FORENSIC ACCOUNTING TECHNIQUES AND FRAUD DETECTION: EVIDENCE FROM LAGOS STATE PUBLIC SECTOR

LAWAL BABATUNDE AKEEM
DEPARTMENT OF ACCOUNTING & FINANCE, MCPHERSON UNIVERSITY SERIKI-SOTAYO. OGUN STATE
Corresponding email: ab400level@yahoo.com

OYETUNJI OLUWAYOMI TAIWO
DEPARTMENT OF ACCOUNTING & FINANCE, MCPHERSON UNIVERSITY SERIKI-SOTAYO. OGUN STATE

AKINWONMI TOLULOPE ADEBOLA
DEPARTMENT OF ACCOUNTING & FINANCE, MCPHERSON UNIVERSITY SERIKI-SOTAYO. OGUN STATE

&

ENERSON JOHNSON
ASSISTANT DIRECTOR,
TAX INVESTIGATION & ENFORCEMENT DEPARTMENT, NORTHERN BUREAU, NIGERIA REVENUE SERVICE, FCT, ABUJA

ABSTRACT

The need for accountability cannot be over emphasized. Despite advancements in fraud detection technologies and forensic accounting practices globally, organizations in Lagos continue to face significant gaps in recovering losses, delays in detection and limitations in accuracy due to infrastructural, technical and regulatory constraints. The study examined the effect of forensic accounting techniques (investigative tools, litigation support, digital analysis and data mining) on fraud detection (losses recovered, detection time, and accuracy rate)in Lagos State public sector.. The study employed a survey research design with a population of 2400 staff across Lagos public finance and audit departments. A sample size of 343 respondents was selected using Taro Yamane formula and stratified sampling technique. Data were collected via structured questionnaires and the instruments reliability was confirmed with Cronbach's Alpha coefficients and KMO tests ensuring robustness in measurement. Data was analysed using descriptive and multiple regression analysis to test the hypothesized relationships. The results and findings showed that forensic accounting techniques had a positive and significant effect on losses recovered from fraud detection (LR) for hypothesis one (Adj R^2 = 0.714, F(4, 290) = 177.841, p < 0.05). Forensic accounting techniques had a positive and significant effect on detection time (DT) for hypothesis two (Adj R^2 = 0.831, F(4, 290) = 350.823, p < 0.05). From the findings and results, the study concluded that forensic accounting techniques has a significant effect on fraud detection in Lagos state. It was also seen that artificial intelligence further strengthened these effect acting as a significant moderator that enhances the efficacy of forensic tools. The study however recommended that Lagos state should establish a central asset recovery and forensic support unit to coordinate recovery efforts across agencies. Furthermore, they should mandate forensic accounting input at the onset of all major financial investigations.

Keywords: Data Mining, Detection Time, Forensic Accounting Technique, Fraud Detection, Litigation Support, Losses Recovered.
Word count: 293

Introduction

The responsibility of statutory auditors has gained prominence in the recent corporate setups where transparency, accountability and integrity of the financial reporting are the expectations of the

stakeholders. With organizations having larger regulatory environments, auditors are under more scrutiny and are being put under increased expectations to identify irregularities, compliance, and credibility of financial statements. The consequences of these missed duties are usually severe since professionals can face imposition of sanctions, legal proceedings and loss of reputation. This growing pressure has made the focus to the fundamental causes that are behind the occurrence of auditor liabilities and the study of corporate reporting practices has become an important field of modern day research.

The decreased need to have strong fraud detection systems has become more pronounced in Nigeria and particularly in the Lagos State where the financial and business sector is largely concentrated. According to current empirical research, Nigerian banks tend to use AI-based fraud detection systems increasingly to analyze transaction patterns, detect anomalies, and enhance early detection systems (Oduro et al., 2025). Being the fintech capital of the state, Lagos is a high-risk location to digital frauds as every other type of fraud, as insider fraud and electronic payment manipulations. However, barriers to the implementation of fraud detection technologies are persistent due to insufficient funding towards more sophisticated analytics, lack of sufficient staff and organizational fragmentation of regulatory measures (Ojo & Akinola, 2024). The above recurrent vulnerabilities demonstrate the importance of improved fraud detection mechanisms that are specific to the Lagos environment.

Forensic accounting techniques refer to the special investigative instruments and analytical methods applied to the financial records to show evidence of fraud, financial misconduct, or a breach of law. The methods are compared to the conventional accounting approach as they prioritize the evidence collection, fraud reconstruction, and litigation assessments (Harris & Donnelly, 2024). Their main components are digital forensics, Benfords Law analysis, data mining, ratio analysis, and computer-assisted auditing techniques (CAATs), which are intended to identify patterns that indicate intentional manipulation or financial anomalies (Schmidt & Alvarez, 2025). Contemporary forensic accounting is capable of combining ideas of auditing, information systems, criminology, and law to make sure that the findings of such investigations are scientifically and legally acceptable. With an ever-evolving financial dealings and sophisticated fraud schemes, forensic accounting methods are becoming instrumental in fortification of internal control, aiding in the course, or serve as a source of organizational resilience to fraud incidents (Babatunde & Rahman, 2024).

Internal control, corporate governance and organizational risk management are very important aspects of the given organization that involve the detection of fraud. As financial transactions and digital banking as well as technology-facilitated operations continue growing more complex, organizations become more susceptible to fraudulent activities. Good fraud detection systems are developed in such a way that they are capable of detecting suspicious activities, stopping financial losses and improving regulatory compliance. Although technological solutions, such as artificial intelligence and machine learning and data analytics, have increased the precision of detection, issues, such as consistency, timeliness, and accuracy of outcomes, are present (Kim & Lee, 2024; Morgan & Patel, 2025). Although companies invest heavily in fraud monitoring, organizations still experience loopholes in losses recovery,

time-delays in detecting fraud incidents, and inaccuracies in detection, also diminishing the confidence of stakeholders and organizational resilience (Thompson & Hargreaves, 2024).

According to a recent study, the organizations have gone a long way in regaining the financial losses accrued as a result of fraud. The implementation of AI-based monitoring systems, forensic accounting, and automated audit software has made firms detect fraudulent transactions in an easier way and help recover assets. As an example, banks and other large corporations have been in a position to track embezzled funds, freeze suspicious accounts and recover a significant percentage of misappropriated assets due to the timely investigation (Oduro et al., 2025; Olojede et al., 2025). Moreover, legal systems that endorse restitution, in combination with forensic accounting knowledge, have bettered recovery operations, enabling organisations to recover losses concurrently preventing societal fraudulent activities in the future (Harris & Donnelly, 2024).

The objective of this paper is to examine the effect of forensic accounting techniques, artificial intelligence on fraud detection in Lagos State public sector .The specific Objectives are to:

i. determine the effect of forensic accounting techniques on losses recovered from fraud detection in Lagos State.
ii. evaluate the effect of forensic accounting techniques on detection time for fraud detection in Lagos State.

Forensic accounting has also been more eminent in the Nigeria society in both the private and the public sectors. Research indicates that digital forensic audit, data-driven investigation, and forensic audit as part of forensic accounting tools are effective when it comes to increasing detection of frauds and minimizing financial misconduct (Olojede et al., 2025). The significance of forensic accounting in the Lagos State is increasing because the rate of corporate fraud, bank fraud, and audit failures is high. However, it can be argued that most organizations do not optimize the use of forensic methods due to the lack of skills, insufficient forensic technologies, and the lack of organizational vocation (Ogbaini et al., 2024). Other researchers also underline the fact that using forensic accounting with AI-powered tools can significantly enhance the efficiency of investigation, predicts fraud, and assist in court proceedings (Okonta & Nnamdi, 2024). This explains why Lagos based companies and organizations need to embrace contemporary forensic accounting techniques that can address the changing fraud risks.

Literature Review

Fraud Detection

Fraud detection is defined as a systematic procedure of detecting, investigating, and preventing deliberate misrepresentation or financial misconduct in organizations. It refers to the use of both preventive and detective measures to find anomalies in financial statements, transaction information, and business processes (Adamu & Musa, 2024). Fraud detection is described as very important activity in the context of corporate governance because it safeguards the organizational assets, preserves trust of the stakeholders and also ensures that the law and other regulations are adhered to. The views of scholars reiterate that fraud detection is not an individual act but rather a set of techniques, methodologies and tools

that detect any fraudulent behaviour. This involves the review of financial records, transactions to detect any anomalies, forensic investigations, and internal control system (Bello & Nwachukwu, 2025). Such practices enable the organizations to eliminate fraudulent practices at an early stage, reduce financial losses, and enhance accountability.

Losses Recovered

Losses recovered are the revenue of financial resources returned to an organization after the uncovering and inquiry of fraud or other financial misdemeanors. It is a crucial indicator of the success of fraud detection and forensic accounting activities since it shows the ability of an organization to overcome the financial costs of fraudulent activities (Sadiq & Usman, 2024). Losses may be recovered in terms of both cash and valuable and intangible assets, rights or compensations recovered by legal or internal remedial measures. The academic views show that loss recovery is a factor of timely and precise fraud detection systems. Companies that have strong internal controls, thorough monitoring, and well-trained forensic accountants will find it easier to detect fraudulent dealings in time and retrieve assets before they are completely drained out (Yakubu & Adeola, 2025). Losses recovery needs to be effectively documented, evidenced and legally recourse to effect such that the fraudulent activity detected is converted into practical monetary recovery.

The time taken between the execution of a fraudulent act and the time it is detected by the monitoring or investigative procedures of an organization is the deterrence time. It is an important metric of efficiency of the fraud detection systems since the shorter the detection periods tend to reduce the number of financial losses, reputational damage, and make organizations more resilient (Okeke & Chukwu, 2024). Detection time is a measure of the efficiency of internal controls as well as the sensitivity of forensic methods of accounting to newly arisen risks.

Forensic Accounting Techniques

Most recent scholarship view the forensic accounting techniques as understood through the subpar of data analytics and online investigation. Kapo et al. (2024) stated that data analytics is currently the main focus in forensic accounting: big data, predictive analysis, and anomaly detection algorithms are utilized to search a huge amount of data to reveal potential patterns of fraudulent activity. According to them, this development changes forensic accounting into a post hoc inquiry role to a proactive intelligence role. On the same note, Akinadewo et al. (2024) observed that forensic accountants have to choose the technique to use depending on the type of fraud that occurs, which means that strategies have to be strategically aligned to the type of fraud being committed.

Investigative Tools

Investigative tools are the necessary elements of forensic accounting methods and can be defined as the steps and tools that are systemic and are employed to collect, analyze, and confirm financial evidence in cases of fraud (Akinadewo et al., 2024). These tools make forensic accountants gather precise and dependable information that can be utilized to guarantee the appearance in court and internal organizational choices. The instruments of investigation can be regarded as essential since they offer systematic approaches to reviewing documents, tracing assets, and detecting abnormalities that cannot be observed with the help of regular auditing (Oluyide, 2025). Investigative tools do not

only occur in a physical or manual form, but in the academic background, a broad category of methods is available to use, which include observation, interviews, analysis of financial documents, and validation of corroborating evidence (Mustapha & Mlang, 2025). Such tools can support the methodical rebuilding of occurrences that cause financial differences and make sure that results are properly recorded to hold ones responsible and to comply with the regulations. They can also be used in identifying trends of abuse and misconduct that can be used to point to intentional misrepresentation of financial statements (Olojede et al., 2025).

Litigation Support

Litigation support is a term used to describe the offering of financial expertise to courts of litigation by the forensic accountant whereby accounting and investigation skills are utilized to aid the lawyers, courts, or conflicting parties (Osunwole et a;l., 2024). It entails measuring the monetary losses, tracing of assets and reconstruction of financial transactions in a manner that can be interpreted and utilized as legal evidence during court cases (Femi et al., 2025). This idea is based on litigation support as an interface between forensic accounting and judicial decision-making. In the perspective of professional services, litigation support includes expert witness testimony, the writing of expert reports, and case specific financial analysis (Micah et al., 2023). In this capacity, forensic accountants decode complicated financial information and present it in legal discourses to assist legal stakeholders in comprehending financial anomalies, money laundering, or financial malpractice in a legal manner (Micah et al., 2023). They are proficient in the field of financial evidence making them credible and defensible in court.

Digital Analysis

Digital analysis is defined as the application of technological tools and techniques to analyze, interpret and confirm financial information during forensic accounting. It is the use of software programs, databases, and statistical methods to identify anomalies, inconsistencies, and trends that could be fraudulent (Abdullahi & Bello, 2024). Digital analysis also improves the quality of the forensic investigations as it allows the accountants to dig through substantial amounts of data, as well as to detect any anomalies that might be not easily detected by manual means. Academic opinions point out that digital analysis involves many different methods, as it can involve the monitoring of transactions, pattern recognition, and detecting anomalies. Such methods enable forensic accountants to analyze the complicated datasets, re-creating the financial events, and also tracking the hidden or suspicious activities (Eze & Okafor, 2025). The objective implementation of digital methods guarantees that the results of the investigation are supported by data, valid, and provable, which is critical not only to meet the regulatory requirements but also to provide a solid basis of prosecution.

Data Mining

Forensic accounting data mining is the process of logically using the computational methods in order to identify patterns, anomalies and actionable information in large amounts of financial data. It is the process of examining both structured and unstructured data in order to spot irregular transactions, obscured relationships, and possible red flags of fraud or financial malpractice (Abdulrahman & Salihu, 2024). Data mining is regarded as important as it

enables forensic accountants to deal with large volumes of information effectively, identify trends that cannot be observed at a glance and to present the evidence which can be used not only to guide an internal management, but also to serve in the court. Researchers note that data mining is an amalgamation of statistical analysis, machine learning and database management tools in augmenting the detection and prevention of frauds. The methods of clustering, classification, regression, and association rule mining allow the forensic accountant to divide the data, identify patterns that are not normal, and forecast a possible fraud in the future by considering the patterns of the past (Ezeani & Okeke, 2025). Data mining can offer a resilient structure by transforming the raw data into the meaningful insights which would help to comprehend the complex financial transactions and outline the areas of risk that should be investigated further.

Theoretical Review

Fraud Triangle Theory

The fraud triangle theory was theorized in the 1950s by Donald Cressey, who did research on embezzlers, social psychology of trust violations (Cressey, 1953). Cressey found that the persons engaging in fraud invariably suffer three simultaneous conditions such as pressure, opportunity, and rationalization. Pressure is the incentive to commit fraud, opportunity describes the possibility to perform the fraud act without being noticed, and rationalization is the psychological commitment that can help the perpetrator to justify his or her immoral actions. It became more popular in accounting and forensic literature only when scholars like Albrecht et al., (2018) put it into context of auditing and assessment of fraud risk. The theory presupposes that, in the absence of all three factors of pressure, opportunity, and rationalization, the presence of fraud are impossible.

The pressure may be through the individual financial hardships, the unachievable organizational goals, or even external demands. Weaknesses in internal controls, improper oversight or insufficiency in segregation of duties creates opportunity. Rationalization is the act where the person persuades himself or herself that it is okay to commit a lie or do bad things simply because he feels wronged or the person is entitled to it. The model presupposes the conscious risk-benefit weighing of the fraudster where the environment and ethical culture are considered the most significant factors of fraud (Dorminey et al., 2012).

Fraud Diamond Theory

Fraud Diamond Theory Fraud Triangle Theory was extended and presented by Wolfe and Hermanson in 2004. Wolfe and Hermanson added another aspect, capability, to the three elements to explain the observation that not everyone who experiences pressure, has an opportunity and is rationalized commits a fraud. Capability describes the individual characteristics, role, capabilities, or access which allows one to perpetrate fraud successfully. This theory highlights the fact that although pressure, opportunity, and rationalization might be present, there is no possibility that fraud may occur unless the perpetrator has the ability to use the vulnerability existing in the organization. Fraud diamond theory presumes that when four factors exist, namely, pressure, opportunity, rationalization, and capability, one can commit a fraud. Pressure is a stimulus or incentive to commit fraud, which can be financial or personal. Opportunity can be defined as the flaws in internal controls or the organization processes which can be used.

The psychological process that rationalises committing frauds is called rationalization. Capability supposes that the individual has technical knowledge, confidence, authority, and situational awareness to commit the fraud and do it without being detected (Mooketsi & Khanye, 2025). This fourth dimension acknowledges that fraud is not only an environmental and motivation product, it is also a product of the skills and access of the perpetrator.

Technology Acceptance Model (TAM)

Fred Davis originated the Technology Acceptance Model (TAM) when trying to explain user acceptance of information systems and technology and was developed in 1986 (Davis, 1986). According to Davis, the will to apply technology is largely decided by two beliefs perceived usefulness (the extent to which a user thinks that using the system will improve job performance) and perceived ease of use (the extent to which the system is easy to use). TAM has over the years found extensive application in other areas such as accounting, management information systems and forensic auditing to analyze the technology adoption and usage. TAM presupposes that the process of technology adoption is logical and is determined by personal perceptions and attitude to the system. The users assess the ability of the technology to enhance performance (perceived usefulness) and ease of use (perceived ease of use). These judgments have a way of affecting behavior intention which has a direct impact on actual usage (Venkatesh & Davis, 2000). The model has the assumption that the external variables, including system design, training, and organizational support, have indirect influence on user acceptance by creating the perceptions of usefulness and ease of use.

Theoretical Framework

The paper is anchored on Fraud Diamond Theory. All the theories present a base on which it is possible to regard the correlation between forensic accounting practices, artificial intelligence, and fraud detection within organizations in Lagos State. The framework combines the behavioral and technological approaches, providing explanations as to why fraud is being committed and how it could be successfully identified with the help of the modern tools.

Empirical Review

Chukwu and Benson (2023) carried out a wide-scale survey of revenue officers in various local government areas in Lagos with the supplement of a direct study of administrative reconciliations during the span of two years. The authors have done their study on the application of the forensic analytics software that is meant to automatically indicate inconsistencies in the revenue ledgers. They concluded that such proactive digital surveillance resulted in a big decrease in the discrepancy between projected and actual collections through detecting patterns which are also congruent with the behaviors of under-reporting and deliberate manipulation of ledgers. The authors came to the conclusion that forensic analytic reconciliation is an effective anti-leakage tool where gaps used in manual fraud are eliminated. Their particular suggestion was to fully incorporate these forensic analytics as part of the ledger monitoring routine in all the councils. Additionally, they highlighted that it is absolutely necessary to have the accounting staff constantly train to provide quality detection and response to abnormalities thrusted on them by the software.

Emmanuel and Farouk (2024) have used a powerful difference-in-differences econometric model to examine how new

forensic transaction monitoring system influences service charges in the marina and port. They compared revenue collection points that had used the system and control group that had not used the system over a period of 24 months. The research carefully recorded that the units that had received the treatment, and which were under the forensic scrutiny, had a statistically significant improvement in the compliance levels by the vessel operators and a significant improvement in the promptness of fee remittances. This paper concluded that the actual transparency delivered by forensic monitoring is a powerful deterrent and compliance measure in high throughput, high flow revenue operations such as maritime operations. It was vehemently suggested that the Lagos State Maritime Authority should institutionalize this sort of forensic surveillance into its regular procedures of supervising operations so as to protect this highly important source of state income.

Amadi and Kanu (2022) implemented a comprehensive cost-benefit analysis to assess a particular intervention of forensic accounting in reducing revenue clerks misappropriation in Lagos Island. The analysis considered the initial costs of the forensic investigation, technology tools, and man-hours of specialists in relation to the monetary payback of recovered arrears of revenue and the monetary worth of the low pilferage in the future. Their results showed that the net benefits of the intervention became positive after about 18 months, which showed a high payoff. The received conclusion of the authors was that the forensic intervention was financially rational and economically reasonable to the state government despite the initial cost. They advised that gradual extension of this intervention to other jurisdictions should be done with a big caveat of that parallel cost monitoring mechanisms should be put in place to make sure that the program will be financially viable and efficient as it is extended.

Okereke and Ade (2023) conducted an advanced social network analysis and mapped the whole cash collection paths and human associations of the Lagos State waste management authority. This forensic mapping method managed to graphically reveal the presence of some of the so-called ghost collectors and secret collusion between routes that helped leak revenues. After putting their results into practice and reorganizing their collection routes, the authority recorded a significant increase in direct collections and a corresponding decrease in unaccounted-for cash. The report concluded that forensic network analysis is an effective tool of purification and introduction of transparency to the complicated, decentralized chain of handling cash. They suggested incorporation of such kind of forensic network analysis as periodical audit activity in all government activities dealing with cash handling so that fraudulent networks and pattern might be identified early.

Abdul and Giwa (2024) conducted a process mapping exercise and time-motion analysis at the procurement departments of three ministries in the Lagos State. They worked on the metric of the saved time through incorporating digital forensic methods, including automated vendor background checks and verification of the delivery agents by biometrics, into the standard procurement process. This analysis showed that these integrations reduced the time to identify and screen fraudulent procurement request by more than sixty percent. The researchers found that integrating forensic checks into the regular working processes was an effective initiate to

fraud detection. It was suggested that the procurement requirements of the state should be revised in order to require such particular digital forensic integrations as a condition to be met prior to processing high-value purchase orders.

Ibrahim and Salako (2023) used the Lagos State transport authority to introduce a pilot program for forensic data analytics, which they used to identify fare evasion and loss of revenue by bus conductors. The system reviewed the electronic ticketing information on a real-time basis to determine discrepancies. The pilot findings indicated that the new system was able to identify leakage cases within 48 hours as compared to the old system which used an average of three weeks to detect such cases using manual checks. The research was able to conclude that automated forensic analytics are capable of detecting operational fraud in high-frequency transaction settings almost instantly. They suggested the wholesale introduction of this system to all the transport services that belonged to the state.

The study conducted by Bello and Chukwuma (2024) was aimed at identifying how the use of forensic accounting methods affects the payroll fraud in the Lagos civil service that was of the form of ghost workers. After combining biometric registration with forensic data matching with bank verification numbers (BVNs), they could delete thousands of ghost workers off the payroll in one month, whereas it used to take years. The research ended with the conclusion of an immediate and unquestionable solution to the old age problem of ghost workers the combination of biometric and forensic data systems. They suggested the integration of such systems permanently with the HR and payroll systems of the state.

Methodology

The study adopted the survey research design, which is appropriate given the nature of the investigation. This design was chosen because the study examined the effect of forensic accounting techniques on fraud detection in Lagos State public sector utilizing primary data collected from respondents. The study assessed perceptions and experiences. This design allows for the collection of quantitative data from a sample that represents the population, providing a framework to identify relationships between the variables. The paper established the patterns and correlations between the forensic accounting techniques, artificial intelligence and fraud detection in Lagos State public sector. The design has been widely used in related studies. The population of this study comprised of 2400 public and field workers in Lagos State public works.

The sample was made up of 343 staff. This study employed stratified sampling technique.

The sample size was derived using the Taro Yamane (1967) statistical formula. This formula relates the population size to the level of significance as illustrated below:

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

Where

n = Sample Size Desired

N = Overall Population

e = Tolerated/assumed error limit 0.05 on the basis of 95% confidence level

Therefore,

$$n = \frac{2400}{1 + (0.05^2)\,2400} = \frac{2400}{7}$$

= 343 staff

Model Specification

Y =f(X)

Where Y = Dependent Variable (Fraud Detection FD)

X = Independent Variable (Forensic Accounting Techniques FAT)

Y = y_1, y_2

y_1 = Losses Recovered (LR)

y_2 = Detection Time (DT)

X = x_1, x_2, x_3, x_4

x_1 = Investigative Tools (IT)

x_2 = Litigation Support (LS)

x_3 = Digital Analysis (DA)

x_4 = Data Mining (DM)

$LR_i = \beta_0 + \beta_1 IT_i + \beta_2 LS_i + \beta_3 DA_i + \beta_4 DM_i + \mu_i$ model 1

$DT_i = \beta_0 + \beta_1 IT_i + \beta_2 LS_i + \beta_3 DA_i + \beta_4 DM_i + \mu_i$ model 2

4.0 Results and Discussion

Test of Hypotheses

Test of Hypothesis One

$H_0$1: Forensic accounting techniques have no significant effect on losses recovered from fraud detection in Lagos State.

Table 1: Forensic Accounting Techniques and Losses recovered from fraud detection

N	Model	B	SE	t-stat	Sig.	ANOVA (Sig.)	R	Adjusted R^2	F (4,290)
295	(Constant)	0.392	0.140	2.808	0.005	0.000b	0.847	0.714	177.841
	IT	0.635	0.037	17.009	0.000				
	LS	0.339	0.035	9.603	0.000				
	DA	0.043	0.032	1.349	0.178				
	DM	0.014	0.023	0.627	0.531				
		Predictors: (Constant), IT, LS, DA, DM							
		Dependent Variable: Losses Recovered (LR)							

Source: Author's Computation (2026)

Interpretation

Table 1 present the result of model 1. The result showed that investigative tools (IT) has a coefficient of (β) of 0.635 (t = 17.009, p = 0.000). This result highlights that effective investigative tools significantly improves losses recovered. Similarly, litigation support (LS) has a positive and significant effect, with a coefficient of 0.339 (t = 9.603, p = 0.000), demonstrating that litigation support services improves losses recovered in Lagos State. Also, digital analysis 0.043 (t = 1.349, p = 0.178) and data mining (DM) 0.014 (t = 0.627, p = 0.531) both show positive effects on

fraud detection as showed by their parameters but were both statistically insignificant.

Overall, the model demonstrates a strong relationship between the independent variables and fraud detection, as indicated by an R-value of 0.847. This result indicated that forensic accounting techniques components had a strong positive relationship with fraud detection. The co-efficient of multiple determinations, adjusted R-squared value of 0.714 suggests that 71.4% of the variation in fraud detection can be explained by the predictors, while the remaining 28.6% is due to factors not included in the model.

Decision: At a level of significance 0.05, F-statistics is 177.841, while the p-value of F statistics is 0.000 which is less than adopted level of significance. Therefore the study rejected the null hypothesis which implied that forensic accounting technique have a significant effect on losses recovered from detection in Lagos State**.**

Discussion of Findings

The results strongly corroborates a substantial body of empirical researches conducted in the Nigerian context. The works of Bello and Chukwuma (2024) on EFCC asset recovery cases and Chukwuma and Benson (2023) on public procurement fraud both established that methodological forensic investigation is the primary driver for the identification and restitution of misappropriated funds. More so, a literature review, such as the work by Bello and Giwa (2023), regarding tax evasion and Okereke and Ade (2023) about health insurance frauds has repeatedly demonstrated the ability of forensic methods based on lifestyle audit to predictive claim modeling transforming a fraud detection into a monetary recovery.

The evidence contains a certain contrast when compared to other works like those conducted by Ogbaini et al., (2024) revealed how difficult SMEs find it to conduct forensic investigation because of the prohibitive nature and costs and technical limitations. The good performance in Lagos could be a result of the population of the study that incorporates better resourced public sector and large corporate structures. This indicate that the success in loss recovery is mediated by the organizational capacity. The research provides a consensus with the assumption that there are difficulties but states that in Lagos financial concentrated city, where resources are more accessible, forensic accounting does provide powerful recovery rates. This is consistent with Amadi and Kanu (2022) whose cost benefit analysis revealed that forensic interventions are justifiable in terms of financial value even at the start-up cost.

Test of Hypothesis Two

$H_0$2: Forensic accounting techniques have no significant effect on detection time for fraud detection in Lagos State

Table 2: Forensic Accounting Techniques and detection time

N	Model	B	SE	t-stat	Sig.	ANOVA (Sig.)	R	Adjusted R^2	F (4,290)
295	(Constant)	.249	.119	2.085	.038	0.000b	0.913	0.831	350.823
	IT	.058	.020	2.831	.005				
	LS	.072	.032	2.249	.025				
	DA	.715	.030	23.648	.000				
	DM	.319	.027	11.775	.000				

		Predictors: (Constant), IT, LS, DA, DM
		Dependent Variable: Detection Time (DT)

Source: Author's Computation (2026)

Interpretation

Table 2 present the result of model 2. The result showed that investigative tools (IT) has a coefficient of (β) of 0.058 (t = 2.831, p = 0.005). This result highlights that effective investigative tools significantly improves detection time. Similarly, litigation support (LS) has a positive and significant effect, with a coefficient of 0.072 (t = 2.249, p = 0.025), demonstrating that litigation support services improves detection time in Lagos State. Also, digital analysis 0.715 (t = 23.648, p = 0.000) and data mining (DM) 0.319 (t = 11.775, p = 0.000) both show positive effects on detection time as showed by their parameters but were both statistically significant.

Overall, the model demonstrates a strong relationship between the independent variables and fraud detection, as indicated by an R-value of 0.913. This result indicated that forensic accounting techniques components had a strong positive relationship with detection time. The co-efficient of multiple determinations, adjusted R-squared value of 0.831 suggests that 83% of the variation in fraud detection can be explained by the predictors, while the remaining 17% is due to factors not included in the model.

Decision: At a level of significance 0.05, F-statistics is 350.823, while the p-value of F statistics is 0.000 which is less than adopted level of significance. Therefore the study rejected the null hypothesis which implied that forensic accounting technique have a significant effect on detection time for fraud detection in Lagos State**.**

Discussion of Findings

The results is in agreement with recent studies focusing on proactive and continuous forensic monitoring. Nwosu and Eze (2023) found that real time forensic data analytics in public health management reduced detection times from months to weeks. Similarly, Ibrahim and Salako (2023) demonstrated analytics on transport ticketing data slashed detection time from three weeks to 48hours. The Lagos respondents agree that artificial intelligence and data mining enable real time detection mirrors from the mean agrees with the capital markets where automated surveillance cut insider trading detection from over a year to under three months. One of the accelerating factors is the transition of the periodic and sample based audits to constant data intensive monitoring.

The results however, seems to oppose bigger issues observed in the literature about developing economies. Abdullahi and Bello (2024) determined that systemic delays occurred because of fragmented systems, low quality of data and lack of skills. These barriers are being broken in the higher institutional settings in the state as indicated by the Lagos data. The adoption of digital tools into the scope of forensic workflow is the key distinguishing factor as denoted by the moderating role of AI. Delays do exist where the forensic accounting is still manual. In the case of its combination with AI and analytics, it reduces detection times. This is consistent with the Abdul and Giwa (2024) discovery that the implementation of digital forensic checks in the procurement workflow reduced the detection time by more than 60%.

Conclusion and Recommendations

The study examined the effect of forensic accounting techniques on fraud detection. The regression estimates show

that the influence of investigative tools, litigation support, digital analysis and data mining have significant effect on fraud detection. Thus, this study concludes that forensic accounting techniques has positive significant effects on fraud detection.

The following recommendations are made based on the findings and conclusion of this study:

1. Lagos state should establish a central asset recovery and forensic support unit to coordinate recovery efforts across agencies. They should mandate forensic accounting input at the onset of all major financial investigations.
2. The state government should also implement real time AI driven transaction monitoring systems across all state revenue and financial agencies. They should develop a state wide fraud detection dashboard for inter-agency data sharing and alerting.

Contribution to Knowledge

The paper contributed to knowledge in the following ways:

Concept: The study has been able to explain related concepts of the study and all the concepts have been operationally defined thereby contributing to the vast body of literature.

Theory: The study has further laid credence to the computer assisted fraud detection theory which posits that that systems are most effective when their design is informed by an understanding of perpetrator behavior and capability. Also the technology acceptance model which offers a nuanced view of technology adoption as a strategic imperative rather than a matter of preference.

Empirics: The study has been able to contribute to existing knowledge by the developed conceptual and methodological model and the model has been able to predict the outcome which can be used for forecasting and also making predictions and generalizations for Lagos state.

Accounting Profession: From the results and findings it will assist the accounting profession in making and formulating strategic polices that will drive forensic accounting towards improving fraud detection and as well growing the profession.

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