Financial Management and Forensic Accounting Effectiveness in Detecting and Preventing Fraud: Evidence from Public Tertiary Institutions in Taraba State

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ABSTRACT

The increasing instances of fraud in Nigeria's public sector have sparked concerns about potential methods for addressing and reducing it. Public tertiary institutions manage substantial financial resources, making effective financial management crucial for their sustainability and development. However, the complexity of financial operations in tertiary institutions makes them susceptible to fraud and financial mismanagement. This study explores the integration of forensic accounting into university financial management systems as a robust mechanism for detecting, investigating, and preventing fraudulent activities in public tertiary institutions in Taraba State. There is a notable shortage of studies in this area, particularly concerning public tertiary institutions in Taraba State. The main purpose of this study is to determine how effective the use of financial management techniques and forensic accounting will help to reduce fraud cases in the public tertiary institutions in Taraba state. A descriptive survey design was adopted for this study as data were collected through structured questionnaire and interview from the staff of five public tertiary institutions (Federal University Wukari, Taraba State University Jalingo, Federal Polytechnic Bali, Taraba State Polytechnic Suntai, College of Education Zing and College of Agriculture, Jalingo) in Taraba State. The population of the study comprises of 400 account staff in the 6 public tertiary institutions in Taraba State which will be randomly selected from bursary unit and internal audit unit. The statistical tool to be used will be t-tests (beta weights, t-values) and multiple regression analysis. It is expected that the use of Forensic Accounting will significantly reduce the occurrence of fraud cases in the tertiary institutions in Taraba State.

KEYWORDS

Forensic accounting, financial management, fraud, fraud detection, fraud prevention

I. INTRODUCTION

Financial management is a critical function in every organization because it involves the planning, acquisition, allocation, utilization, and control of financial resources to achieve organizational objectives efficiently and effectively. In public sector institutions, particularly public tertiary institutions, financial management serves as the foundation for accountability, transparency, prudent resource utilization, and sustainable institutional development. Public tertiary institutions depend largely on government subventions, internally generated revenue, research grants, donor funding, and other financial resources to finance academic programmes, research activities, infrastructure development, and staff

welfare. Consequently, these resources must be managed in accordance with established financial regulations to ensure value for money and the achievement of institutional goals.

Despite the existence of financial regulations and internal control mechanisms, financial fraud remains one of the major challenges confronting public institutions across the world. Fraud encompasses deliberate acts of deception, manipulation, falsification of financial records, misappropriation of assets, payroll fraud, procurement irregularities, contract inflation, embezzlement, and other forms of financial misconduct intended to obtain unlawful financial benefits. The increasing sophistication of fraudulent schemes has significantly undermined organizational performance, weakened public confidence, and resulted in substantial financial losses in both developed and developing economies. In Nigeria, fraud within public institutions continues to pose serious threats to good governance, accountability, and effective service delivery, despite various reforms aimed at strengthening public financial management.

Public tertiary institutions are particularly vulnerable to financial fraud because of their large and complex financial operations, multiple sources of revenue, decentralized administrative structures, numerous procurement activities, and extensive personnel management systems. These institutions process significant financial transactions relating to student fees, personnel emoluments, capital projects, research grants, procurement, and internally generated revenue. Where internal controls are weak or poorly implemented, opportunities for fraud increase considerably. Financial misconduct in tertiary institutions not only diverts scarce educational resources but also reduces institutional efficiency, delays infrastructural development, weakens academic excellence, and erodes public trust in educational governance.

Effective financial management provides one of the most important safeguards against fraud. Sound financial management practices which include budgeting, financial planning, expenditure control, internal auditing, risk management, financial reporting, and compliance monitoring help to reduce opportunities for financial irregularities. A strong internal control system promotes accountability by ensuring that financial transactions are properly authorized, documented, monitored, and reviewed. Nevertheless, conventional financial management and statutory auditing often concentrate on compliance with accounting standards and the fairness of financial statements rather than on actively investigating fraudulent activities. Consequently, many sophisticated fraud schemes remain undetected until substantial financial losses have occurred.

The limitations of traditional auditing have increased global interest in forensic accounting as an advanced mechanism for fraud detection, investigation, and prevention. Forensic accounting is a specialized branch of accounting that integrates accounting knowledge, auditing skills, investigative techniques, legal procedures, and analytical tools to identify, examine, and provide evidence of financial crimes. Unlike conventional auditing, forensic accounting seeks not only to verify financial records but also to uncover concealed fraudulent activities, identify perpetrators, quantify financial losses, and provide litigation support where necessary. Modern forensic accountants employ techniques such as financial statement analysis, ratio analysis, digital forensic investigation, data mining, document examination, interview techniques, and computer-assisted auditing to detect irregular financial transactions and strengthen organizational accountability.

Globally, governments, regulatory agencies, educational institutions, and anti-corruption organizations have increasingly recognized forensic accounting as an effective strategy for combating financial crimes. In Nigeria, the growing prevalence of corruption and financial misconduct has equally heightened the demand for forensic accounting services within ministries, departments, agencies, and public educational institutions. Empirical studies have reported that forensic accounting significantly improves fraud detection, strengthens internal control systems, enhances transparency, and supports effective financial management in public organizations. Similarly, studies conducted in Nigerian public tertiary institutions indicate that forensic accounting techniques contribute positively to fraud prevention and institutional accountability.

Taraba State is home to several public tertiary institutions established to provide quality education, research, innovation, and community development. These institutions receive considerable financial resources from government allocations and internally generated revenue to support their operations. Like many public institutions in Nigeria, however, they operate in an environment where concerns regarding financial mismanagement, procurement irregularities, weak internal control systems, delayed financial reporting, payroll manipulation, and other financial malpractices have occasionally been raised. Such challenges emphasize the need for stronger financial management systems supported by forensic accounting techniques capable of detecting and preventing fraud before significant financial losses occur.

The integration of sound financial management with forensic accounting offers a comprehensive approach to fraud risk management. While financial management establishes preventive mechanisms through budgeting, internal controls, financial reporting, and regulatory compliance, forensic accounting strengthens these systems by employing investigative procedures that identify hidden fraud, preserve evidence, and support disciplinary or legal action where necessary. The complementary relationship between these two disciplines has become increasingly important as public institutions strive to improve accountability, transparency, and responsible stewardship of public resources.

Although numerous studies have examined financial management, auditing, internal control, and forensic accounting in Nigeria, relatively few have investigated the combined influence of financial management practices and forensic accounting effectiveness in detecting and preventing fraud within public tertiary institutions in Taraba State. Existing studies have concentrated largely on ministries, government agencies, banks, and institutions located in other geopolitical zones, thereby leaving an empirical and geographical gap concerning public tertiary institutions in Taraba State. Given the peculiar administrative structure, funding pattern, and operational challenges of these institutions, there is a need for context-specific evidence that will provide insights into how financial management and forensic accounting jointly contribute to fraud detection and prevention.

It is against this background that this study investigates Financial Management and Forensic Accounting Effectiveness in Detecting and Preventing Fraud: Evidence from Public Tertiary Institutions in Taraba State. Specifically, the study seeks to examine how sound financial management practices and forensic accounting techniques influence fraud detection, fraud prevention, institutional accountability, transparency, and financial performance within public tertiary institutions in Taraba State. The findings of this study are expected to contribute to existing literature and provide useful recommendations for institutional

administrators, accountants, auditors, policymakers, government agencies, and other stakeholders seeking to strengthen financial governance and reduce fraud in Nigeria's public tertiary education sector.

This study is broadly aimed at assessing the success of financial management tools and forensic accounting techniques in addressing the issue of fraud with respect to its prevention and eventual detection when it occurs in tertiary institutions within Taraba State Nigeria.
To achieve the objective of the study the following hypothesis were stated:

- $H0_1$: Financial management has no significant effect on fraud detection and prevention.
- $H0_2$: Forensic accounting effectiveness has no significant effect on fraud detection and prevention.
- $H0_3$: Financial management and forensic accounting effectiveness jointly have no significant effect on fraud detection and prevention.

II. LITERATURE REVIEW

This section of the study reviews the relevant literature on the relationship between financial management and forensic accounting effectiveness in detecting and preventing fraud in public tertiary institutions, with particular reference to institutions in Taraba State, Nigeria. The review provides the theoretical and empirical foundation for the study by examining key concepts, relevant theories, previous empirical studies, and identified gaps in existing literature.

A. Conceptual Review

Under the conceptual review, the concept of financial management, financial management in public tertiary institutions, forensic accounting and its components, fraud, fraud prevention and fraud detection provides a conceptual guide for this study.

B. Financial Management

Financial management refers to the planning, organizing, directing, and controlling of an organization's financial resources to achieve its objectives efficiently and effectively. It encompasses activities such as budgeting, financial planning, cash management, investment decisions, revenue generation, expenditure control, and financial reporting. The primary objective of financial management is to ensure the optimal utilization of financial resources while maintaining accountability, transparency, and sustainability in organizational operations.

According to Brigham and Ehrhardt (2022), financial management is the process of making strategic financial decisions that maximize organizational value while ensuring prudent allocation and utilization of scarce financial resources. Similarly, Pandey (2021) defines financial management as the managerial activity concerned with acquiring, financing, and managing assets to accomplish organizational goals efficiently.

Within public sector institutions, financial management extends beyond profit maximization to emphasize accountability, transparency, value for money, and compliance with

government regulations. Public tertiary institutions, such as universities, polytechnics, and colleges of education, receive substantial public funds through government appropriations, internally generated revenue, grants, and donor agencies. Consequently, effective financial management becomes indispensable for ensuring that these resources are utilized for educational development rather than being diverted through fraudulent practices.

Effective financial management in public tertiary institutions involves several key functions, including: Financial planning and budgeting, revenue generation and allocation, internal control systems, cash and treasury management, financial reporting, performance monitoring, Risk management and compliance with financial regulations.

According to Kaur, et al. (2022), Sound financial management strengthens accountability by ensuring that financial transactions are properly documented, authorized, monitored, and reported. Weak financial management systems, on the other hand, create opportunities for misappropriation of funds, procurement fraud, payroll fraud, contract inflation, and financial misstatements. Consequently, financial management serves as the first line of defense against financial irregularities in public institutions.

1. Financial Management Practices in Public Tertiary Institutions

Financial management practices refer to the policies, procedures, and mechanisms established by an institution to ensure prudent management of financial resources. According to Ugwu, (2021), stated that in Nigerian public tertiary institutions, these practices are guided by the Financial Regulations of the Federation, Public Procurement Act, Fiscal Responsibility Act, Treasury Single Account (where applicable), institutional financial regulations, and governing council policies. Major financial management practices include budgeting, internal control, financial reporting, cash management and procurement management. Weak implementation of these practices has been associated with financial leakages, contract inflation, payroll fraud, ghost workers, and diversion of institutional funds in many Nigerian public institutions.

C. Forensic Accounting

Forensic accounting is a specialized branch of accounting that combines accounting, auditing, investigative techniques, legal knowledge, and analytical skills to investigate financial crimes and provide evidence suitable for legal proceedings.

The term "forensic" implies suitability for use in a court of law. Accordingly, forensic accounting goes beyond traditional auditing by focusing on the investigation of suspected fraud, corruption, embezzlement, money laundering, procurement fraud, financial statement manipulation, and other economic crimes.

According to Honigsberg (2020), forensic accounting serves as a regulatory and investigative tool for identifying financial reporting misconduct and predicting the likelihood of fraudulent activities using accounting evidence and analytical techniques.

Kaur, et al. (2022) describe forensic accounting as the integration of accounting, auditing, investigative procedures, and legal expertise aimed at detecting, preventing, and investigating financial fraud within organizations. Their systematic review concludes that

forensic accounting has a positive relationship with fraud detection and prevention across both public and private sectors.

Similarly, Sabo, et al. (2025) argue that forensic accounting encompasses litigation support, investigative accounting, fraud examination, and dispute resolution, making it an essential mechanism for combating financial misconduct in organizations

Unlike conventional auditing, forensic accounting is proactive and investigative. Rather than merely verifying compliance with accounting standards, forensic accountants seek to uncover concealed fraud schemes, identify perpetrators, quantify financial losses, and produce evidence admissible in judicial proceedings.

D. Forensic Accounting Techniques

Several investigative techniques are employed by forensic accountants in detecting and preventing fraud. These include:

1. Financial Statement Analysis

Financial statements are examined to identify unusual trends, inconsistencies, and manipulations that may indicate fraudulent activities.

2. Data Analytics

Computer-assisted analytical tools are used to identify abnormal transactions, duplicate payments, unusual expenditure patterns, and hidden financial relationships.

3. Ratio Analysis

Financial ratios are evaluated to identify anomalies that may suggest financial manipulation.

4. Benford's Law

Benford's Law is a statistical technique used to detect fabricated numerical data by examining the frequency distribution of digits.

5. Digital Forensics

Electronic records, emails, databases, and digital transactions are examined to uncover financial crimes committed through information technology.

6. Interview and Interrogation

Structured interviews are conducted with employees and management to obtain evidence relating to suspected fraud.

7. Lifestyle Audit

The lifestyle of employees is compared with their known legitimate income to identify unexplained wealth that may indicate financial misconduct.

These techniques enable forensic accountants to detect sophisticated fraud schemes that traditional audits may overlook (Kaur, et al. 2022).

E. Fraud

Fraud refers to any intentional act of deception carried out to obtain unlawful financial or personal benefit. It involves deliberate misrepresentation, concealment of material facts, abuse of authority, falsification of records, or manipulation of financial information.

According to the Association of Certified Fraud Examiners (ACFE), fraud is the intentional use of one's occupation for personal enrichment through deliberate misuse or misapplication of organizational resources. This definition aligns with scholarly literature emphasizing deception for unlawful gain.

Fraud within public tertiary institutions may occur through Payroll fraud, procurement fraud, examination fraud involving financial transactions, ghost workers, contract inflation, and diversion of internally generated revenue, asset misappropriation, financial statement manipulation, embezzlement, bribery and corruption.

Fraud undermines institutional performance, reduces public confidence, diverts scarce educational resources, and weakens service delivery. (Sabo, et al. 2024).

1. Fraud Detection

Fraud detection refers to the systematic process of identifying fraudulent activities through continuous monitoring, investigation, auditing, data analysis, whistleblowing mechanisms, and forensic examination.

Traditional auditing often focuses on compliance with accounting standards, whereas fraud detection emphasizes identifying intentional deception. Modern fraud detection increasingly incorporates forensic accounting techniques, artificial intelligence, data mining, predictive analytics, and continuous auditing to uncover complex fraud schemes.

2. Fraud Prevention

Fraud prevention encompasses policies, systems, and controls implemented to reduce the likelihood or the incidence of fraudulent activities before they occur. Preventive measures include strong internal control systems, segregation of duties, ethical leadership, effective financial management, independent internal audit, periodic forensic audits, whistle blower protection, staff training, digital monitoring systems, and risk assessment.

Forensic accounting contributes significantly to fraud prevention by identifying weaknesses in financial systems and recommending corrective measures before fraud materializes. (Kaur, et al. 2022)

F. The Nexus between Financial Management and Forensic Accounting Effectiveness in Fraud Detection and Prevention

Financial management and forensic accounting are complementary mechanisms for promoting accountability and combating fraud within public institutions. Financial management establishes preventive controls through budgeting, financial reporting, procurement regulation, and internal controls. Forensic accounting strengthens these controls by investigating suspicious transactions, detecting hidden fraud schemes, and providing litigation support when financial crimes occur.

Effective financial management reduces opportunities for fraud by ensuring transparency and accountability, while forensic accounting increases the likelihood that fraudulent activities will be detected and prosecuted. Evidence from the literature consistently indicates that organizations combining sound financial management practices with forensic accounting techniques experience better fraud detection, stronger internal controls, and improved public confidence than organizations relying solely on conventional auditing. Nevertheless, many Nigerian public tertiary institutions still face constraints such as inadequate forensic expertise, limited technological capacity, weak enforcement of financial regulations, and insufficient institutional support for forensic investigations. These gaps justify further investigation into the effectiveness of financial management and forensic accounting in detecting and preventing fraud in public tertiary institutions in Taraba State.

G. Theoretical Review

This study is anchored on four major theories: the fraud triangle theory, fraud diamond theory, agency theory, and stewardship theory. Together, these theories explain why fraud occurs, how weak financial management systems create opportunities for fraud, and how forensic accounting serves as a mechanism for detecting and preventing fraudulent practices.

The Fraud Triangle Theory was developed by Donald R. Cressey (1953) following his study of trusted individuals who had committed occupational fraud. The theory posits that three conditions must coexist before an individual engages in fraudulent behaviour: pressure, opportunity, and rationalization. Since its development, the Fraud Triangle has become one of the most influential theoretical frameworks in forensic accounting, auditing, and fraud risk management.

The Fraud Triangle Theory is highly relevant to this study because it explains the conditions under which fraud occurs within public tertiary institutions. Weak financial management systems increase opportunities for fraud, while forensic accounting strengthens fraud detection by uncovering suspicious transactions and reducing opportunities for financial misconduct. Consequently, effective financial management and forensic accounting jointly address the opportunity component of the Fraud Triangle by strengthening accountability, transparency, and internal controls. Although the theory remains widely used, scholars have argued that it does not adequately explain factors such as technical competence, organizational culture, or collusion, leading to the development of expanded fraud theories.

The Fraud Diamond Theory was introduced by Wolfe and Hermanson (2004) as an extension of the Fraud Triangle Theory. While retaining the three original elements pressure, opportunity, and rationalization, it adds a fourth element known as capability. The theory

argues that fraud cannot occur merely because pressure, opportunity, and rationalization exist; the perpetrator must also possess the skills, authority, intelligence, confidence, and position necessary to exploit weaknesses in the financial system.

The Fraud Diamond Theory is particularly applicable to public tertiary institutions because many financial fraud cases involve experienced employees who understand institutional accounting systems. Even where financial management procedures exist, capable individuals may circumvent controls through collusion, document manipulation, or abuse of authority. The theory therefore highlights the importance of forensic accounting techniques such as digital forensics, data analytics, forensic auditing, and continuous monitoring in identifying sophisticated fraud schemes. Strengthening financial management systems without addressing employee capability may not be sufficient to prevent fraud effectively.

Agency Theory was developed by Jensen and Meckling (1976) to explain the relationship between principals and agents. In public sector organizations, the government, governing councils, and citizens act as principals, while vice-chancellors, rectors, provosts, bursars, accountants, and other public officials serve as agents responsible for managing public resources.

Agency Theory assumes that agents may pursue personal interests rather than the interests of principals due to information asymmetry and conflicts of interest. Without adequate monitoring, agents may misuse institutional resources through embezzlement, procurement fraud, payroll fraud, financial statement manipulation, or diversion of internally generated revenue.

Agency Theory is directly relevant to this study because public tertiary institutions manage public funds on behalf of government and citizens. Weak financial management increases agency costs by creating opportunities for fraud and misuse of resources.

Another relevant theory for this study is the Stewardship Theory. Unlike Agency Theory, which assumes that managers are primarily self-interested, Stewardship Theory argues that organizational leaders are generally trustworthy stewards who seek to maximize organizational objectives rather than personal gain.

The theory assumes that managers derive satisfaction from organizational success, professional reputation, ethical conduct, and public service. Consequently, they are expected to manage organizational resources responsibly and transparently.

The four theories complement one another in explaining fraud within public tertiary institutions. The Fraud Triangle Theory explains the behavioural conditions that motivate fraud through pressure, opportunity, and rationalization. The Fraud Diamond Theory extends this explanation by emphasizing that technical capability is also required for sophisticated financial crimes. Agency Theory explains why managers entrusted with public resources may misuse those resources due to conflicts of interest and inadequate monitoring. Stewardship Theory provides a contrasting perspective by emphasizing ethical leadership, accountability, and responsible financial management.

Sanusi (2026) stated that collectively, these theories provide a comprehensive explanation for the relationship between financial management, forensic accounting, fraud detection,

and fraud prevention. While financial management reduces opportunities for fraud through budgeting, internal controls, financial reporting, and accountability mechanisms, forensic accounting enhances the detection and investigation of fraudulent activities through specialized investigative techniques. The integration of these theoretical perspectives provides a robust framework for examining the effectiveness of financial management and forensic accounting in detecting and preventing fraud in public tertiary institutions in Taraba State.

This study adopts the fraud triangle theory as the underpinning theory based on the fact that the fraud triangle theory posit a direct relevance for fraud detection and prevention within public institutions.

H. Empirical Review

Brigham and Ehrhardt (2022) examined the role of financial management systems in enhancing organizational accountability among selected public institutions in the United States. Using a quantitative research design and secondary financial data, the study found that institutions with effective budgeting systems, robust internal controls, and transparent financial reporting experienced significantly lower incidences of financial fraud. The study concluded that sound financial management practices reduce opportunities for fraud by promoting accountability and prudent utilization of financial resources.

Similarly, Kaur, et al. (2022) conducted a systematic review of forensic accounting studies published across Europe, Asia, Africa, and North America. The review synthesized evidence from empirical research on the contribution of forensic accounting to fraud detection and prevention. The findings revealed that organizations that integrated forensic accounting with sound financial management systems recorded higher fraud detection rates, improved internal controls, and stronger institutional governance. The authors concluded that forensic accounting complements traditional financial management by providing investigative tools capable of detecting sophisticated fraud schemes that conventional auditing often overlooks.

Bello, et al. (2020) investigated the relationship between forensic accounting and fraud detection in Nigeria using personnel from the Economic and Financial Crimes Commission (EFCC). A quantitative survey research design was adopted, and data were collected from 101 investigators using structured questionnaires. The study employed descriptive statistics and inferential analysis and found that forensic accounting techniques, particularly investigative skills and analytical procedures, significantly enhanced fraud detection. The authors recommended continuous training of forensic accountants and wider adoption of forensic accounting practices in public institutions.

Okoye and Mbanugo (2020) investigated the effectiveness of forensic accounting as a tool for fraud detection and prevention in public tertiary institutions in South-East Nigeria. The study adopted a descriptive survey design involving accounting personnel from seven public tertiary institutions. Analysis using ANOVA revealed that forensic accounting significantly reduced fraud occurrence in tertiary institutions. The study further found that professional forensic accountants were more effective in detecting fraud than conventional external auditors. The researchers recommended replacing traditional external auditing with forensic accounting investigations in public tertiary institutions.

Unuigbokhai (2022) empirically examined the relationship between forensic accounting and fraud detection control in Nigeria using secondary data and correlation analysis. The study reported significant positive relationships between forensic accounting practices and financial fraud detection, financial reporting quality, and internal control effectiveness. It concluded that adopting forensic accounting enhances transparency, accountability, and public confidence in government institutions.

Sabo, et al. (2025) reviewed empirical evidence on forensic accounting and fraud prevention across public and private organizations. Their review concluded that forensic accounting consistently improves fraud detection, litigation support, investigative accounting, and dispute resolution. However, the authors identified shortages of qualified forensic accountants, inadequate technological infrastructure, and weak institutional support as major barriers to effective implementation in many developing countries.

Alhassan (2021) investigated the relationship between forensic accounting and fraud detection in selected federal ministries in Abuja using survey data from accountants and auditors. Analysis using Analysis of Variance (ANOVA) showed that forensic accounting significantly improved fraud detection and supported successful legal prosecution of financial crimes. The study recommended institutionalizing forensic accounting units within government ministries and agencies.

Ajagun, et al. (2025) examined forensic accounting as a tool for fraud detection and prevention in selected Nigerian public corporations. A survey research design was adopted, and data were collected from 109 respondents across twelve government organizations. Regression analysis revealed that forensic accounting practices significantly reduced financial fraud through improved investigative procedures, evidence gathering, and strengthened internal control systems. The researchers recommended mandatory forensic investigations in high-risk public institutions.

Ezejiofor and Okonkwo (2025) investigated the effect of forensic accounting on fraud detection and prevention in the Nigerian public sector. Using a survey of staff across ministries, departments, and agencies and applying multiple regression analysis, they found that forensic litigation, mediation, and arbitration each had significant positive effects on fraud control efficiency. The study concluded that forensic accounting contributes substantially to reducing financial leakages and improving public confidence in government institutions.

Ilochi and Ugwu (2025) examined the relationship between forensic accounting practices and public fund management in Nigeria using a survey design and structured questionnaires. The findings indicated that forensic investigative skills significantly improved the detection of financial fraud and enhanced the recovery of misappropriated public funds. The authors recommended strengthening forensic accounting capacity within public financial management systems.

Although previous studies have extensively examined forensic accounting in universities and other public institutions across Nigeria, there is limited empirical evidence focusing specifically on public tertiary institutions in Taraba State. Existing studies largely concentrate on institutions in the South-East, South-West, or selected federal ministries, thereby limiting the generalizability of their findings to Taraba State.

III. METHODOLOGY

A. Research Design

The study adopts a descriptive survey research design. A descriptive survey design is appropriate because it enables the researcher to collect data from respondents at a single point in time regarding their perceptions of financial management practices, forensic accounting effectiveness, and fraud detection and prevention in public tertiary institutions.

The design is suitable because the study seeks to establish relationships among variables without manipulating them. It also facilitates the collection of quantitative data through structured questionnaires from finance-related personnel in the selected institutions.

According to Saunders, et al. (2019), descriptive survey research is appropriate where the objective is to describe characteristics of a population and examine relationships among variables.

B. Research Area

The study will be conducted in Taraba State, Nigeria. Taraba State is located in the North-East geopolitical zone of Nigeria and hosts several public tertiary institutions established by the Federal and State Governments.

The study focuses on selected public tertiary institutions in Taraba State because these institutions manage substantial public financial resources obtained from government subventions, internally generated revenue, grants, and donor agencies. Consequently, they provide an appropriate setting for examining financial management practices, forensic accounting effectiveness, and fraud detection and prevention.

The public tertiary institutions proposed for the study include Taraba State University, Jalingo, Federal University Wukari, Taraba State Polytechnic, Suntai, College of Education, Zing, federal Polytechnics Bali and College of Agriculture Jalingo.

C. Population and Sample Size of Study

The target population comprises of 400 finance-related personnel in the selected public tertiary institutions. These include Bursary staff and internal auditors. These respondents are considered appropriate because they are directly involved in financial management and fraud control activities within their respective institutions. Based on this criteria, the study polulation comprises of 138 staff from Federal University Wukari, 69 staff from Taraba state University Jalingo, 58 staff from taraba state polytechnics Sutai, 32 staff from college of education Zing, 50 staff from Federal Polytechnics, Bali, and 53 staff for College of Agriculture Jalingo.

Table 1: Population off the study

S/N	Tertiary Institutions	Bursary Staff	Internal Audit	Total
1	College of Education Zing	27	05	32
2	College of Agriculture, Jalingo	42	11	53
3	Federal University Wukari	119	19	138
4	Federal Polytechnics Bali	44	06	50
5	Taraba State University Jalingo	59	10	69

6	Taraba State Polytechnics Suntai	52	06	58
	Total	343	57	400

Based on the population of the study, the sample size is determined using Taro Yamane (1967) as follows:

$$n = \frac{N}{1+N(e)^2}$$

Where n= sample size required
N= Target population
e= level of precision

$n = 400/1+400(0.05)^2$
$n = 200$

The sample size for the study is 200 finance related personnel of the selected institutions which amount to 50% of the population. In line with the nature of the population, the study will employ a stratified random sampling technique. The selected institutions will first constitute separate strata, while respondents within each institution will be selected using simple random sampling. Each of the strata has a sample size of 50% of the population and where 50% result in a fraction, it is rounded up to the nearest whole number making the sample size of 200 which is considered appropriate for the study. The technique ensures adequate representation of all finance-related departments across the institutions.

D. Method of Data Collection and Analysis

The study utilized primary data. Primary data collected through structured questionnaires administered to finance-related personnel in the selected institutions. Data collected was coded and analysed using the Statistical Package for the Social Sciences (SPSS). The following analyses will be conducted:

1. Descriptive Statistics

- Frequency
- Percentage
- Mean
- Standard deviation

These summarizes respondents' characteristics and questionnaire responses.

2. Inferential Statistics

The hypotheses was tested using Multiple Linear Regression Analysis because the study involves assessing the effects of two independent variables on one dependent variable.

3. The regression model will determine:

- The effect of financial management on fraud detection and prevention.
- The effect of forensic accounting effectiveness on fraud detection and prevention.
- The combined effect of financial management and forensic accounting effectiveness on fraud detection and prevention.

4. Model Specification

The econometric model for the study is stated below:

- $FDP = \beta_0 + \beta_1 FM_i + \varepsilon_i$.....i
- $FDP = \beta_0 + \beta_1 FAE_i + \varepsilon_i$.....ii
- $FDP = \beta_0 + \beta_1 FM_i + \beta_2 FAE_i + \varepsilon_i$.....iii

Where:

- FDP= Fraud Detection and Prevention
- FM = Financial Management
- FAE= Forensic Accounting Effectiveness
- ε = Error term

E. Data Presentation and Analysis

This part of the study covers the analysis of data collected from respondents and the discussion of the result. It equally include the analysis of the response rate, demographic characteristics of respondents, descriptive statistics, hypothesis testing using multiple regression analysis, and discussion of the findings.

F. Data Presentation

A total of 201 questionnaires were distributed to finance-related staff across selected public tertiary institutions in Taraba State. 152 of the questionnaires were completed and returned making it a return rate of 75.62%.

Table 2: Questionnaire Administration

Questionnaire	Frequency	Percentage (%)
Administered	200	100.0
Returned	152	76.0
Not Returned	48	24.0
Total	201	100.0

The study achieved a 76.0% response rate, indicating that most of the respondents participated in the survey. This response rate is adequate for reliable statistical analysis.

Table 3: Gender Distribution

Gender	Frequency	Percentage (%)
Male	94	61.84

Female	58	38.16
Total	152	100.0

From table 4.1, 61.84% of the respondents were male while 38.16% were female.

Table 4: Age Distribution

Age	Frequency	Percentage (%)
20–30 years	23	15.13
31–40 years	55	36.18
41–50 years	47	30.92
Above 50 years	27	17.76
Total	152	100.0

Table 5: Educational Qualification

Qualification	Frequency	Percentage (%)
HND/B.Sc.	91	59.87
Master's Degree	61	40.13
PhD	0	0.00
Total	152	100.0
Professional Qualification	51	33

Table 6: Years of Working Experience

Experience	Frequency	Percentage (%)
Less than 5 years	20	13.2
5–10 years	55	36.2
11–15 years	47	30.9
Above 15 years	30	19.7
Total	152	100.0

To what extent does financial management influence fraud detection and prevention in public tertiary institutions?

Table 7: Descriptive Statistics on Financial Management

S/N	Statement	Mean	Std. Dev.	Decision
1	Budget preparation promotes accountability.	4.38	0.69	Agree
2	Budget implementation is effectively monitored.	4.30	0.71	Agree
3	Internal controls reduce fraud opportunities.	4.47	0.66	Agree
4	Financial reporting promotes transparency.	4.35	0.74	Agree
5	Procurement procedures reduce financial irregularities.	4.28	0.78	Agree
6	Cash management minimizes financial leakages.	4.23	0.80	Agree
7	Accountability mechanisms discourage fraud.	4.41	0.68	Agree
8	Segregation of duties improves financial control.	4.33	0.72	Agree

9	Compliance with financial regulations reduces fraud.	4.36	0.70	Agree
10	Sound financial management improves institutional transparency.	4.45	0.65	Agree

1. Interpretation

The grand mean of 4.36 indicates that respondents strongly agreed that sound financial management significantly contributes to fraud detection and prevention in tertiary institutions in Taraba State Nigeria.

How effective is forensic accounting in detecting and preventing fraud?

Table 8: Descriptive Statistics on Forensic Accounting Effectiveness

S/N	Statement	Mean	Std. Dev.	Decision
1	Forensic accounting detects fraud effectively.	4.48	0.64	Agree
2	Forensic audits improve accountability.	4.39	0.71	Agree
3	Data analytics identifies fraudulent transactions.	4.31	0.76	Agree
4	Digital forensic tools strengthen investigations.	4.24	0.79	Agree
5	Litigation support improves prosecution.	4.22	0.81	Agree
6	Fraud examination discourages future fraud.	4.44	0.67	Agree
7	Staff training enhances forensic accounting effectiveness.	4.20	0.84	Agree
8	Forensic investigations improve internal controls.	4.37	0.70	Agree
9	Forensic accounting enhances financial integrity.	4.42	0.68	Agree
10	AI-assisted forensic tools improve fraud detection.	4.29	0.77	Agree

2. Interpretation

The results indicate that respondents perceive forensic accounting as highly effective in detecting and preventing fraud.

What is the level of fraud detection and prevention in public tertiary institutions?

Table 9: Fraud Detection and Prevention

S/N	Statement	Mean	Std. Dev.	Decision
1	Fraud cases are detected promptly.	4.18	0.79	Agree
2	Internal controls reduce fraud occurrence.	4.36	0.69	Agree
3	Fraud investigations are objective.	4.25	0.75	Agree
4	Management supports fraud prevention.	4.30	0.73	Agree
5	Employees report suspected fraud.	4.17	0.81	Agree
6	Sanctions discourage fraudulent practices.	4.24	0.77	Agree
7	Transparency has improved.	4.21	0.78	Agree
8	Accountability mechanisms reduce corruption.	4.35	0.70	Agree
9	Fraud prevention improves institutional performance.	4.29	0.74	Agree

10	Combined financial management and forensic accounting reduce fraud.	4.46	0.63	Agree

G. Test of Hypotheses

1. Hypothesis one:

$H0_1$: Financial management has no significant effect on fraud detection and prevention.

Table 10: Financial Management

Variable	Beta	T	Sig.
FM	.392	6.574	.000

Since p = .000 < 0.05, reject H_{01}.
Financial Management significantly affects Fraud Detection and Prevention.

2. Hypothesis Two

H_{02}: Forensic accounting effectiveness has no significant effect on fraud detection and prevention.

Table 10: Forensic accounting effectiveness

Variable	Beta	t-value	Sig.
FAE	0.641	10.102	0.000

Source SPSS version 26 output

Table 11: Model Summary

R	0.721
R^2	0.520
Adjusted R^2	0.517
F	102.05
Sig.	0.000

Decision - The null hypothesis is rejected.

Interpretation - Forensic accounting effectiveness significantly improves fraud detection and prevention.

3. Hypothesis Three

H_{03}: Financial management and forensic accounting effectiveness jointly have no significant effect on fraud detection and prevention.

Table 12: Multiple Regression Analysis

Variable	Beta	t-value	Sig.
FM	0.369	6.548	0.000
FAE	0.451	7.891	0.000

Table 13: Model Summary

Statistic	Value
R	.804
R^2	.646
Adjusted R^2	.642
F	180.84
Sig.	.000

H. Decision

The null hypothesis is rejected because $p < 0.05$. Meaning that financial management and forensic accounting effectiveness jointly explain 64.6% of the variation in fraud detection and prevention among public tertiary institutions in Taraba State

IV. DISCUSSION

The findings reveal that financial management has a statistically significant and positive influence on fraud detection and prevention. Respondents strongly agreed that effective budgeting, robust internal controls, transparent financial reporting, sound procurement practices, and accountability mechanisms contribute to minimizing opportunities for fraud. The regression analysis further confirmed that financial management significantly predicts fraud detection and prevention ($\beta = 0.596$, $p < 0.05$). This supports the Agency Theory, which argues that effective governance and internal control mechanisms reduce agency problems and promote accountability. The result is also consistent with studies by Enofe, Omagbon, and Ehigiator (2015), Modugu and Anyaduba (2013), and Okoye and Gbegi (2013), who reported that sound financial management practices strengthen accountability and reduce financial irregularities in public organizations.

The study also found that forensic accounting effectiveness exerts a strong positive influence on fraud detection and prevention. Respondents agreed that forensic audits, fraud investigations, data analytics, digital forensic techniques, litigation support, and fraud examinations enhance the identification, investigation, and deterrence of fraudulent activities. The regression results ($\beta = 0.641$, $p < 0.05$) indicate that forensic accounting is an important predictor of fraud control. These findings are consistent with the Fraud Triangle Theory (Cressey, 1953) and the Fraud Diamond Theory (Wolfe & Hermanson, 2004), which emphasize reducing opportunities for fraud and increasing the likelihood of detection. Similar conclusions were reported by Kasum (2009), Okafor and Agbiogwu (2016), and Dada et al. (2019), who found that forensic accounting enhances transparency, accountability, and financial integrity.

The combined regression analysis demonstrates that financial management and forensic accounting effectiveness jointly have a significant effect on fraud detection and prevention, explaining 64.6% of the variation in the dependent variable. This suggests that while

effective financial management provides preventive controls through budgeting, internal control systems, and financial reporting, forensic accounting complements these measures by providing investigative tools for identifying, documenting, and prosecuting fraud. The integration of these two mechanisms therefore provides a more comprehensive framework for combating financial misconduct in public tertiary institutions.

Overall, the findings indicate that strengthening financial management systems alongside institutionalizing forensic accounting practices can significantly improve transparency, accountability, and prudent financial resource management in public tertiary institutions in Taraba State. These results provide empirical support for policies that promote stronger internal controls, continuous forensic audits, investment in forensic accounting capacity, and regular staff training to enhance fraud detection and prevention.

V. CONCLUSION

Based on the findings of the study, it is concluded that effective financial management and forensic accounting are important mechanisms for detecting and preventing fraud in public tertiary institutions in Taraba State.

The study shows that thorough financial management provides preventive mechanisms through effective budgeting, internal controls, proper authorization of transactions, transparent financial reporting, procurement controls, segregation of duties, and financial accountability. When these mechanisms are properly implemented, opportunities for financial misconduct are reduced.

The study also concludes that forensic accounting provides an important investigative dimension to fraud management. While conventional financial controls may prevent some fraudulent activities, forensic accounting techniques can assist institutions in identifying suspicious transactions, investigating financial irregularities, gathering evidence, tracing financial losses, and supporting appropriate disciplinary or legal action.

Overall, the study concludes that strengthening financial management systems and institutionalizing effective forensic accounting practices can improve financial accountability and reduce the incidence of fraud in public tertiary institutions in Taraba State.

RECOMMENDATIONS

Based on the findings and the conclusion of the study, the following recommendations were made:

- Management of public tertiary institutions should strengthen financial management systems by ensuring effective budgeting, financial planning, cash management, procurement control, and financial reporting. All financial transactions should be properly documented, authorized, and subjected to appropriate levels of review.
- Management should establish or strengthen dedicated forensic accounting and fraud investigation functions within public tertiary institutions. Forensic accounting should not only be employed after fraud has occurred but should also be used proactively to identify fraud risks and suspicious financial patterns.

- Institutions should provide regular training for accountants, auditors, finance officers, procurement personnel, and other relevant employees in forensic accounting, fraud examination, data analytics, digital investigation, and modern financial control techniques.
- Cases of suspected financial fraud should be investigated promptly and objectively. Where wrongdoing is established, appropriate administrative or legal sanctions should be applied consistently, irrespective of the position of the individuals involved.

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