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## **COMBATING FINANCIAL CRIMES THROUGH FORENSIC ACCOUNTING IN NIGERIAN PUBLIC SECTOR**

Financial crimes are a global issue which remains unresolved. These crimes have plagued every corner of the world economy. The adverse effect of these crimes is immense in Nigeria. Continuous research confirmed a strong demand for the forensic accounting of preventing, detecting and arresting of financial crimes menace in Nigeria and the rest of the world. However, the studies of combating financial crimes through forensic accounting are very few in literature and not fully explored in Nigerian public sector. This study therefore, sets to examine the impact of forensic accounting techniques for combating financial crimes in Nigerian public sector. This study employs a survey research design and purposive sampling technique to select the sample of eighty six (86) accountants and auditors of the three selected ministries in Osun State, Nigeria. Both primary and secondary data were collected. The primary data was collected through a designed structured questionnaire. The data collected was analyzed using descriptive and inferential statistical tools. It was found that combating of financial crimes in Nigerian public sector through the application of forensic accounting is possible as the  $p$ -value =  $0.00 < 0.01$ . This study therefore concluded that, government of Nigeria should increase the interest in and facilitate the growth of forensic accounting by giving legal backing for proper monitoring and investigation of alleged cases of financial crimes. This study recommended that, all government ministries, agencies and parastatals should establish forensic accounting unit to help strengthen internal controls and ensure thorough investigation in order to prevent, deter and detect financial crimes and the University regulatory body as well as the accounting professional bodies should ensure that forensic accounting courses are included in the curricula to ensure the training and increased awareness of forensic accounting in Nigeria.

**Key words:** Forensic Accounting, Financial Crimes, Nigerian Public Sector.

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### **Нигерияның мемлекеттік секторында сот-бухгалтерлік есепке алу арқылы қаржылық қылмысқа қарсы күрес**

Қаржылық қылмыс – бұл шешілмеген жаһандық проблема. Бұл қылмыстар әлемдік экономиканың барлық жақтарына әсер етеді. Бұл қылмыстардың теріс салдары Нигерияда орасан зор. Үнемі жүргізілген зерттеулер Нигерия мен бүкіл әлемде қаржылық қылмыстың алдын алу, анықтау және жолын кесу үшін сот-бухгалтерлік есепке алуға үлкен сұранысты растады. Алайда, сот-бухгалтерлік есепке алу арқылы қаржылық қылмысқа қарсы күрес туралы зерттеулер әдебиеттерде сирек кездеседі және Нигерияның мемлекеттік секторында толық зерттелмеген. Сондықтан, бұл зерттеу Нигериядағы мемлекеттік сектордағы қаржылық қылмысқа қарсы күреске сот-бухгалтерлік есепке алу әдістерінің әсерін зерттеуге бағытталған. Бұл зерттеуде сексен алты (86) есепші мен аудиторлардың ішінен Нигериядағы Осун штатындағы үш министрліктің ішінен таңдау үшін зерттеу дизайны мен мақсатты іріктеу әдісі қолданылды. Бастапқы және қосымша мәліметтер жиналды. Бастапқы деректер құрылымдалған сауалнаманы пайдаланып жиналды. Жиналған мәліметтер сипаттамалық және логикалық статистикалық құралдарды пайдалана отырып талданды. Нигерияның мемлекеттік секторында сот-бухгалтерлік есепке алу қолдану арқылы қаржылық қылмысқа қарсы күрес  $p$ -value =  $0.00 < 0.01$  екені анықталды. Сондықтан, бұл зерттеу Нигерия үкіметі сот-бухгалтерлік есепке алуға қызығушылықты арттырып, болжанған қаржылық қылмысты тиісті түрде бақылау мен тергеудің құқықтық негізін ұсына отырып, оның дамуына ықпал етуі керек деген қорытындыға келді. Зерттеу барлық үкіметтік министрліктерге, департаменттерге және жартылай мемлекеттік ұйымдарға ішкі бақылауды күшейтуге көмектесетін және қаржылық қылмыстың алдын алу, анықтау және анықтау бойынша

мүқият тергеулерді қамтамасыз етуге көмектесетін сот-бухгалтерлік есепке алу бөлімін құруға, ал университеттің реттеуші органдары мен кәсіби бухгалтерлік органдарға оқу бағдарламасына сот-бухгалтерлік есепке алу курстарын қосуды ұсынды.

**Түйін сөздер:** сот-бухгалтерлік есепке алу, қаржылық қылмыс, Нигериядағы мемлекеттік сектор.

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### **Борьба с финансовыми преступлениями с помощью судебной бухгалтерии в государственном секторе Нигерии**

Финансовые преступления – это глобальная проблема, которая остается нерешенной. Эти преступления поразили все уголки мировой экономики. Отрицательные последствия этих преступлений огромны по масштабам в Нигерии. Непрерывные исследования подтвердили высокий спрос на судебную бухгалтерию для предотвращения, обнаружения и пресечения финансовых преступлений в Нигерии и во всем мире. Однако исследований по борьбе с финансовыми преступлениями с помощью судебной бухгалтерии очень мало в литературе, и они слабо изучены в государственном секторе Нигерии. Таким образом, данное исследование призвано изучить влияние методов судебной бухгалтерии на борьбу с финансовыми преступлениями в государственном секторе Нигерии. В этом исследовании используется план исследования и метод целенаправленной выборки для отбора из восьмидесяти шести (86) бухгалтеров и аудиторов трех выбранных министерств в штате Осун, Нигерия. Были собраны как первичные, так и вторичные данные. Первичные данные были собраны с помощью разработанной структурированной анкеты и проанализированы с использованием инструментов описательной и логической статистики. Выяснилось, что борьба с финансовыми преступлениями в государственном секторе Нигерии путем применения судебной бухгалтерии возможна при  $p\text{-value} = 0,00 < 0,01$ . Автором сделан вывод о том, что правительству Нигерии следует повысить интерес к судебной бухгалтерии и способствовать ее развитию, предоставив правовую основу для надлежащего мониторинга и расследования предполагаемых случаев финансовых преступлений. В результате исследования всем правительственным министерствам, ведомствам и полугосударственным организациям рекомендовано создать отдел судебной бухгалтерии, чтобы помочь укрепить внутренний контроль и обеспечить тщательное расследование в целях предотвращения, сдерживания и выявления финансовых преступлений, а регулирующему органу Университета, а также профессиональным органам бухгалтерского учета включить курсы судебной бухгалтерии в учебные программы для обучения и повышения осведомленности в области судебной бухгалтерии в Нигерии.

**Ключевые слова:** судебная бухгалтерия, финансовые преступления, государственный сектор Нигерии.

## **Introduction**

The rise in financial 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). Financial crimes (FCs) 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 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 & Owolabi, 2013).

Forensic Accounting emerged in response to the high incidence of frauds (Ugwuja, 2016). The origin of forensic accounting could be traced back to 1800s but was coined in 1946 by Peloubet (Abuh & Adio, 2018). Forensic accounting comprises investigation, litigation support and dispute resolution and

the upsurge in financial crimes in countries and the world as a whole accentuated the need for the application of its techniques (Dada, et al. 2013). Forensic accounting 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 financial crimes, but detailed disclosure of these crimes and their prosecution demand special techniques and forensic accounting application is perceived to provide these techniques (Naziru & Aidi, 2018). Forensic accounting is 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 accounting techniques could better enhance the prosecution of financial crime cases than the statutory auditing (Evans, 2017).

A review of the literature on financial crimes disclosed that these crimes are growing problems that have an impact on the world's economies (Raymond, Nkiru, Jane & Okoye, 2016). 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 and many of these crimes are difficult to identify due to the concealment of the perpetrators' activities (Evans, 2017). FCs was 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 accounting 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).

This study covers three selected ministries in Osun State, Nigeria. However, the studies of combating financial crimes through forensic accounting are very few in literatures and not fully explored in the Nigerian public sector. It is against these gaps that this study set out to examining the impact of forensic accounting on combating financial crimes in Nigerian public sector. Specifically, this study seeks to determine the impact of forensic accounting tech-

niques (FATs) such as interviewing and interrogation, business intelligence, data mining and financial ratio analysis as mechanisms for combating financial crimes in Nigeria public sector. Findings from this study would be of great value to policy makers and Nigerian government as it would create more awareness to anti-corruption agencies, accounting practitioners, accounting lectures and students, future researchers, and indeed the general public on the impact of forensic accounting in combating financial crimes at a time like this, when the country is deeply soaked in and characterized by corruption, frauds and other financial crimes that remain the worst enemy to Nigerian economy.

## Conceptual Review

### *Forensic Accounting*

The term "forensic accounting" was coined in 1946 by Peloubet but had been in existence as far back as 1800s (Evans, 2017). Forensic accounting is also known as investigative accounting, fraud audit and even judicial accounting (Nenyiaba, Osioma & Okoye, 2015). Forensic accounting is the unification of accounting, auditing, investigation, and law (Mohammed & Peter, 2016). Forensic accounting is the examination and interpretation of legal facts and evidence, and expert witnessing in the court of law (Tim & Sam, 2016). Forensic accounting is a specialized accounting field which makes use of auditing and with investigative skills to assist in legal matters that arises from activities of current and potential disputes or litigation (Manas, 2014). Forensic accounting is an aspect of accounting that is suitable for a higher level of assurance for law courts (Akenbor & Ironkwe, 2014). Forensic accounting is a generally accepted accounting, auditing principles, and accounting expertise 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, Ogun-dipe & Dada, 2019). Forensic accounting 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 accounting" was used by Kautilya who stated several means of embezzlement in 1946 (Ehigbiren, 2016). In a nutshell, forensic accounting is the accounting spoken in the language of the law. It is a specialized area of accounting practices that employs accounting, audit-

ing, investigation and legal skills and knowledge to provide evidence of information suitable or relevant to legal issues.

In Nigeria, forensic accounting 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 accounting 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 accounting 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. Although, the Institute of Forensic Accountants (IFA) Nigeria was incorporated under Limited by Guarantee by the Corporate Affairs Commission (CAC), Abuja after receiving the written consents of the Federal Ministry of Education, the attorney General, and Minister of Justice of the Federation, Abuja. (Faboyede, Makoro & Ben-Caleb, 2013). But still, the application of forensic accounting 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 Accounting Techniques (FATs)*

Forensic accounting techniques (FATs) are the viable tools for investigating financial crimes (FCs) like financial frauds, corruption embezzlement, money laundry just to mention but a few. Faboyede, Makoro and Ben-Caleb (2013); Gbegi and Adebisi (2013); Dickson, Ogiyo and Samuel (2013), Aduwo (2016), Ezejiofor et al. (2016) and among others identified the following FATs: 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 Intelligence*

Business intelligent is the intelligence used to conduct financial investigations, prepare evidence for 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 employee being 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 to combat 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*

Forensic analytics contains some techniques like Data mining, ratio analysis and many others. 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 in an 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 (RA) is computed to determine how well the firm is doing in the current year over the previous years (Ibrahim, Adeyemi & Odunayo, 2015). RA could also be employed in the same way to check on the financial health of the company when it has to do with fraud because it will serve as a pointer to waste, abuse and fraud (Ibrahim, Rose & Mohammed, 2016). RA 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 value that is maximum / minimum is close to 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).

In view of the above, it is established that forensic accounting techniques (FATs) are being used in developed countries and can as well be employed in Nigeria and other emerging economies to expose the cases of financial crimes (FCs). FATs serve as mechanisms for bringing the FCs offenders to justice (Williams, 2004). The use of FATs during the FCs investigation can address the problems of FCs cases that have lost stemming from inadequate litigation procedures which may lead to a poor presentation by lawyers and subsequently inaccurate judgments by judges. In detecting and deterring FCs such as corruption, money laundry and frauds of all kinds, FATs have been argued in literature to be the most important techniques. Okoye, Adeniyi, and Obidi (2019) affirm that the employment of forensic accounting technique can prevent corruption, and investigate and detect tax evasion, embezzlement, money laundry and other FCs 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.

#### *Financial Crimes*

Financial crimes (FCs) on the other hand, have been variously described in literature. Wikimedia dictionary defines FCs as crimes involving the unlawful conversion of property belonging to another to one's own (Evans, 2017). The financial crimes (EFCs) 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). FCs 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 financial crime. 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). The fraudster may not benefit financially, but rather receives an undisclosed personal benefit as a result of the situation (Egbunike & Amakor, 2013).

Money laundering represents the illegal flow of funds across the borders. The Money Laundering Prohibition Act of 2004 of Nigeria provides that no person or corporation or organisation is allowed to make or accept cash payments of a sum in excess of N500,000.00 or its equivalent in the case of an individual, and N2,000,000.00 or its equivalent in the case of a corporation, unless such cash payment or acceptance is undertaken through a financial institution. Also, a transfer of funds or securities to or from a foreign country in excess of US\$10,000 or its naira equivalent must be reported to the Central Bank of Nigeria (CBN) or the Securities and Exchange Commission (SECI) in the case of a public corporation (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 is a company employee that embezzles money from his employer for example by siphoning money into account (Joseph, Okike & Yoko, 2016). Tax evasion is also a FCs. Tax evasion is a crime through which the perpetrator attempts to avoid taxes they would otherwise owe. Tax evasion can range from simply filling tax forms with false information to illegally transferring property so as to avoid tax obligations. Individuals as well as business can commit tax evasion (Jacqui-Lyn, Constant, Jan & Albert, 2014). Any kind of fraud is a financial crime (Izedimi et al., 2012). Ifath, Pranathi, Asra & Amathun (2014) define fraud as the use of one's occupation for personal enrichment through deliberate misuse or misapplication of the employing

organization's resources or assets. Ozili (2016) describes fraud as any act of deception performed by somebody to cheat or deceive another person to his detriment or the detriment of any other, or to cause injury or loss to another person while the perpetrator has a clear knowledge. These frauds include misappropriation of assets, employee theft, management theft, pay roll fraud, corporate frauds, security fraud, insurance fraud, credit card fraud and some of others (Okoye & Gbegi, 2013; Ogirili & Appah, 2018). About employee theft, Akepe (2015) assert that cash is the favourite of fraudsters; and this accounts for about 77.8% of asset misappropriations in the U.S. According to Karen (2003), much of cash is taken by outright cash larceny and skimming. Larceny occurs when cash is taken or stolen after it has been recorded. Skimming occurs when theft of cash takes place before cash is recorded. The management thefts are committed when management over-rides the controls instituted by themselves to prevent the thefts they now commit (Okoye, Adeniyi & Obidi, 2019; Okoye, Adeniyi & James, 2019)

The financial crime of payroll fraud is usually fast tracked by a payroll clerk, internet facility or through the connivance and collusion of another staff (Yucel, 2010). Also, corporate frauds are intended to benefit the company. Categories of these frauds include financial statement fraud, anti-trust violation; securities frauds, tax evasion, false advertising, environmental crimes and the production of unsafe product (Gbegi & Habila, 2017; Ifeanyi & Joseph, 2018). Asset misappropriation is also a fraud. The common feature the asset misappropriation is the theft of cash or other assets from the company, for example cash theft involves the stealing of physical cash like petty cash, from the premises of a company (Ile, & Odimmega, 2018). Obviously, financial crimes are motivated by factors such as corrupt corporate culture and conventionality. When a corrupt culture is lived and practiced every day at the workplace, this would constitute enormous pressure to financial crimes. In addition, the white-collar criminals live conventional lives. Conventionality and stability give the financial crimes the foundation of the trust. Such trust creates the opportunity to commit financial crime. Thus, conventionality and stability leads to opportunity to commit financial crime which is then rationalized (Izedomin et al., 2012; Ezejiofor et al., 2016).

From the above points of view, it is clear that financial crimes (FCs) have significant impact on the world's economies. FCs which manifest virtually in both public and private sectors have posed serious threats to the survival of Nigerian economy.

Nigerian government has lost funds through these illicit practices (Abuh & Acho, 2018). In response to these, the governments put in place some measures like assets declaration 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 FATs such as business intelligence to investigate, detect and prosecute the alleged person (s) for FCs cases. to combat the crimes. FCs 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. FCs 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 FCs. 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 FCs activities. Thus, the application of forensic accounting techniques during the investigation of FCs offences can provide advices to experts in determining whether or not the accused person has to face legal consequences.

The Nigerian public sector entails all the public organizations and their activities being conducted by the government machineries. The simplest definition of 'Public Sector' is "all organisations 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). The menace of FCs in public sectors of Nigeria economy is a major disease that is killing her economy. Although, the problem of corruption and other FCs is a global issue but the extent at which they are being perpetrated in Nigeria especially in the public sector is seriously alarming (Williams, 2004). Williams (2004) adds that the several detec-

tion tools such as systems of internal controls, operational audits and corporate code of conduct that are currently being employed in Nigeria are not proactive enough to deal with FCs menace. Literature shows that different mechanisms are being adopted to combat the menace of these FCs but FATs appears to be the most effective tools currently being employed in most developed economies. Evans (2017) affirms this that the effective application of FATs can investigate and detect economic and financial crime cases. Thus, the use of FATs in Nigeria could enhance the prosecution of FCs allegations.

### Theoretical Review

#### *White Collar Crimes Theory*

This study is anchored on the white collar crimes theory (WCCT). White collar crime is a sub-class of financial crimes. WCCT was a general theory of all financial crimes (Evens, 2017). This theory reviewed the incidence of fraud of all kind, corruption and other FCs. 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 "Crimanolooid" 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 (WCCs) refer to as the financial crimes being carefully and intentionally organized. WCCs 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 WCCs 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 WCCs 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. WCCs 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 WCCs 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 WCCs is therefore, relevant to this study as it discussed the issues relating to financial crimes.

### Empirical Review

Izedonmi et al. (2012) examined forensic accounting and financial crimes: adopting, the inference, relevance and logic solution approach. Data was analyzed using logic solution model. Findings from the study revealed that the investigative accounting skills of the forensic accountant empower him to address the problem of financial and any other crimes. The study concluded that the forensic accountant should adopt the inference, relevance and logic solution approach (IRLS) in dealing with financial crimes in corporate organization in Nigeria.

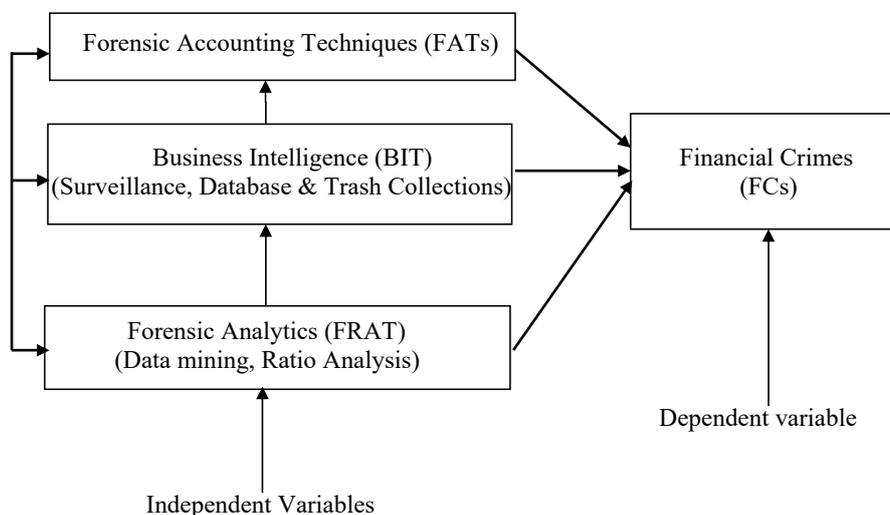
Evans (2017) examined forensic accounting and the combating of economic and financial crimes in Ghana. The study employed a survey research design by sampling all the technical officers of economic and organized crime office of Ghana. The data was analyzed using a Regression Model. Findings from the 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. Moreover, the study recommended that the board of Ghanaian government should ensure that forensic accounting courses are included in the academic and professional curricula of Ghana

Universities and professional institutions to ensure the training and increase the awareness of forensic accounting in Ghana. From the above reviewed literatures, the studies of Izedonmi et al. (2012), Evans (2017) and a host of others on the application of forensic accounting for financial crimes prevention and detection produced different results. These research works did not consider whether the use of forensic accounting techniques can help fight financial crimes. But this study examined the impact of forensic accounting techniques for curbing financial crimes.

### Research Methodology

This study used survey research design to examine the relevance of forensic accounting techniques in the combating of economic and financial 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 sixty six was selected using a purposive sampling

technique. This study collected both primary and secondary. The primary data was obtained with the help of research questionnaire distributed to the three selected Ministries. Out of the total numbers of 100 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 ensure 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 its validity and the Cronbach's Alpha reliability method was used to analyze its reliability which gave a reliability coefficient of 0.916. The researcher also personally went to the sampled ministries premises to administer copies of the questionnaire. The copies of the questionnaire were collected personally after their completion.



**Figure 1** – Conceptual Model of the Study  
Note – compiled by author

The above conceptual model in “fig. 1” was developed to show the relationship between the independent variable (Forensic accounting techniques) (FATs) and the dependent variable (Combating financial crimes) (CFCs) as disclosed in figure 1.1. 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 combating of financial crimes (FCs). However, this research did not cover all the variables in the model for combating FCs but a portion.

*Model Specification and Identification of Variables*

This study employed regression model of forensic accounting services and fraudulence practices adopted 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  $\alpha_0$  is constant and  $\beta_1, \beta_2, \beta_3 > 0$ .

The dependent variable of fraudulent practices (FDP) was used as 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 the variables used by Anuolam et al. (2016) with a dependable variable of Combating financial crimes (CFCs) 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 as follow:

$$CFCs = f(BIT, FRAT) \quad (3)$$

$$CFCs = f(\alpha_0 + \beta_1 BIT + \beta_2 FRAT + Ut) \quad (4)$$

where  $\alpha_0$  is constant,  $Ut$  is error term and  $\beta_1, \beta_2 > 0$ .

*Priori expectation*

The predictor variable of business intelligence (BIT) and forensic analytics (FRAT) in the specified model are expected to be positively signed. This is expressed mathematical below:

$$\beta_1, \beta_2 > 0.$$

**Data Analysis**

**Table 1** – Cross-tabulation of Demography of Respondents

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

Note – compiled by author

The 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 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 2** – Test of Reliability Statistics

Cronbach’s Alpha	N of Items
0.916	3

Note – compiled by author

**Table 3** – Regression Model Summary

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

Note – compiled by author; a. Predictors: (Constant), Forensic Analytics, Business Intelligence

Table 3 presented the summarized results of multiple regression analysis showing a moderate positive relationship between the predictor independent variables of forensic accounting techniques and the dependent variable of combating financial crimes (FCs) with the correlation coefficient (R) result of 0.741 which is large enough and indicated linear correlation between the observed and

mode-predicted values of the dependent variable. From the table, the coefficient of determination ( $R^2$ ) (0.549) shows a moderate positive correlation of the studies variables, which indicates that about 54.9% of variation in the dependent variable (FCs) is explained by the independent variables (FATs) and other 45.1% is explained by other factors outside the model and the error term.

**Table 4 – Regression Coefficient of Predictor Variables**

Model	Un-standardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(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

Note – compiled by author; Dependent Variable: Curbing Financial Crimes.

The result from table 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 positive impact on combating financial 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 financial crimes through the application of forensic accounting techniques in the Nigerian public sector is possible given a unit increase in each of the forensic accounting techniques (Predictor variables) of BIT and FRAT.

**Discussion of Results**

The coefficient of relationship (R) of 0.741 for the hypotheses at a significant level of 0.01 showed a strong relationship and the coefficient of determination ( $R^2$ ) (0.549) shows a moderate positive correlation of the studies variables, which indicates the ability of the regression line to predict dependent variable (FCs) is about 54.9%. The other 45.1% is explained by other factors outside the model and the error term. The p-value of  $0.00 < 0.01$ , thus, null hypothesis is rejected and alternative hypotheses accepted. That is, financial crimes can be combated through the application of forensic accounting techniques of BIT and FRAT in the Nigerian public sector. The regression line of FCS =  $1.540 + 0.367\beta_1 + 0.447\beta_2 + Ut$  also indicated that

financial crimes could be combated in the Nigerian public sector given a unit increase in the application of forensic accounting techniques. The results of this study is consistent with the research results of Modugu et al. (2013) which indicated that the use of forensic accounting techniques could control financial fraud, financial reporting, and internal control quality and that of Anuolam et al. (2014) who discovered that forensic accounting techniques have positive potential in tackling economic and financial crimes. These results were also in line with study conducted by Okoye et at. (2013) that the application of forensic accounting techniques will significantly reduce the occurrence of fraud cases in the public sector in Nigeria.

**Conclusion and Recommendations**

Since the research results have revealed that, forensic accountings can play a significant role in combating financial crimes in Nigeria, it flows that the policy makers can rely on this finding and formulate policies relating to the combating of financial 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 accounting units in their internal audit departments to strengthen their internal controls, and ensure a thorough investigation of financial crimes.

Meanwhile, anti-corruption and law enforcement agencies should train personnel to use forensic accounting techniques that will uncover the truth to ensure easy prosecution of financial crimes. This will help prevent financial crimes cases that may be thrown out of court for lack of sufficient evidence in Nigeria. However, the use of forensic accounting techniques can help provide enough evidence for easy judgment. As a result, government of Nigeria should increase the interest in and facilitate the growth of forensic accounting by giving legal

backing for proper monitory and investigation of alleged cases of financial crimes. Establishing that forensic accounting techniques are relevant to combating of financial crimes in Nigeria, forensic accounting courses should be included in the academic curricula of Nigerian Universities to train and increase the awareness of forensic accounting in Nigeria. And finally, the professional bodies in Nigeria should including forensic accounting training in their Mandatory Continuous Education Programmes (MCEP) at a reduced cost.

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