FORENSIC AUDIT TECHNIQUES AND CURBING PUBLIC SECTOR'S WHITE COLLAR CRIMES IN NIGERIA

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Abstract:

White collar crimes are a global unresolved social vice that have plagued every corner of the world economy especially Nigeria. Continuous research confirmed a strong demand for forensic auditing techniques to prevent, detect and arrest the financial crimes menace in across the globe. This study therefore, examines the viability of forensic audit techniques for curbing public sector white collar crimes using evidence from Nigeria. This study employs a survey research design and purposive samplingtechnique to select the sample of eighty six (86) accountants and auditors of the three selected ministries in Osun State, Nigeria. The study used primary data through a designed structured questionnaire. The data collected was analyzed using descriptive and inferential statistical tools. The study found that curbing of financial crimes in Nigerian public sector through the application of forensic audit techniques is viable as the. P–value = 0.00 < 0.01. This study concluded tha, government of Nigeria should increase the interest in and facilitate the growth of forensic audit technique by giving legal more backing for proper monitory and investigation of alleged cases of financial crimes. This study recommended that, all government ministries, agencies and parastatals should include forensic audit unit to help strengthen internal controls and ensure thorough investigation in order to prevent, deter and detect white collar crimes and the University regulatory body as well as the accounting professional bodies should ensure that forensic auditing course is given enough space in the educational curricula for more training and its awareness across the globe.

Keywords: *Forensic Audit Techniques, Public Sector's White Collar Crimes*

INTRODUCTION

The menace of white collar crimes in the public sectors is a major disease that is killing many countries' economies. Akenbor (2014) emphasized that in the public sector, forensic auditors need to examine the allegations or complaints about wrongdoing involving significant federal funds or assets. Public sector entails all the public organizations and their activities being conducted by the government machineries. The simplest definition of 'Public Sector' is "all organizations which are not privately owned and operated, but which are established, run and financed by Government on behalf of the public" (Abuh et al., 2018). This definition conveys the idea that the public sector consists of organisations where control lies in the hand of the public as opposed to private owners, and whose objectives involve the provision of services where profit making is not a primary objective (Abuh et al., 2018). Although, the problem of corruption and other white collar crimes is a global issue but the extent at which they are being perpetrated in the public sector of most of the developing countries like Nigeria is seriously alarming (Williams, 2004). Many detection tools such as systems of internal controls, operational audits and corporate code of conduct that are currently being employed in these countries are not proactive enough to deal with white collar crimes menace (Williams, 2004). Literature shows that different mechanisms are being adopted to combat the menace of these white collar crimes but forensic audit techniques appears to be the most effective tools currently being employed in most developed economies (Williams, 2004). The effective application of forensic audit techniques can easily investigate and detect economic and financial crime cases traditional audit (Evans, 2017). Thus, the use of forensic audit techniques could enhance the prosecution of white collar crimes allegations across the globe.

Forensic is the examination, study, searching, tracking and gathering of factual information that is applicable to courts (Evans, 2017). Forensic audit can be carried out to prosecute the fraud, embezzlement and other financial crimes suspects (Eyisi, Agbaeze, Zimbabwe, Njanike, Dube & Mashayanye, 2009). Forensic audit refers to specific procedures carried out to produce evidence Akenbor & Oghoghomeh, 2013) .The studies and application of forensic auditing have not being given enough recognition and wider space in the public offices and in the educational curricula in most of the developing countries especially Nigeria ((Eyisi, et al., 2009). The rise in white collar crimes at the beginning of the twenty-first century was associated with increased financial crisis incidence and awareness, thereby questioning the role of forensic accountants on their prevention and detection (Ezejiofor, Nwakobu & Okoye, 2016). Oyeokun (2017) affirms that corruption and other financial and economic crimes are the bane of Nigerian development efforts and harm the economy but the perceived lack of the appropriate litigation support services in the court is a principal cause of misjudgment. Continuous

research confirmed a high demand of the prevention and uncovering of these crimes by institutions and nations as a response to closer scrutiny of the financial activities of government ministries and agencies (Evans, 2017). Recently, the Federal Bureau of Investigation of United States of America estimated that more than three hundred billion dollars ($300) is loss annually to fraud. Many of these crimes are difficult to identify due to the concealment of the perpetrators' activities (Evans, 2017). White collar crimes were also attributed to the collapse of Enron, WorldCom, Tyco, Adelphia, to corporate fraud where $460 billion was said to have been lost. More so, Cadbury Nig Plc whose books were criminally manipulated by management was credited to have lost $15 million in Nigeria (Ezejiofor et al., 2016). In response to these financial crimes, many countries have championed the fight against them in the history of the whole world. The American Institute of Certified Public Accountants (AICPA) suggested that more forensic auditing techniques and procedures should be incorporated in the detection of financial reporting since auditors and forensic accountants have different training, skills and mindsets (Evans, 2017).

White collar crimes committed by individuals and organizations include fraud of any kind, money laundering, embezzlement, bribery, extortion, corruptions and tax evasion (Izedonmi & Ibadin, 2012). Most of these crimes are difficult to detect, through the statutory audits and most of those detected are not reported

for fear of bad publicity (Dada, Enyi & Owolabi, 2013). Forensic Audit emerged in response to the high incidence of frauds (Ugwuja, 2016). The origin of forensic audit could be traced back to 1800s but was coined in 1946 by Peloubet (Abuh & Adio, 2018). Forensic auditing comprises auditing and investigation that are applicable in courts, The upsurge in white collar crimes in the countries of the world accentuated the need for the application of forensic audit techniques (Dada, et al. 2013) Forensic audit is gaining dominance in fighting against fraud and other financial crimes (Adeniyi, 2016). However, some of these financial crimes are difficult to detect, through the statutory audits and most of those detected are not reported for fear of bad publicity (Dada, Enyi et al., 2013). Statutory auditing may uncover some white collar crimes, but detailed disclosure of these crimes and their prosecution demand for special techniques and forensic audit application is perceived to provide the solution (Naziru & Aidi, 2018). Forensic audit techniques are capable of bridging statutory audit expectation gap relating to fraud prevention, detection, and prosecution of financial crime (Rabiu, Noorhayati & Muhammad, 2015). The use of forensic audit techniques could better enhance the prosecution of white collar crime cases than the statutory auditing (Evans, 2017).

A review of the literature on white collar crimes such as the studies by .Ifeanyi and Joseph (2018); Yucel (2010); (Izedomin et al. (2012);;Okoye and Gbegi (2013); Egbunike

and Amakor (2013); Ozili, (2016); Ogirili and Appah (2018); Akepe (2015); Ezejiofor et al. (2016); Raymond, Nkiru, Jane and Okoye (2016); Gbegi and Habila (2017); Ile and Odimmega (2018).; Adeniyi and Obidi (2019) Okoye,Adeniyi and James (2019) among others revealed that these crimes are growing problems that have negative effects on the world's economies . The reviewed literature such as Abuh and Acho (2018) also ndicated a significant negative effect of white collar crimes on the world's economies. White collar crimes which manifest virtually in both public and private sectors have posse serious threats to the survivalof many countries economies. Nigerian government has lost funds through these illicit practices. In response to these, the governments put in place some measures like assetsdeclaration of the top government officials and political office holders and strengthening the mandate of the Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices and Other Related Offences Commission (ICPC) through the application of forensic audit such as business intelligence to investigate, detect and prosecute the alleged person (s) for white collar crimes cases. to combatthe crimes. White collar crimes is a wide concept which include tax evasion, bribery and corruption, illegal oil bunkering, treasury looting or embezzlement, illegal mining, theft of intellectual property and piracy,child labour, money laundering, prohibited goods, drug trafficking, foreign exchange malpractice like

counterfeiting currency, open market abuse, other fraudulent practices of all kinds are the criminal activities of earning illegal wealth. White collar crimes have become prominent in Nigeria due to limitation and weakness of the statutory auditing as some of the audit procedures suffer from obvious deficiencies, statutory audits expectation gaps, while most of the evidence provided by the auditors are still limited and may unable to effectively detect corruption, financial frauds and other forms of white collar crimes. Lack of administrative autonomy and independence on the part of internal auditors is another issue. There is a general belief that the services of forensic accountants are needed in the face of increasing white collar crimes activities. Thus, the application of forensic accounting techniques during the investigation of white collar crimes offences can provide advices to experts in determining whether or not the accused person has to face legal consequences.

In Nigeria, forensic audit happens to be an expensive service which can only be afforded by big companies. Thus, most of these companies prefer to settle issues outside the litigation to avoid the expensive cost involved and the risk of bad publicity which may affect the image of their entities. Aside that, forensic audit is a new accounting phenomenal in developing economies including Nigeria and the professional accountants with adequate technical knowledge on forensic matters and application are rear in Nigeria. Aduwo (2016) discloses that an important challenge to the application of forensic

audit in financial fraud control in Nigeria is that law failed to incorporate latest technology in fraud detection. Aduwo (2016) further explains that the task of gathering information that is admissible in a court of law; the acceptance of evidence in compliance with the laws of evidence is crucial to successful prosecutions of criminal and civil claims and the globalization of the economy and the fact that a fraudster can be based anywhere in the world has led to the problem of inter-jurisdiction. Up till now, the application of forensic audit techniques in Nigeria has not been given wide usage by the government and yet to gain popularity in both private and public sectors of the economy. Forensic auditing serves as a mechanism for bringing the white collar offenders to justice (Williams, 2004). However, the studies of combating white collar crimes through forensic audit are very rear in literatures and not fully explored in the Nigerian public sector. It is against these identified gaps that this study is examining the viability of forensic audit techniques for curbing public sector white collar crimes. Specifically, the study investigates the viability of business intelligence for curbing public sector white collar crimes, and examines the viability of data mining for curbing public sector white collar crimes in Nigeria. Findings from this study would create more awareness to governments, anti-corruption agencies, accounting practitioners, future researchers, and indeed the business owners on the effect of applying forensic audit techniques for curbing white collar crimes at a time like this, when many

developing countries like Nigeria are deeply soaked in and characterized by corruption, frauds and other white collar crimes that remain the worst enemy to their economies.

LITERATURE REVIEW
Curbing White Collar Crimes through Forensic Audit Techniques

White collar crimes have been variously described in literature. Wikimedia dictionary defines white collar crimes as crimes involving the unlawful conversion of property belonging to another to one's own (Evans, 2017). The white collar crimes as described in the Economic and Financial Crimes Commission's Act of 2004 in Nigeria is the "violent, criminal and illicit activities committed with the objective of earning wealth illegally in a manner that violates existing legislation" (Izedonmi, 2012). White collar crimes are usually committed by individuals and organizations include corruptions, money laundering, embezzlement, bribery, extortion, tax evasion, fraud of any kind, illegal oil bunkering, illegal mining, artificial pricing, theft of intellectual property and piracy, foreign exchange malpractice including counterfeiting, currency (Izedonmi et al., 2012; Anuolam et al., 2016; Ameka & Ikhatua, 2016 & Evans, 2017). Corruption is the most popular form of white collar crimes. Corruption by public officials (Political corruption) is tantamount to stealing from the poor. Corruption may appear in form of corruption fraud which includes conflicts of interest, bribery, and extortion (Anuolam et al., 2016 & Evans, 2017). Bribery is a situation whereby money or something

else of value is offered in order to influence a situation or person (Dada et al., 2013). Extortion is the opposite of bribery, and happens when money is demanded rather than offered in order to secure a particular outcome (Dada et al., 2013). The fraudsters use conflict of interest fraud to exert their influence to achieve a personal gain which detrimentally affects the company (Lawan, Magaji & Naziru, 2018). Money laundering represents the illegal flow of funds across the borders (Ijeoma, 2015). Embezzlement is another type of FCs (Evans 2017). Embezzlement is improperly taking money from someone to whom you owe some type of duty (Ehiogbiren & Atu, 2016). The most common example of embezzlement is a company employee that embezzles money from his employer for example by siphoning money into account (Joseph, Okike & Yoko, 2016).

Forensic audit is the examination and interpretation of auditing for legal facts and evidence, and expert witnessing in the court of law (Tim & Sam, 2016). Forensic audit is a specialized auditing field which makes use of auditing techniques with investigative skills to assist in legal matters that arises from activities of current and potential disputes or litigation (Manas, 2014). Forensic audit is an aspect of forensic accounting that is suitable for a higher level of assurance for law courts (Akenbor & Ironkwe, 2014). Forensic audit is a generally accepted auditing principles, and investigative techniques to establish losses or gains, property, damages, the effectiveness

of internal controls and frauds for the legal system usage regarding criminal and civil disputes (Anuolam, Onyema & Ekeke, 2016; Olaoye, Ogundipe & Dada, 2019). Forensic auditing practice began in 1817, where a decision of a court on bankruptcy was based on the testimony of an accountant (Evans, 2017). A Scottish accountant used his knowledge and expertise through opinion to support arbitration proceedings in the 1820s (Eze & Okoye, 2019). The term "Forensic auditing" was used by Kautilya who stated several means of embezzlement in 1946 (Ehigbiren, 2016). Forensic audit is a specialized area of accounting practices that employs forensic auditing technique, investigation and legal skills and knowledge to provide evidence of information suitable or relevant to legal issues. The following steps are deemed critical to successful forensic auditing assignments (Eyisi, Agbaeze, Zimbabwe, Njanike, Dube & Mashayanye, 2009). Meeting with the client to determine the scope of the assignments and obtain an engagement letter; determining the independence of the forensic auditor to avoid conflicts of interest that could compromise the assignment; planning of the engagement; gathering evidence and performing analysis; arriving at conclusions; preparing the report and serving as a witness in the court of law (Eyisi et al., 2009).

Forensic audit techniques are the unification of, auditing, investigation techniques, and law procedure for use in courts (Mohammed & Peter, 2016). Forensic auditing techniques (FATs)

are the viable tools for investigating financial crimes (FCs) like financial frauds, corruption embezzlement, money laundry just to mention but a few. Forensic audit techniques are also known as investigative accounting techniques, fraud audits and even judicial accounting (Nenyiaba, Osisioma & Okoye, 2015). The first important steps in applying forensic auditing techniques are to ensure that the allegation or complaint has merit with adequate evidence and that the assigned department has the authority to investigate or conduct forensic audit in the public organization (Akenbor and Oghoghomeh, 2013). Three many techniques of forensic audit such as business intelligent forensic analytics, data base collection, whistle blowing and background investigation will provide useful information to forensic investigators conducting forensic audits (Akenbor et al. 2013). Faboyede, Makoro and Ben-Caleb (2013); Gbegi and Adebisi (2013); Dickson, Ogijoand Samuel (2013), Aduwo (2016), Ezejiofor et al. (2016) and among others identified the following forensic auditing techniques such as business intelligence, forensic analytics, background investigation, the use of red flag and offender profiling. This study however covers only business intelligence and forensic analytics.

Business intelligent is the intelligence used to conduct financial investigations, prepare evidencefor the purpose of law enforcement and the prosecution of the offenders (Faboyede et al., 2013). Quite recently the corporate world has adopted the use of, business intelligence to

directly investigate an employeebeing suspected to be involved in illicit business activities (ACFE, 2013; Jephitha Gillian & George, 2019). Surveillance can provide financial investigators with a wealth of general information in order tocombat FCs by physically follow and observe the subject while remaining undetected (Gbegi et al., 2013; Aduwo, 2016). Forensic firms normally subscribe to various public databases to gather business intelligence through the database on individuals and companies; that can assist the forensic accountants to obtain the intelligent information in South Africa (Benjamin, 2012). Through the trash collection, people routinely discard papers, receipts, credit card slips, bank statements, cancelled cheques, repair bills, tax assessment records, correspondence and other personal items that while alone are meaningless, when considered together can offer a detailed picture of the suspect's activities (Ezejiofor et al., 2016).

Forensic analytics is the application of some techniques like Data mining, ratio analysis and many others for white collar crimes investigation. Data mining (DM) derives its name from searching for information in a large database. DM has to do with the ability of the researcher to search and analyze data in order to find the implicit but potentially useful information which has been buried due to the passage of time on the gigabytes of the system (Dickson et al., 2013). It is useful inan exploratory analysis, where there

is no predetermined interest outcome (Glenn & Matthew, 2004). DM uses a board family of computational methods which are statistical analysis, decision trees, neural network, rule induction and refinement, and graphic visualization (Ezejiofor et al., 2016). The accountants use ratio analysis is computed to determine how well the firm is doing in the current year over the previous years (Ibrahim, Adeyemi & Odunayo, 2015). Ratio analysis could also be employed in the sameway to check on the financial healthof the company when it has to do with fraud because it will serve asa pointer to waste, abuse and fraud (Ibrahim, Rose & Mohammed, 2016). Ratio analysis can identify fraud by computing the variance in a set of transactions and then calculates the ratios for the selected numeric field (Igweonyia, 2016). If the result of ratio of the highest value to the lowest valuethat is maximum / minimum is closeto 1, the forensic accountant will know that there is no much doctoring of the result. This implies that there is no much variance between the highest and the lowest prices. But if the ratio is large, this is an indication that too much was paid for the product than required which indicates the possibility of fraud (Ezejiofor et al., 2016).

The fighting against white collar crimes needs competencies in accounting, investigation, finance, legal, and forensic skills in Nigeria (Ibrahim, Adeyemi & Odunayo, 2015). The use of forensic audit techniques during the white collar crimes investigation can address the problems of white collar crimes cases that have lost stemming from inadequate litigation procedures which may lead to a poor presentation by lawyers and subsequently inaccurate judgmentsby judges. In detecting and deterring white collar crimes such as corruption, money laundry and frauds of all kinds, Forensic audit have been argued in literature to be the most important techniques. Okoye, Adeniyi, and Obidi (2019) affirm that the employment of forensic audit technique can prevent corruption, and investigate and detect tax evasion, embezzlement, money laundry and other white collar crimes in Nigeria. It is a known fact that tax evasion is an illegal mean of reducing tax liability which involves falsification of books, fraudulent non disclosure of income and suppression of income, and the financial criminals may decide not to keep adequate and complete records of their financial transactions with a plan to evade tax payments. This can be detected and exposed through data mining of forensic analytics. More so, money laundering is another financial crime that represents illegal flow of funds across the borders (Williams, 2004). However, money launders can be tracked and prosecuted through the application of business intelligent.

Theoretical Review - White Collar Crimes Theory

This study is anchored on the white collar crimes theory. White collar crime is a sub-class of financial crimes. White collar crimes theory was a general theory of all financial crimes (Evens, 2017). This theory reviewed the incidence of fraud of all kind, corruption and other White collar crimes. White collar crime is a crime

committed by a person of respectable and high social status in the course of his occupation (Evans, 2017). (Evans, 2017 explained that the only way one crime differs from another is in the background and characteristics of its perpetrators. (Evans, 2017 estimated that majority of white-collar crimes is undetected or if detected, it is not reported. However, white collar crimes theory was attributed to Ross in 1907 that developed the concept of white collar offenses. Ross came up with the term "Crimanoloid" to refer to the person who exploits the weaknesses in society but does not fit the description of the ordinary offender. This theory was further developed by a traditional theorist Sutherland in 1938 who's his original work was published in 1949. According to Sutherland (1938), white collar crimes refer to as the financial crimes being carefully and intentionally organized. White collar crimes offenders do not consider themselves as law breakers and they do not fit the description of the ordinary criminals. Sutherland (1938) gave examples of WCCs to include occupational frauds, bribery and corruption, cybercrime, embezzlement or money laundering. Sutherland submits that white collar crimes are financially motivated and violence crimes involving corporate or government professionals (Evens, 2017).

Sutherland (1949) tried to connect the crime of upper white collar class with economic and business activities. Sutherland came up with an argument and preserved blue collar crimes for the poor people in the society and white collar crimes for the people of high social class and authority, claiming that poverty is not a driver of white collar crimes as most white collar offender is rarely poor. Sutherland further argues that the professional status in a society creates an atmosphere of both admiration and intimidation making members of the community admire the professionals and also avoid prosecuting them as they are intimidated by the professional status. This leads to less or no punishment of the white collar criminals. White collar crimes are complicated and less obvious than violent crimes (like blue collar crimes) as the consequences of the crimes may be shared by many people or over an extended period by the victims (Evans, 2017). Although Sutherland's definition of white collar crimes has generated a great deal of criticism and controversy, but it exhibits the important issue of inappropriately recognition, prevention and control of crimes perpetrated by persons in position of power. The theory of White Collar Crimes is therefore, relevant to this study as it discussed the issues relating to financial crimes.

Empirical Review

Eyisi et al. (2009) conducted an investigation on the effectiveness of forensic auditing in detecting, investigating, and preventing bank frauds. The study used primary data. The study submitted that forensic auditors should be equipped in term of materials need and technically to ensure efficient performance. Akenbor et al. (2013) examined "forensic auditing and financial crime in Nigerian banks: a proactive approach".

The study used secondary data which and was analyzed using frequencies, percentages and Pearson Product moment correlation Co-efficient. The study found that proactive approach to forensic auditing helps in reducing the menace of financial crimes in the banks in Nigeria. Onodi et al. (2015) carried out a study to examining "the effect of forensic investigation methods in corporate fraud deterrence in Nigerian banks". A survey research design was adopted. The study employed primary data. The study used descriptive analysis, regression analysis and Z-test to analyze data gathered. The study found that forensic investigative services are needed to prosecute fraud with adequate knowledge of techniques of forensic auditing in Nigeria. Adeniyi (2016) conducted a research on the "effect of forensic auditing on financial fraud in Nigerian deposit money banks" A logistic regression analysis was used to analyze data collected. The study made a conclusion that the application of forensic audit to curb financial fraud stills remains an infant issue in Nigeria. Evans (2017) examined forensic accounting and the combating of economic and financial crimes in Ghana. The study employed a survey research design by sampling all the technical officers of economic and organized crime office of Ghana. The data was analyzed using a Regression Model. Findings from the study revealed that, the application of forensic accounting technique has significant impact on the combating of economic and financial crimes in Ghana. The study concluded that all institutions (anti-corruption agencies and companies) should establish

forensic accounting unit to help strengthen internal controls and ensure thorough investigation in order to prevent, deter and detect financial and economic crimes. All those reviewed studies did not consider whether the use of forensic accounting techniques can help fight financial crimes. But this study examined the effect of applying forensic audit techniques on curbing public sector white collar crimes across the globe using Nigeria as the evidence.

METHODOLOGY

This study used survey research design to examine the effect of applying forensic audit techniques for curbing white collar crimes in Nigerian public sector. The population of the study is made up of the entire staffs of the three selected Ministries namely: Ministries of Finance, Ministry of Commerce, Cooperative and Industry and Ministry of Budget and Economic Planning in Osun State, Nigeria. A sample size of one hundred and sixty six (166) was selected using a purposive sampling technique. This study used primary source of data. The primary data was obtained with the help of research questionnaire distributed to the three selected Ministries. Out of the total numbers of 166 copies of questionnaire distributed, only eighty six (86) of them were returned and considered valid for the purpose of this research work. The structured questionnaire items were designed based on the research objective. Consequently, a 4-point Likert scale consisting of strongly agreed (SA) agreed (A), disagreed (D) and strongly disagreed (SD) was used to solicit the opinion

of respondents. The data collected was analyzed using descriptive statistics, multiple regression model and correlation analysis. To ensured that the research the validity and reliability of the instrument, the questionnaire was thoroughly checked by the experts in the field of accounting and research to assess

it validity and the Cronbach's Alpha reliability method was used to analyze it reliability which give a reliability coefficient of 0.916. The researcher also personally went to the sampled ministries premises to administer the copies of the questionnaire. The copies of the questionnaire were collected personally after their completion.
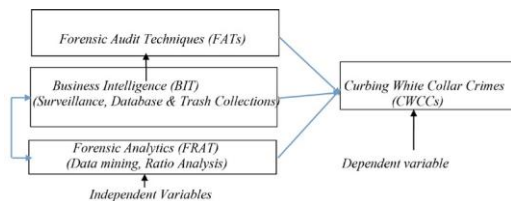

Figure 3.1: Conceptual Model of the Study

The above conceptual model in figure 3.1 was developed to show the relationship between the independent variable of Forensic audit techniques (FATs) and the dependent variable of curbing white collar crimes as disclosed in figure 3.1. The independent variables of forensic accounting techniques are made up of four predictable variable of business intelligence (BIT) and forensic

analytics (FRAT). Thus, the model gives the snapshot of techniques that

should be employed in the curbing of White collar crimes (CWCC). However, this research did not cover all the variables in the model for combating

Model Specification and Identification of Variables

This study employed regression model of forensic accounting services and fraudulence practices adapted by Anuolam, Onyema and Ekeke (2016)as follow:

$$FDP = f(FAS, FAV, FAP) \quad ... (1)$$

$$FDP = f(\alpha_0 + \beta_1 FAS + \beta_2 FAV + \beta_3 FAP) \quad ... (2)$$

where: α_0 is constant and β_1, β_2, $\beta_3 > 0$

The dependent variable of fraudulent practices (FDP) was usedas a function of the three components of independent variables of FAS (Forensic Accounting Services), FAV (Forensic Accounting Validation) and FAP (Forensic Accounting Practices). This study therefore replaced all the variables used by Anuolam et al. (2016) with a dependable variable of curbing white collar crimes (CWCCs) as a function of two predictable variables namely business intelligence (BIT) and forensic analytics (FRAT) to form the specific objectives and research hypotheses in order to capture the relevance of forensic accounting techniques for combating financial crimes in Nigerian public sector. The model is specified below:

$$CWCCs = f(BIT, FRATs) ... (3)$$

$$CWCCs = f(\beta_0 + \beta_1 BIT + \beta_2 FRATs + Ut) \quad ... (4)$$

where: α_0 is constant, Ut is error term and β, β_0

white collar crimes but a portion.

$_1$ $_2$$>0.$

DATA ANALYSIS

This section analyzed and discussed the data collected through the questionnaire.

Table 4.1: Cross-tabulation of Demography of Respondents

		Three selected Ministries			
		Mini. of Finance	Min. of Budget & Economic Planning	Min. of Commerce, Cooperative & Industry	Total
Job status of respondents	Acts	20	14	13	47
	Auditors	18	11	10	39
Total		38	25	23	86

Source: Author's Analysis (2021)

Table 4.1 shows total numbers of 86 questionnaires were distributed to the Accountants and Auditors of the three selected Ministries comprising the sample of 55.8% staffs from the Ministries of Finance, 22.1% from the Ministries of Budget and Economic Planning and 22.1% from the Ministry of Commerce, Cooperative and Industry.

Table.4.2: Test of Reliability Statistics

Cronbach's Alpha	N of Items
0.916	3

Source: Author's Analysis (2021)

Table 4.2 above showed Cronbach's Alpha coefficient of 0.972 which above the value of Cronbach's Alpha coefficient recommended by George and Mallery (2003) that the statistical reliability value is expected be 0.70 or above. This indicates that the

questionnaire is reliable.

Table 4.3: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.741a	0.549	0.538	0.72390

a. Predictors: (Constant), Forensic Analytics, Business Intelligence

Table 4.3 presented the summarized results of multiple regression analysis showing a moderate positive relationship between the predictor independent variables of forensic audit techniques and the dependent variable of curbing white collar crimes (CWCCs) with the correlation coefficient (R) result of 0.549 which is large enough and indicated linear correlation between the observed and mode-predicted values of the dependent variable and other 45.1% is explained by other factors outside the model and the error term. From the table, the coefficient of determination (Adjusted R^2) (0.538) shows a moderate positive correlation of the studies variables, which indicates that about 54.9% of variation in the dependent variable curbing white collar crimes is explained by the independent variables forensic audit techniques

Table 4.4: Regression Coefficient of Predictor Variables

Model	Un-standardized Coefficients		Stand. Coeff.	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.540	0.183		8.398	.001
Business intelligence	0.367	0.205	0.334	0.787	.000
Forensic analytics	0.447	0.198	0.422	2.263	.000

Dependent Variable: Curbing White Collar Crimes.
Source: Author's Analysis (2021)

Source: Author's Analysis (2021)

The result from table 4.4 for explanatory variables showed that business intelligence (BIT) where t = 1.787, and p =0.00 < 0.01 and forensic analytics where t = 2.263, and p =0.00 < 0.01 all have significant positiveimpact on combating white collar crimes in Nigerian public sector. Based on the linear equation of the predictor variables coefficients, that is: Y = 1.540

+ $0.367\beta_1$ + $0.447\beta_2$+Ut. This equation depicted that combating white collar crimes through the application of forensic accounting techniques in the public sector is viable given a unit increase in each of the forensic audit techniques (Predictor variables) of BIT and FRAT.

Discussion of Results

The coefficient of relationship (R)of 0.549 in table 4.3 showed a strong relationship and the coefficient of determination (Adjusted R2) (0.538) shows a moderate positive correlation of the studies variables, whichindicates the ability of the regression line to predict dependent variable curbing white collar crimes is about54.9%. The other 45.1% is explained by other factors outside the model andthe error term. The p-value of $0.00 < 0.01$, thus, the two null hypotheses which stated that business intelligenceis not a viable tool for curbing public sector white collar crimes and that forensic analytics is not a viable tool for curbing public sector white collar crimes are rejected and alternative hypotheses accepted. That is, white collar crimes can be combated through the application of forensic audit techniques of business intelligent and forensic analytics in the Nigerian public sector. The regression line of FCS = 1.540 + $0.367\beta_1$ + $0.447\beta_2$+Ut also indicated that white collar crimes could be combated in the Nigerian public sector given a unit increasein the application of forensic audit techniques. The results of this study is consistent with the research results of Modugu etal (2013) which indicated that the use of forensic audit techniques

could control financial fraud, financial reporting, and internal control quality and that of Anuolam et al. (2014) who discovered that forensic audit techniques have positive potential in tackling white collar crimes. These results were also in line with study conducted by Okoye et at. (2013) that the application of forensic audit techniques will significantly reducethe occurrence of white collar crimes cases in the public sector across the globe especially in Nigeria.

Conclusion and Recommendations

As the study results have revealed that, the application forensic auditing techniques can play a significantrole in curbing white collar crimesin both developed and developing countries like Nigeria, it flows that the policy makers can rely on these findings to formulate policies relating to the combating of white collar crimes. Consequently, the accounting professional bodies can take a clue to ensure that accountants are trained to use these techniques. More so, ministries in Nigeria can take the findings as a reference point to establish forensic audit units in their internal audit departments to strengthentheir internal controls, and ensure a thorough investigation of white collar crimes. Meanwhile, anti-corruptionand law enforcement agencies should train personnel to use forensic audit techniques that will uncover the truth to ensure easy prosecution of white collar crimes. This will help to prevent white collar crimes cases that may be thrown out of court for lack of sufficient evidence. However, the use of forensic audit techniques can

help provide enough evidence for easy judgment. As a result, governmentof any nation should increase the interest in and facilitate the growth of forensic audit by giving legal backing for proper monitory and investigation of alleged cases of white collar crimes. Establishing forensic audit unit in the internal audit departments will assist a lot to combat public sector of white collar crimes across the globe. Forensic audit courses should be given a wider space in the academic curricula of Universities as well in order to train and increase its awareness on forensic auditing across the globe. Finally, the accounting/auditing professional bodies in Nigeria other countries should including forensic audit training in their Mandatory Continuous Education Programmes (MCEP) at a reduced cost.

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