) investigated forensic accounting techniques in detecting occupational fraud in Anambra State, Nigeria. The study adopted purposive sampling techniques and cross sectional survey research design. The study population consisted of anti-corruption agencies in the state with a sample size of two hundred and fifty comprising investigators, prosecutors, finance, accounts and audit staff. Their study adopted questionnaire as the major source of primary data and the data obtained was analysed with descriptive statistics and Kruskal Wallis test. The result of the study suggested that there are no universally accepted forensic investigation techniques for the detection of public sector fraud and a positive and significant association between forensic accounting techniques and public sector fraud detection. The research suggested that data mining techniques should be fully adopted in public sector fraud detection in Nigeria.

Methodology

This study on the effect of forensic investigation on the mitigation of occupational fraud in public sector organisations in Bayelsa State, Nigeria. The study adopted descriptive survey

and correlational research design. The population of this study consists of accountants and internal auditors in the public sector of Bayelsa State. The respondents in this study were randomly selected from the Bayelsa State Civil Service Commission and Local Government Service Commission which consisted of one hundred and fifty (150) sample size of the respondents. The study employed primary and secondary sources of data collection. The secondary sources of data included textbooks and journals. The primary source of data was the questionnaire, which was carefully designed and administered to a sample of one hundred and fifteen (115) respondents and the responses of the respondents emanated from a five point Likert rating scale ranging from strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5). The first section of the questionnaire consisted of questions on demographic characteristics of the respondents. The second section consists of the questionnaire consists of five (5) items on forensic investigation. The third part of the questionnaire consisted of eleven (11) questions on occupational fraud. The questionnaire were pre-tested using twenty (20) respondents in Ministry of Finance, Yenagoa and a reliability test was done on the data collected using Cronbach Alpha model, to explore the internal consistency of the questionnaire (Appah, 2020). The result of the reliability test shows that the designed questionnaire is highly average reliability of 0.78. The data obtained from respondents was presented and analyzed using statistical techniques such as descriptive analysis and spearman rank correlation.

Result and Discussion

Research Question One

To what extent does the existence of forensic investigation mitigates occupational fraud in public sector organisations in Bayelsa State?

Table 1: Existence of Forensic Investigation & Mitigation of Occupational Fraud

Options	Responses	% of Response
Strongly agree	32	27.83
Agree	60	52.17
Not Sure	07	6.09
Disagree	13	11.30
Strongly disagree	03	2.61
Total	115	100%

Source: Field Survey, 2020

Table 1 shows forensic investigation and mitigation of occupational fraud in public sector organisations in Nigeria. Thirty two (32) respondents (27.83%) strongly agree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Sixty (60) respondents (52.17%) agree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Seven (07) respondents (6.09%) are not sure that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Thirteen (13) respondents (11.30%) disagree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria while three (03) respondents (2.61%) strongly disagree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Therefore, the paper concludes that forensic investigation mitigates occupational fraud in public sector organisations in Bayelsa State, Nigeria.

Research Question Two

What is the extent of the relationship between forensic investigation and mitigation of occupational fraud in public sector organisations in Bayelsa State?

Table 2: Relationship between Forensic Investigation & Mitigation of Occupational Fraud

Options	Responses	% of Response
Strongly agree	28	24.35
Agree	57	49.57
Not Sure	08	6.96
Disagree	15	3.04
Strongly disagree	07	6.08
Total	115	100%

Source: Field Survey, 2020

Table 2 shows forensic investigation and mitigation of occupational fraud in public sector organisations in Nigeria. Twenty eight (28) respondents (24.35%) strongly agree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Fifty seven (57) respondents (49.57%) agree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Eight (08) respondents (6.96%) are not sure that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Fifteen (15) respondents (3.04%) disagree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria while seven (07) respondents (6.08%) strongly disagree that forensic investigation influences the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Therefore, the paper concludes that forensic investigation mitigates occupational fraud in public sector organisations in Bayelsa State, Nigeria.

Research Question Three

What is the extent of the relationship between forensic investigation techniques and mitigation of occupational fraud in public sector in Bayelsa State?

Table 3: Relationship between Forensic Investigation & Mitigation of Occupational Fraud

Options	Responses	% of Response
Strongly agree	25	21.74
Agree	56	48.69
Not Sure	07	6.09
Disagree	16	13.91
Strongly disagree	09	7.83
Total	115	100%

Source: Field Survey, 2020

Table 3 shows forensic investigation and mitigation of occupational fraud in public sector organisations in Nigeria. Twenty five (25) respondents (21.74%) strongly agree that forensic investigation techniques influence the level of occupational fraud in public sector

organisations in Bayelsa State, Nigeria. Fifty six (57) respondents (48.69%) agree that forensic investigation techniques influence the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Seven (07) respondents (6.09%) are not sure that forensic investigation techniques influence the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Sixteen (16) respondents (13.91%) disagree that forensic investigation techniques influence the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria while nine (09) respondents (6.08%) strongly disagree that forensic investigation techniques influence the level of occupational fraud in public sector organisations in Bayelsa State, Nigeria. Therefore, the paper concludes that forensic investigation techniques mitigate occupational fraud in public sector organisations in Bayelsa State, Nigeria.

Hypothesis One

There is no relationship between forensic investigation and mitigation of occupational fraud in public sector organisations in Bayelsa State.

Table 4: Forensic Investigation and Mitigation of Occupational Fraud

	Forensic Investigation (FOI)	Mitigation of Occupational Fraud (OCF)
Spearman rho FOI Correlation Coefficient	1.000	-0.76**
Sig. (2-tailed)		.035
N	115	115
OCF Correlation Coefficient	-0.76	1.000
Sig. (2-tailed)	.035	
N	115	115

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

Source: Generated by the Author from data collected using SPSS (version 17.0)

Table 4 shows the result of Spearman rank order correlation coefficient on the relationship between forensic investigation and mitigation of occupational fraud public organisations in Bayelsa State, Nigeria. The table shows the Spearman rank order correlation coefficient for forensic investigation and mitigation of white collar crimes to be -0.76 with p-value of 0.035, which reveals a highly negative and statistically significant correlation relationship between forensic investigation and mitigation of occupational fraud in the public sector of Nigeria. This implies that forensic investigation can be used to mitigate the high level of occupational fraud in the Nigerian public sector. This result is in line with the study conducted by Akenbor and Ironkwe (2014); Dauda, Ombugagu and Aku (2016); Sidharta and Fitriyah (2015); Akani and Ogbeide (2017) that forensic auditing techniques reduce fraudulent activities in the Nigerian public institutions. However, the study disagrees with the studies conducted by Dauda, Ombugagu and Aku (2016); Ogiriki and Appah (2018); Okoye, Nwoye, Akuchi & Onyema (2020) that forensic accounting and auditing techniques positively affect fraud.

Hypothesis Two

There is no relationship between forensic investigation techniques and mitigation of occupational fraud in public sector organisations in Bayelsa State.

Table 5: Forensic Investigation Techniques and Mitigation of Occupational Fraud

	Forensic Investigation Techniques (FOIT)	Mitigation of Occupational Fraud (MOCF)
Spearman rho FOIT Correlation Coefficient Sig. (2-tailed) N	1.000 115	- 0.68** 0.031 115
MWCC Correlation Coefficient Sig. (2-tailed) N	-0.68 0.031 115	1.000 115

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

Table 5 shows the result of Spearman rank order correlation coefficient on the relationship between forensic investigation techniques and mitigation of occupational fraud in Bayelsa State, Nigeria. The table shows the Spearman rank order correlation coefficient for forensic investigation techniques and mitigation of occupational fraud to be -0.68 with p-value of 0.031, implying a negative and statistically significant correlation exists between forensic investigation techniques and mitigation of occupational fraud in Bayelsa State, Nigeria. This result is consistent with the findings of Akenbor and Ironkwe (2014) that forensic auditing techniques of proactive and reactive negatively and significantly affect fraudulent practices of public institutions in Nigeria. This result implies that the application of forensic investigation techniques in the Nigerian public sector will mitigate the wide-spread fraudulent activities in government business.

Conclusion, Implications and Recommendations

This study provides the following conclusion on the basis of the research findings:

1. The awareness and use of forensic investigation would assist public sector organisations in the mitigation of occupational fraud in their respective entities.
2. Forensic investigation techniques would provide the needed mechanism for the reduction in the high level of corruption in the Nigerian public sector.
3. The adoption of forensic investigation would improve the level of accountability and transparency in public sector financial management due to the reduction in the level of corrupt practices.

The implications of this study can be discussed from the management perspectives of public sector entities. Managers of public sector organisations must see forensic investigation as a compulsory aspect of the entire auditing process because forensic investigation can be applied in the minimization of the high level of fraud ravaging the Nigerian economy. The implementation of forensic accounting and auditing as part of the entire control system would discourage public servants and fraudsters from committing occupational fraud in their respective ministries, departments and agencies (MDA).

The following recommendations were made to provide a means of improving the adoption of forensic investigation techniques in the mitigation of occupational fraud in the Nigerian public sector:

1. Internal auditors, accountants and other employees in government MDAs should adopt scientific forensic investigation skills in order to achieve efficient and effective mitigation of occupational fraud in the public sector.
2. Accounting and internal staff should always avail themselves of training and re-training opportunities on forensic investigation techniques provided by the government because that would enable them to obtain contemporary knowledge on fraud and attitudes of fraudsters.
3. The government MDAs should establish sound internal control system as part of minimizing occupational fraud in the public sector. This would provide a more comprehensive application of forensic investigation techniques in the mitigation of fraud.

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