

# The Relevance of Forensic Accounting Techniques in Combating Corrupt Practices in Selected Public Tertiary Institutions in Southwest Nigeria

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## ABSTRACT

The inability of the government to eradicate corruption in the education sector harms the standard of education in Nigeria. Evidence from the literature indicated that the dilapidated infrastructure, low standard of education, underfunding of education for research and development, and demotivation of the academic staff for productivity were attributed to corruption that has pervaded the sector in southwest Nigeria. The ineptitude of the existing audit and investigation techniques to curb corrupt practices called for the introduction of forensic accounting. The study adopted a survey research design. The population of the study consisted of 257,061 stakeholders in selected six universities and six polytechnics in southwest Nigeria, the sample size of 399 was determined using the Taro Yamani formula. A stratified sampling technique was used to administer the copies of the questionnaire to the respondents. The findings of the study revealed that forensic accounting techniques had a significant effect on corrupt practices in selected public tertiary institutions in southwest Nigeria ( $\beta= 0.299$ ,  $t=7.462$ ,  $p = .000$ ); ( $\beta= 0.083$ ,  $t=1.559$ ,  $p=0.120$ ); ( $\beta= 0.187$ ,  $t=3.578$ ,  $P=0.000$ ). The study concluded that forensic accounting resolved corrupt practices in public tertiary institutions. The study recommended that the government should establish a forensic account, audit and investigation unit in every tertiary institution to ensure accountability and transparency in their financial operations. The administration of tertiary institutions in southwest Nigeria should institute legal action against any official caught with corrupt practices to deter others from such behavior.

**Keywords:** Benford's law, Corruption, Computer-assisted audit techniques, Data mining, Forensic accounting, Tertiary institution,

## INTRODUCTION

Corruption harms higher education in every country of the world, while the level of corruption varies in kind and prevalence depending on the attitude of those in the seat of power (Gledinning, Orim & King, 2019). According to Nwachukwu (2021), corruption in educational institutions has a severe negative impact on all facets of society, including social cohesion, leadership effectiveness, economic development, academic credibility, and credential validity. He added that pervasive corruption in educational institutions produces long-lasting corrupt leaders across all sectors. Despite the large sums of money allocated to this sector, there are still numerous complaints about the infrastructural shortfall, as well as inadequately

equipped laboratories and facilities. (Gambo & Fasanmi, 2019).

In addition to the large sums of money provided by the government to educational institutions, universities, and polytechnics generate their internal revenue, which is used to augment what the government provides in the form of subsidies and grants, among others. With all these funds at the disposal of the tertiary institutions in Nigeria, the purpose for which these institutions have been established has not been fully accomplished as a result of corruption in the tertiary institution of learning (Hashem 2020).

Corruption in the education sector adds to a lack of required teaching and learning facilities in tertiary institutions. The lack of teaching facilities has contributed to Nigeria's poor educational quality, resulting in a large number of educated illiterates or half-baked graduates in their respective disciplines (Nwachukwu, 2021). Unfortunately, the public tertiary institutions in Nigeria were characterized by a lack of adequate infrastructural facilities, including classrooms, laboratories, libraries, staff offices, and workshops, among others (Olasupo 2017). The majority of the infrastructure facilities are in dismal condition, which has been affecting the training of students in tertiary institutions and made the situation worse. The situation may be attributed to the government's inadequate funding of the tertiary institutions or to the corrupt practices of the management in the institutions. The funds that are intended to be used for infrastructure facilities for the efficient teaching of students are not judiciously managed, although financial allocations to these institutions have consistently been insufficient over time (Olasupo 2017).

The public sector is the largest spender in the Nigerian economy and it happens to be the sector where corruption is badly rooted. The expertise of forensic accountants is critically required in combating the menace (Dada & Jimoh, 2020). Forensic accounting is a combination of forensic science and accounting, and it is defined as the use and application of accounting, auditing, investigative, and analytical skills to resolve financial challenges in a way that complies with the court of law norms (Oporiopo 2021). Similarly, Ugwu (2021) opined that forensic accountants involved in activities such as critical analysis and investigation of financial problems, evidence gathering, the use of information technology techniques in the collection, analysis, and presentation of financial matters, the generation and presentation of reports on findings, the collection and exhibition of evidential documents, assisting juries in legal proceedings using forensic accounting tools.

Several anti-corruption agencies, tribunals, and probe panels have been established to combat the rising rate of corruption and financial crimes in Nigeria, however, the effort seems not to be yielding results. This assertion was established in the work of Dada (2014), he opined that it appears that the government agencies set up to fight corruption lack the skills to conduct investigations that will lead to the successful prosecution of those accused of corruption.

Financial corruption is one serious disease that threatens people's present and future, therefore many countries are exerting their best effort to fight corruption at all levels (Ojuye 2018). The flamboyant lifestyle of the tertiary institution's administrators, the numerous abandoned projects the level of decadence of the infrastructures, and the inhabitable state of the hostels of residence remain the problem that needs serious attention. With all the effort put in place by the government, the menace continues to raise its ugly head. If something is not done quickly to salvage the situation corruption will continue to obstruct long-term growth, undermine democratic processes, jeopardize popular good governance, and continue to lower the quality of education in the country (Suleiman, et al., 2017)

Effective forensic accounting techniques must be adopted to aid anti-corruption authorities in successfully reducing corruption. In light of this, this study looks at forensic accounting and corrupt practices in selected public tertiary institutions in southwest Nigeria. From the foregoing, it is important that forensic accountants need to employ various techniques for gathering data to conduct the appropriate analyses to unravel corrupt practices. Some of the techniques that can be deployed include; Commercial Data Mining, Ratio Analysis,

Trend Analyses, Computer-Assisted Audit Technique (CAAT), The Piotroski F-Score Model, Lev-Thiagarajans 12 Signal, Benford's Law, Sloan Accruals, Dechow-Dichev Accrual Quality, Jones Nondiscretionary Accruals, Beneish M-Score Model, Z-Score Analysis and Relative Size Factor (Hashem 2020)

The objective of this study was to evaluate the relevance of forensic accounting techniques in combating corrupt practices in selected public tertiary institutions in southwest Nigeria.

Hypothesis: Forensic accounting techniques have no relevance in combating corrupt practices in selected public tertiary institutions in southwest Nigeria.

## LITERATURE REVIEW/THEORETICAL FRAMEWORK

According to Okoye and Nbanugo (2020), corrupt practices in the education sector included; examination malpractice, admission racketeering, hostel profiteering, extortion of the students, abuse of office, forgery of certificates and statements of results, sexual harassment and immorality, embezzlement of funds, godfatherism, corruption in recruitment and promotion of staff, placing government's or management's machinery at the disposal of a particular student to win election during students' politics in the campus. According to him, other forms of corrupt practices include; writing a good remark (confidential report) for a student (or a member of the staff) who does not deserve it, contract inflation and variation, lobbying to be posted to juicy departments, lobbying to be put on juicy committees, lobbying to be given more courses and larger classes, sycophancy, favoritism, bribery, absenteeism, truancy, poor attitude to work, salary padding, nepotism (giving unfair advantages to your relatives, friends, political benefactors if you are in a position of authority or power). Oseni (2017) opined that corrupt activities have a psychological impact on Nigerians' morality. He specified that "The cankerworm has dampened the morale of many citizens to systematically and intelligently employ their innate creative abilities, devalued hard work, weakened diligence, destroyed efficiency, eroded effectiveness, and debased obedience and emasculated loyalty and castrated loyalty".

### Forensic Accounting Techniques

Forensic accounting techniques have been claimed to be the most essential approaches for discovering and discouraging fraudulent activity and corruption. Forensic accounting should be detailed and comprehensive enough to be able to produce findings on accounts, inventories, or their presentation in such a way that they would stand up to scrutiny in a legal process or judicial or administrative review (Ajetunmob et al., 2020). Okpala (2019) opined that forensic accounting, also known as investigative accounting or fraud auditing, is a combination of forensic science and accounting.

Sorunke (2018) opined that forensic accounting is the use of auditing, accounting, statistics, research, and economic concepts and techniques in an investigation with the sole goal of resolving a legal problem or potential problem in the form of bribery, fraud, embezzlement, corruption, or forgery that may arise from an economic or financial transaction.

According to Oyedokun (2017), forensic accounting is a scientific accounting method of uncovering, analyzing, resolving, and preventing fraud and white-collar crime matters in a way that produces admissible evidence capable of proving or disproving facts in an issue in a court of law. Some of the forensic accounting techniques used to investigate corrupt practices are;

### Benford's Law

This forensic accounting technique is also known as the first-digit law, it is a mathematical tool that can be used to determine whether a variable under study is the result of unintentional errors or fraud. When such a

phenomenon is detected, the variable under investigation is thoroughly examined. According to Mukah (2020), the law states that fabricated figures differ from random figures in their pattern. Benford's law steps are straightforward; once the variable of financial importance is determined, the leftmost digits of the variable under study are extracted and summarized for the entire population. By identifying the first digit field and calculating the observed count percentage, the summarization is completed. There are many applications to the use of Benford's law in underlying financial information generally representing large sets of data. Ewa, et al., (2020) suggested that the use of Benford's law in analyzing financial statements for large numbers is biased, even in smaller sets of data.

### **Data Mining Techniques**

Data mining is the process of searching for previously unknown associations in data. Applying data mining to a data warehouse as a tool for controlling inappropriate payments enables an organization to rapidly query the system to uncover dubious behaviors, such as numerous payments for an individual invoice or to an individual receiver on a certain day. Personnel who are not computer professionals but may have the relevant program or financial knowledge can utilize this approach to directly access data, target searches, and assess outcomes. Data mining software, which includes preset queries that may be utilized in the system on a regular basis, can also be used to make inquiries. (Ridhi & Sanket 2021).

### **Computer-Assisted Audit Techniques**

The capacity to employ technology to aid auditors in performing audit tasks and producing accurate and timely results is referred to as computer-assisted auditing (Amahalu, Ezechukwu & Obi, 2017). The result aids in the improvement of audit efficiency. CAATs allow auditors to choose transactions, meet specified criteria, obtain extra information regarding control efficacy, and test 100% of populations (Braun & Davis, 2003; AICPA, 2017). CAATs, Ojo-Agbodu (2022), are computer tools and systems used by auditors as part of audit procedures to process data of audit relevance included in the entity's information systems. Bagudu (2022) also found that computer-assisted audit tools increase audit efficiency by allowing the auditor to execute tasks and employ the entire population rather than just samples. CAATs, according to Effiong (2012), are tools and techniques that are used to investigate an application's internal logic directly as well as form indirect inferences about the application's logic by studying the data processed.

According to Okoye and Gbegi (2013), Sutherland was the first to coin the phrase in 1949, the term refers to the characteristics and goals of traditional street criminals. Sutherland first presented his theory in a speech to the American Sociological Society in an attempt to investigate two fields, crime, and high society, that had never been studied empirically. He described his idea as a "crime perpetrated by one's respectability and high social status in one's occupation" (Sutherland 1949). White-collar crime is based on the assumptions that white-collar crime is committed in the course of one's job, that the offender's occupational role plays a central role in the crime, and that the offender's occupation is viewed as a legitimate occupation by society. This study is anchored on white-collar crime theory as it emphasizes the attitude of employees and officeholders in the public sector taking advantage of their position to accumulate financial gain and most of the time escaping with the proceeds of corruption without being prosecuted.

Appah and Inini (2021) examined forensic investigation and mitigation of occupational fraud in the Nigerian Public Sector. The purpose of this study was to explore the impact of forensic investigation and occupational fraud mitigation in the Nigerian public sector. The study employed a survey and correlational research approach, with the population consisting of accountants and internal auditors in the Bayelsa State Civil Service and Local Government Service. The findings indicated a negative significant relationship between forensic investigative techniques and occupational fraud in the Nigerian public sector. As a result, the report claimed that the use of forensic investigative techniques in the Nigerian public sector will

increase accountability and transparency in public sector financial management by lowering the amount of corruption.

Lodikero and Olateru-Olagbegi (2021) studied the importance of forensic accounting in preventing corruption in Nigeria. The purpose of this research is to investigate the influence of forensic accounting in reducing corruption in the Ondo State Public Sector. The study used primary data acquired via a questionnaire. The findings show that forensic accounting has a major influence on combatting financial crimes in Ondo state MDAs.

Suleiman, and Othman (2016) examined forensic accounting investigation for fighting public sector corruption in Nigeria. The paper explored the nature of corruption with particular reference to the Nigerian experience and subsequently identified forensic accounting as the effective means to address the ever-increasing and continuing devastating effects of corruption in Nigeria. The aim was to bring to a halt the growing scourge of corruption that has been ravaging the country for decades. The study revealed that a positive relationship exists between forensic accounting and corruption prevention and detection.

## METHODOLOGY

The survey research design was adopted in this study. This choice of survey research was premised on its usefulness in observing the population of the study as well as the reaction of the population to a phenomenon. The study population for this study was 257,061 individuals consisting of the academic staff, the non-teaching staff, and the students of six public universities; University of Lagos, University of Ibadan, University of Ife, Federal University of Agriculture, Abeokuta, Federal University of Technology, Akure, and the Federal University, Oye Ekiti and six public polytechnics; Yaba College of Technology, Federal Polytechnic Ede, The Polytechnic Ibadan, Federal Polytechnic Ilaro, Federal Polytechnic Ile Oluji and Federal Polytechnic Ado Ekiti, all in the southwestern states of Nigeria (who are familiar with auditing, accounting and finance) being the major stakeholders in the tertiary institution. The sample size of 399 was determined using the Taro Yamani formula. For this study, stratified, sampling techniques were adopted. Stratified sampling was adopted to divide the population into smaller groups that represented the entire population. The data collection instrument structure is the questionnaire that is based on the research questions the study intends to answer. The study adopted descriptive and inferential statistics which involves the use of mean and standard deviation while multiple regression was adopted to test the stated hypothesis.

### Model Specification

$$Y = f(X)$$

Where Y = Dependent Variable (Corrupt Practices (CP))

X = Independent Variable (Benford's Law (BFL), Data Mining Techniques (DMT) & Computer Assisted Audit Techniques (CAT))

$$CP = F(BFL, DMT, CAT)$$

$$CP = \beta_0 + \beta_1 BFL_i + \beta_2 DMT_i + \beta_3 CAT_i + \mu_i$$

Where:  $\beta_0$  = Constant of the equations



$\mu$  = Stochastic error term

$\beta_1 - \beta_3$  = Unknown coefficients to be estimated

## DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS

Variable	Coefficient	Standard Error	t- stat	Prob.
Constant	0.299	0.295	1.014	0.311
BFL	0.299	0.040	7.462	0.000
DMT	0.083	0.053	1.559	0.120
CAT	0.187	0.052	3.578	0.000
R	0.676			
R <sup>2</sup>	0.457			
Adjusted R <sup>2</sup> : Overall	0.450			
F-Stat	58.734(0.000) df 424			

Source: Authors Computation, 2023

Dependent Variable: CORRUPT PRACTICES \* significant at 5%

The predictive and prescriptive multiple regression models are thus expressed:

$$Y(\text{CRP}) = \beta_0 + \beta_1 \text{BFL}_i + \text{DMT}_i + \text{CAT}_i$$

The regression estimate of the model above shows that all proxies of Forensic Accounting Techniques have a positive effect on Corrupt Practices). This is indicated by the signs of the coefficients, which are  $> 0$

From the Table, the sign of the coefficient of the independent variables shows that BFL has a positive effect on corrupt practices with a coefficient of 0.299. This positive effect is statistically significant as the p-value significance level shows 0.000 which is less than 0.05 significant levels chosen for this study. The DMT also has a positive effect on Corrupt Practices, with a coefficient of 0.083. This positive effect is however not significant as the p-value significance level shows 0.120 which is higher than 0.05. CAT has a positive effect on Corrupt Practices, with a coefficient of 0.187. The positive effect for all the proxies is significant as the p-value significance level shows 0.00 which is less than 0.05.

The Adjusted R-square of the model showed 45%, this suggests that variations in corrupt practices of the sampled population can be attributed to all our independent variables put together, while the remaining 55% variations in corrupt practices are caused by other factors not included in this model.

However, the F-test showed a probability value of 0.00 which indicates that the explanatory variable is statistically significant because the probability value is less than 5%, the level of significance adopted for this study. Therefore, the model is statistically significant. Thus, the null hypothesis that forensic accounting techniques do not significantly affect corrupt practices in selected public tertiary institutions in southwest Nigeria is rejected.

## CONCLUSION

The study concluded that forensic accounting techniques proxied by Benford's law, data mining techniques,

and computer-assisted audit techniques, had a positive effect on corrupt practices in selected public tertiary institutions in southwest Nigeria. The study established the fact that forensic accounting techniques can combat corrupt practices in selected public tertiary institutions in Nigeria. Hence the objective which is to examine the effect of forensic accounting techniques on corrupt practices in selected public tertiary institutions in southwest Nigeria was achieved.

## RECOMMENDATIONS

The study recommended that;

- i. The government should include forensic accountants as members of the commission and board overseeing the affairs of the institutions. This will give room for the regulatory body to effectively perform its oversight function with professionalism.
- ii. The government should mandate the institutions to set up a forensic accounting unit that will report to the chairman of the council of the respective institutions. This will give room for checks and balances on the activities of the institutions' management.
- iii. Anti-graft agencies should employ the services of forensic accountants in the fight against corruption and the prosecution of court cases involving economic or financial crimes. The involvement of forensic accountants in anti-graft agencies with the right training and equipment will aid the agency in the area of investigation and in the gathering of evidence that is admissible in court.

## CONTRIBUTION TO KNOWLEDGE

This research work has contributed to knowledge by filling the gap in the forensic accounting literature by identifying various forensic accounting techniques that can be used to combat corrupt practices. Moreso, several works of literature have examined the role of forensic accounting in fraud and corruption investigation and detection. However, no known empirical research has uncovered how forensic accounting might be useful in combating corrupt practices using various forensic accounting techniques outside of fraud and corruption. This study represents an initial investigation toward developing forensic accounting as a system capable of combating corrupt practices.

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