

**ANUK COLLEGE OF
PRIVATE SECTOR
Accounting Journal**

VOL. 2 NO. 3 OCTOBER, 2025

**A Publication of College of Private Sector
Accounting
ANAN University Kwall, Plateau State, Nigeria.**

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Published October, 2025.

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Printed by:
MUSSAB Printers,
NB, 9 Muri road by gwari road, Kaduna State, Nigeria.
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- IV. Introduction
- V. Literature Review
- VI. Methodology
- VII. Results and Discussion
- VIII. Conclusion and Recommendations
- IX. References (APA 7th Edition)
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EFFECT OF FORENSIC ACCOUNTING TECHNIQUES ON FRAUD DETECTION AMONG MICROFINANCE BANKS IN DELTA STATE

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ABSTRACT

Financial fraud remains a pervasive challenge globally, undermining the stability of economic systems and eroding stakeholders' confidence. In Nigeria, financial fraud has become endemic, affecting both public and private sectors. The banking industry, especially microfinance banks (MFBs), has recorded a high incidence of fraud-related cases. The main objective of this study were to examine the effect of forensic accounting techniques on fraud detection in microfinance banks in Delta State, Nigeria. This study adopts a descriptive survey research design. The population for this study consists of employees from microfinance banks operating in Delta State, Nigeria which are 264. Sample size for a population of 264 at a 5% margin of error using Taro Yamane's formula is 159. A sample table summarizing the population and sample size is provided below. The data for this study will be collected primarily from primary sources, using structured questionnaires the data collected through structured questionnaires will be analyzed using both descriptive and inferential statistical techniques. The analysis will be conducted using Statistical Package for the Social Sciences (SPSS). The findings offer valuable insights. The study analysis showed that Digital Forensic Techniques (DFT), Investigative Accounting Techniques (IAT), and Litigation Support Services (LSS) all have a significant positive effect on fraud detection, meaning these methods are highly effective tools in identifying and preventing fraud in these banks. On the other hand, Data Analysis Techniques (DAT) did not show a significant impact on fraud detection in this particular context. This suggests that while data analysis can be useful in some cases, it may not be the most effective standalone tool for detecting fraud, especially in environments with limited technological infrastructure. The study recommended among others that Microfinance banks should prioritize integrating DFT tools like data mining and cyber forensic analysis to enhance fraud detection. They should allocate funds for these tools, provide staff training, and collaborate with cybersecurity experts to stay ahead of new fraud tactics and Banks should integrate forensic accounting practices into their operations by establishing dedicated teams for auditing and investigating suspicious transactions. Regular audits and partnering with external forensic accounting experts can help detect fraudulent activities

1. Introduction

Financial fraud continues to be a major issue worldwide, eroding trust in economic systems. The Association of Certified Fraud Examiners (ACFE, 2022) estimates that organizations lose about 5% of their annual revenue to fraud. As financial crimes grow more complex and technology-driven, traditional auditing methods are proving ineffective, leading to the rise of forensic accounting as a critical tool for detecting and preventing financial irregularities (Omar, Mohammed, & Bakar, 2021).

Forensic accounting has gained global attention,

particularly in developed economies where scandals like Enron and WorldCom led to regulatory changes, such as the Sarbanes-Oxley Act in the U.S. (Rezaee & Wang, 2019). In addition to fraud detection, forensic accountants support litigation and digital investigations, making their role essential in today's financial landscape. In Africa, the implementation of forensic accounting faces challenges, such as weak regulatory frameworks, limited access to digital tools, and a lack of trained professionals (Adegbe & Fakile, 2021). Nigeria, in particular, has seen widespread fraud, especially in the microfinance banking sector. The Nigeria Deposit Insurance Corporation (NDIC,

2021) reported a significant number of fraud cases in microfinance banks in 2020, often linked to weak internal controls and poor corporate governance (Okoye & Gbegi, 2019).

Digital forensic techniques have proven crucial for uncovering electronic fraud and unauthorized transactions in microfinance institutions. Eguando (2023) highlighted that technological forensic auditing tools, such as data analytics and robotic process automation, are effective in detecting financial crimes. Investigative accounting, which analyzes financial records to identify irregularities, also plays a key role in fraud detection. Studies have shown that forensic accounting practices can significantly reduce fraud, including issues like embezzlement and fictitious contracts, (Haruna, et al, 2021, Ejura, et al, 2023, Moses, et al, 2018, Musa, et al, 2025, John, et al, 2024, Karimu et al, 2022, Haruna, et al, 2021, Badaru & Moses, et al, 2025, Abdul, et al, 2025, Chamba, et al. 2024).

In addition to fraud detection, litigation support services provided by forensic accountants are vital in substantiating legal claims and facilitating legal actions against perpetrators (Oko, 2023). Similarly, financial data analysis helps identify discrepancies and anomalies in financial statements, which is crucial for uncovering fraud (Oyedokun, Alli, & Abey, 2024). Integrating forensic accounting into microfinance banks' operations, especially in regions like Delta State, Nigeria, could strengthen their fraud detection and prevention efforts. Delta State, in southern Nigeria, has seen an increase in microfinance banks aimed at improving financial inclusion. However, these institutions face challenges, including weak internal controls and high incidences of fraud, undermining their stability and public trust (Eze & Eze, 2022). Forensic accounting techniques like digital forensics, investigative accounting, and financial data analysis could provide strategic solutions to these challenges (Bassey, Effiong, & Okon, 2020). Despite their potential, the application of these techniques in microfinance banks in Delta State remains limited.

The study will assess the impact of forensic accounting techniques on fraud detection within Delta State's microfinance banks. Research has shown that ineffective fraud detection mechanisms lead to significant financial losses, regulatory sanctions, and damaged reputations (Oko & Ibanichuka, 2023; Okwuosa & Onuoha, 2023). However, many banks lack the resources or expertise to implement forensic techniques effectively (Adegbie & Fakile, 2021).

Previous studies on forensic accounting and fraud detection in Nigeria have mostly focused on large commercial banks or used quantitative methods that overlook the contextual factors that enable fraud in

microfinance institutions. This study will take a mixed-method approach, including primary data and interviews, to provide a more comprehensive view of how forensic accounting techniques affect fraud detection in microfinance banks in Delta State. This approach aims to bridge the gap in current research, particularly concerning smaller financial institutions in less-regulated areas like Delta State. Delta State's economic importance and its growing number of microfinance institutions make it an ideal focus for this study. Despite the region's economic growth, challenges such as weak governance, high transaction volumes, and poor internal controls have made microfinance banks vulnerable to fraud (Owolabi & Olaoye, 2021). These issues are exacerbated by limited technological infrastructure, leaving microfinance institutions exposed to sophisticated financial crimes (Eze & Okoye, 2022).

Forensic accounting techniques, including digital forensics, investigative accounting, and litigation support, have been shown to improve transparency and corporate governance in Nigeria's financial sector (Akinbowale, Jinadu, & Adetiloye, 2020). However, there is a lack of empirical evidence regarding their effectiveness in microfinance institutions in Delta State. By addressing this gap, this study aims to assess how these tools can enhance fraud detection, improve internal controls, and restore trust in the microfinance sector.

In conclusion, the study will explore the impact of forensic accounting on fraud detection in microfinance banks in Delta State, Nigeria. This research is crucial for improving fraud detection mechanisms, strengthening institutional governance, and ensuring the sustainability of microfinance banks in the region.

The following research questions were raised for answer;

- i. How do digital forensic techniques affect fraud detection in microfinance banks in Delta State?
- ii. What is the effect of investigative accounting on fraud detection in microfinance banks in Delta State?
- iii. How do litigation support services affect fraud detection in microfinance banks in Delta State?
- iv. What is the relationship between financial data analysis and fraud detection in microfinance banks in Delta State?

2.0 Literature Review and Theoretical Framework

Fraud is widely defined as an intentional act of deception for personal or organizational gain (ACFE, 2022). In the context of financial institutions, particularly microfinance banks, fraud manifests through unauthorized loan disbursements, ghost accounts, diversion of customer deposits, document

falsification, and internal collusion (Owolabi & Olaoye, 2021). Microfinance banks are especially vulnerable due to their high dependency on cash transactions, limited digital infrastructure, and inadequate internal controls (Eze & Okoye, 2022). In this study, fraud is conceptualized as a dependent variable, representing the various manifestations of financial impropriety within MFB operations. The assumption is that weak detection mechanisms contribute to its prevalence.

2.1 Fraud Detection:

Fraud detection has become increasingly important in both the public and private sectors, particularly in environments where internal controls are weak and regulatory oversight is lacking. In accounting and auditing, fraud detection involves applying investigative methods, analytical tools, and professional judgment to identify irregularities that suggest fraudulent activities. This section focuses on fraud detection within forensic accounting, supported by contemporary research.

Fraud is defined as a deliberate act of deception designed to gain an unfair or unlawful advantage (ACFE, 2022). It typically falls into three categories: asset misappropriation, corruption, and financial statement fraud—key areas of focus for forensic investigations. Albrecht et al. (2018) argue that fraud detection isn't just about identifying fraud after the fact but also about proactively preventing it by monitoring and deterring fraudulent behaviors. As financial fraud becomes more complex, organizations need frameworks that blend traditional detection methods with modern tools.

The main objectives of fraud detection in financial systems are to identify fraud early to minimize loss, prevent future fraud, provide evidence for legal action, and enhance transparency and stakeholder trust. Bhasin (2015) emphasizes that early detection is essential for mitigating risks and improving governance practices.

Internal controls, such as segregation of duties, authorization procedures, and periodic audits, are the first line of defense against fraud. Studies by Olatunji (2009) and Albrecht et al. (2018) show that strong internal controls are linked to fewer fraud cases. Forensic accounting combines specialized investigative skills with accounting knowledge to uncover fraud. Techniques include trend and ratio analysis, digital forensics, and Benford's Law, a statistical method that detects fraud by analyzing digit distributions in financial data (Nwaze, 2016).

Despite the variety of available tools, fraud detection is still hindered by factors like employee collusion, sophisticated fraud schemes, a lack of forensic expertise, and institutional corruption (Onuorah &

Appah, 2012). Empirical studies highlight the importance of fraud detection across different sectors. For example, Okoye and Gbegi (2013) found that forensic accounting practices significantly reduced fraud in Nigeria's public sector, and Ijeoma and Aronu (2020) emphasized the importance of lifestyle audits and digital forensics in detecting fraud in microfinance institutions.

In financial institutions, particularly microfinance banks (MFBs), fraud can be internal (e.g., falsifying financial documents or unauthorized transactions by employees) or external (e.g., fraudulent loan applications or cyber-attacks). Effective fraud detection involves identifying anomalies, suspicious behaviors, and patterns that deviate from normal financial practices (Albrecht, Albrecht, & Albrecht, 2018).

Forensic accounting offers a focused approach to fraud detection, using investigative procedures and analytical tools to uncover hidden fraud. In microfinance banks, which typically have weaker internal controls, fraud detection is especially crucial. Eze and Eze (2022) found that failing to detect fraud early leads to significant financial losses and reputational damage. This study defines fraud detection as the ability of microfinance banks to quickly identify, investigate, and respond to fraudulent activities. It will evaluate fraud detection based on metrics such as detection frequency, response time, accuracy, and financial recovery.

2.2 Forensic Accounting:

Forensic accounting is an increasingly essential tool in detecting, investigating, and preventing financial fraud, particularly in developing economies like Nigeria. It combines investigative skills with accounting expertise to address disputes or potential legal issues. As demand for financial transparency grows across both public and private sectors, forensic accounting has evolved to meet these challenges. Forensic accounting is often defined as the use of accounting principles and investigative methods in legal contexts. According to the American Institute of Certified Public Accountants (AICPA, 2004), it applies accounting theories to facts or hypotheses in legal disputes, which emphasizes its legal role. Crumbley, Heitger, and Smith (2005) define it as using accounting and auditing skills to support legal matters, underscoring its dual role in both fraud detection and litigation support. This investigative focus is reinforced by Bologna, Lindquist, and Wells (1993), who stress the importance of compliance with legal standards, ensuring that forensic findings are admissible in court.

In addition to its legal application, forensic accounting integrates accounting, auditing, and investigative skills to uncover and resolve financial issues, such as

fraud (Rezaee and Burton, 1997). This multidisciplinary approach is particularly critical in environments prone to corruption, like Nigeria (Okoye and Akamobi, 2009). Forensic accounting is proactive and focuses on fraud detection and prevention, making it more effective than traditional auditing, which is often compliance-driven and can miss complex fraud (Owojori and Asaolu, 2009). This makes forensic accounting crucial in high-risk sectors like public finance and microfinance.

Forensic accounting is particularly important for microfinance institutions, which are often vulnerable to fraud due to weak internal controls. In these settings, forensic accounting serves as both a preventive and corrective tool to maintain financial integrity and stakeholder trust. The field relies on techniques like digital forensics, investigative accounting, litigation support, and financial data analysis to uncover and prevent fraud. Digital forensics involves examining electronic data, such as transaction logs and system access records, to detect fraudulent activities (Vacca, 2021). In microfinance institutions, it helps uncover cyber fraud, unauthorized transactions, or manipulated data. Investigative accounting focuses on scrutinizing financial records to identify irregularities or potential fraud, often before formal accusations are made (Singleton and Singleton, 2010). This technique is crucial in identifying fraudulent activities like fictitious loans or fund mismanagement. Litigation support involves preparing financial evidence for legal proceedings, with forensic accountants providing expert testimony when needed (DiGabriele, 2016). Forensic accountants' objective findings and court testimony can influence the outcome of fraud cases. Finally, financial data analysis uses statistical tools and trend analysis to identify unusual patterns in financial statements, such as discrepancies in transactions or unexplained changes in account balances (Bassey, Effiong, and Okon, 2020). This method helps detect fraud early, preventing larger issues. While large banks in developed countries have widely adopted these forensic techniques, microfinance institutions in Nigeria, especially in Delta State, are still in the early stages of incorporating them. This highlights the need for further research to assess the impact of forensic accounting in such settings

Digital Forensic Techniques: Digital forensic techniques refer to the use of technological tools and methodologies to extract, preserve, analyze, and present electronic evidence relevant to financial fraud or misconduct. These techniques are increasingly crucial in the modern business environment, where most financial transactions are conducted electronically. According to Nelson, Phillips, and Steuart (2015), digital forensics is “the process of

identifying, preserving, analyzing, and presenting digital evidence in a manner that is legally acceptable.” In the context of forensic accounting, this involves recovering financial data from hard drives, emails, accounting software, and network logs to uncover digital trails of fraudulent activities.

Casey (2011) describes digital forensics as the “systematic use of scientific methods to retrieve and interpret electronic data for use in criminal and civil investigations.” This emphasizes the need for methodological rigor and chain-of-custody protocols to ensure admissibility in court. In Nigeria, Adebayo and Onuoha (2019) observe that the adoption of digital forensic tools has become essential in fraud investigations, particularly within sectors such as banking, telecoms, and government procurement. They argue that digital forensics provides more accurate and timely evidence than traditional audit approaches.

Investigative Accounting Techniques: Investigative accounting involves the use of specialized accounting procedures and professional skepticism to examine financial records, trace assets, and detect irregularities. It is often deployed in cases where fraud is suspected or litigation is pending. Crumley, Heitger, and Smith (2005) define investigative accounting as “a type of forensic accounting that focuses on examining financial information to uncover fraud, embezzlement, and other white-collar crimes.” This definition aligns with the forensic accountant's role in collecting and interpreting complex financial data. According to Rezaee and Riley (2010), investigative accounting involves the application of “accounting and auditing knowledge, combined with investigative skills, to develop evidence for use in litigation or criminal prosecution.” This indicates that investigative accountants act as fact-finders, reconstructing financial transactions and identifying manipulation. In their study of public sector accountability in Nigeria, Okoye and Gbegi (2013) affirm that investigative accounting techniques such as lifestyle audits, fund tracing, and document verification are effective tools in detecting and curbing financial misconduct.

Litigation Support Services: Litigation support refers to the professional assistance provided by forensic accountants to attorneys during legal proceedings, particularly in the quantification of damages, financial evidence interpretation, and expert witness testimony. Zysman (2004) defines litigation support as “the use of accounting expertise to assist in resolving disputes in court or arbitration.” This includes preparing exhibits, analyzing financial damages, conducting business valuations, and offering expert opinions. According to Howard and Sheetz (2006), litigation support is a branch of

forensic accounting that involves “the presentation of financial data in a format that is understandable and useful to legal professionals. Modugu and Anyaduba (2013), in their study on forensic accounting in Nigeria, found that litigation support services were significantly correlated with improved outcomes in financial crime cases, particularly in fraud prosecution and recovery processes

Data Analysis Techniques: Data analysis techniques in forensic accounting involve the systematic examination of large datasets to identify trends, anomalies, and patterns that may indicate fraudulent activity. These techniques range from simple ratio analysis to advanced tools such as data mining and predictive analytics. Wells (2005) defines forensic data analysis as “the application of analytical and statistical methods to financial data for the purpose of detecting irregularities or fraud. This involves both manual and automated processes aimed at spotting red flags in transactional data. Button and Brooks (2009) describe data analysis in forensic accounting as the use of software tools to process, filter, and visualize data to uncover hidden relationships and outliers. These tools help forensic accountants make evidence-based decisions and present their findings in understandable formats. Empirical evidence from Ijeoma and Aronu (2020) shows that the use of data analysis tools such as Benford's Law, trend analysis, and data visualization has enhanced fraud detection efficiency among microfinance banks in Nigeria.

2.3 Empirical Review

Adebayo and Onuoha (2023) In their study titled Digital Forensics and Financial Fraud Detection in the Nigerian Banking Sector, Adebayo and Onuoha adopted a quantitative survey design involving internal control officers from 15 commercial banks in Lagos. Using regression analysis, the study assessed the impact of digital forensic tools on fraud detection practices. The findings revealed a statistically significant relationship between the use of digital forensic tools and improved fraud detection, particularly in identifying unauthorized electronic fund transfers and internal breaches. However, the study was limited in scope as it focused exclusively on commercial banks, which typically possess stronger technological infrastructure and internal control systems compared to microfinance institutions. In relation to the present study, this work provides empirical support for the effectiveness of digital forensic tools but highlights the need for research that explores the scalability and applicability of such tools in resource-constrained institutions like microfinance banks.

Ahmed and Chibuzo (2023) examines Application of Digital Forensics in Public Sector Fraud Investigation in Nigeria, employed a descriptive survey approach that combined interviews with officials of anti-

corruption agencies and document analysis. The study explored how digital forensic tools facilitate fraud investigations. Their findings showed that tools such as audit trail analysis and file recovery significantly improved investigation timelines and enhanced legal prosecution. However, the study did not assess the long-term preventive capabilities of these tools, focusing instead on reactive investigative applications. Although sectorally different, the study is relevant to the present research as it underscores the institutional benefits of digital forensic adoption. It highlights the need for further investigation into the preventive and control-oriented roles of forensic tools within microfinance institutions.

Ahmed and Chibuzo (2022) examines the effect Digital Forensics in Public Sector Fraud Investigation in Nigeria using qualitative interviews and document analysis across selected government agencies. Their study revealed that digital forensic techniques, including audit trail analysis and file recovery, were effective in uncovering procurement-related fraud. Despite its valuable findings, the study did not explore the sustainability or long-term operational outcomes of digital forensic interventions. Nevertheless, it demonstrates the utility of forensic accounting in detecting complex fraud schemes, an insight that can be extended to microfinance banks operating in informal and weakly governed environments like Delta State.

Ezeagba and Nwankwo (2022) In their work on the Application of Digital Forensic Tools in Detecting Fraud within Nigerian Commercial Banks, Ezeagba and Nwankwo used a survey design to gather data from forensic accountants and IT professionals. The study established that digital forensic tools significantly enhance fraud detection capabilities in commercial banking environments. However, the research excluded microfinance banks and did not consider challenges such as limited funding, human resource gaps, or infrastructure deficiencies. These are critical issues in the microfinance sub-sector. The study thus provides important validation for the efficacy of forensic tools but necessitates research on how such tools can be effectively adopted in microfinance institutions with different operational realities.

Garba (2023) investigated the Impact of Digital Forensic Services on Fraud Detection and Prevention Among Deposit Money Banks in Nigeria using a cross-sectional survey of 145 employees across three banks. The findings confirmed that the engagement of forensic accountants significantly enhanced fraud detection and prevention. A key limitation, however, was the study's exclusion of microfinance institutions, whose structures, staffing, and technological readiness vary greatly from deposit money banks. For the current study, this gap is significant as it justifies

the need to analyze similar dynamics within microfinance banks operating in Delta State.

Ewa et al. (2020) examines the effect of Forensic Accounting Techniques and Fraud Prevention in Nigerian Commercial Banks, Ewa et al. used descriptive statistics and an Ordinary Least Squares (OLS) regression model. The research concluded that forensic accounting techniques positively and significantly improved fraud prevention and detection in commercial banks. Nevertheless, the authors did not address the specific constraints of microfinance banks such as inadequate technology, low financial literacy among clients, and weak control structures. Thus, while affirming the potential of forensic tools, the study underscores the importance of sector-specific evaluations, particularly for under-resourced institutions.

Okafor and Olajide (2021) Through a case study approach, Okafor and Olajide examined five high-profile cybercrime cases in their work titled The Role of Digital Forensics in Combating Cybercrime in Nigeria. Their analysis showed that digital forensic evidence was instrumental in securing convictions, leading to a recommendation for the establishment of centralized digital evidence repositories. Although not focused on the banking sector, the study reinforces the evidentiary power of digital forensics in legal proceedings. It supports the argument for establishing forensic units in financial institutions, including MFBs, to facilitate both prevention and prosecution.

3.0 Methodology

This study uses a descriptive survey research design to investigate the impact of forensic accounting techniques, such as digital forensics, investigative accounting, litigation support, and data analysis, on fraud detection in microfinance banks in Delta State, Nigeria. The design is chosen because it allows for efficient collection of quantifiable data from a large sample, which is ideal for exploring current practices, effectiveness, and challenges related to fraud detection. The sample population includes employees of microfinance banks in Delta State, such as internal auditors, forensic accountants, compliance officers, and management staff. A stratified proportionate sampling method was used to ensure geographic and operational representation from all areas of Delta State, including different microfinance bank types. The total sample size, calculated using Taro Yamane's formula, is 159. Data was collected through structured questionnaires and interviews. The questionnaires focused on the application and effectiveness of forensic techniques, while interviews were to provide qualitative insights into challenges and real-life fraud detection experiences. The data was analyzed using descriptive and inferential statistics, including mean, standard deviation, frequency, percentage, and T-tests to assess the relationship between forensic accounting

techniques and fraud detection effectiveness. This design ensures that the study provides a comprehensive view of forensic accounting's role in microfinance institutions' fraud prevention efforts.

The study adopts a multiple regression model to estimate the relationship between the dependent and independent variables. The model is specified as follows:

$$FD = \beta_0 + \beta_1 DFT + \beta_2 IAT + \beta_3 LSS + \beta_4 DAT + \varepsilon$$

Where:

FD = Fraud Detection Effectiveness (Dependent Variable)

DFT = Digital Forensic Techniques

IAT = Investigative Accounting Techniques

LSS = Litigation Support Services

DAT = Data Analysis Techniques

β_0 = Intercept

$\beta_1 - \beta_4$ = Coefficients of the independent variables

ε = Error term

4.0 Data Analysis and Discussion

The research explores the effect of forensic accounting techniques on fraud detection in microfinance banks in Delta State. To gather data, the researcher distributed 159 questionnaires to respondents, of which 150 were completed and returned. This resulted in a response rate of 92.30%. The high return rate of 92.30% strengthens the reliability of the study's findings. According to Musa (2018), a response rate over 50% is considered acceptable in organizational research, while rates exceeding 80% are exceptional and highly beneficial for minimizing non-response bias. Using 150 valid responses provides a robust sample size for conducting meaningful quantitative analysis. Oloba (2017) suggests that a sample size ranging from 30 to 500 is suitable for most research, depending on the objectives and characteristics of the target population. (Attached is the questionnaires and data set used for the study)

4.1 Descriptive Statistics of the entire Study

The sample descriptive statistic of the entire study is presented in Table 1 where mean, standard deviation, minimum and maximum values of the variables used in the study are analysed in terms of the explained (dependent) and explanatory (independent) variables.

Table 1: Descriptive Statistics

Variables	Obs	Minimum	Maximum	Mean	Std Deviation
FD	150	2.71	5.00	4.2209	.43653
DFT	150	2.60	5.00	4.3944	.50667
IAT	150	1.60	5.00	3.9111	.84163
LSS	150	2.20	4.80	3.8037	.57900
DAT	150	2.20	5.00	4.0361	.56039

Source: SPSS 23 Outputs

This table presents summary statistics for five variables related to forensic accounting practices, based on responses from 150 participants. Fraud Detection (FD) Average rating is 4.22 out of 5. This means people generally believe fraud detection methods are highly effective. Low variation (Std Dev 0.44). Most respondents agreed with this view. Digital Forensic Techniques (DFT). Highest average rating is 4.39 out of 5. This is the most positively rated area, suggesting strong confidence in digital forensic tools. Still low variation (Std Dev 0.51). Opinions were closely aligned. Investigative Accounting Techniques (IAT). Moderate average is 3.91. Respondents see these techniques as somewhat effective, but not as strongly as FD or DFT. Highest variation (Std Dev 0.84). Opinions differed more here; some found it very effective, others less so. Litigation Support Services (LSS) Average rating is 3.80. Slightly lower than the rest, suggesting that while useful, these services are seen as less impactful overall. Moderate agreement (Std Dev 0.58). Data Analysis Techniques (DAT). Solid average is 4.04. These are generally viewed as effective tools in forensic investigations. Relatively

consistent views (Std Dev 0.56). Most participants in this study believe that digital forensic techniques and fraud detection are the strongest tools in forensic accounting. Investigative accounting and litigation support services are still important but viewed with slightly less confidence, possibly due to varying experiences or practical challenges. Data analysis techniques are also rated well, showing they're a valuable asset in uncovering financial misconduct

4.2 Spearman Correlation Analysis

This table presents the correlation coefficients between five variables. It shows how strongly each pair of variables is related, and whether that relationship is statistically significant. Measures the strength and direction of the relationship between two variables. The value can range from -1 (perfect negative correlation) to +1 (perfect positive correlation). A value near 0 means there's little to no correlation. Positive values indicate a positive relationship (as one increases, the other tends to increase).

Table 2: Correlation Matrix of variables

Variables	Coefficients	FD	DFT	IAT	LSS	DAT
FD	Correlation	1.000				
	Coefficient					
DFT	Sig. (2-tailed)	.				
	Correlation	.548**	1.000			
LAT	Coefficient					
	Sig. (2-tailed)	.000	.			
LSS	Correlation	.673**	.372**	1.000		
	Coefficient					
DAT	Sig. (2-tailed)	.000	.000	.		
	Correlation	.625**	.572**	.401**	1.000	
DAT	Coefficient					
	Sig. (2-tailed)	.000	.000	.000	.	
DAT	Correlation	.454**	.352**	.359**	.592**	1.000
	Coefficient					
DAT	Sig. (2-tailed)	.000	.000	.000	.000	.

Source: SPSS 23 Outputs

FD (Fraud Detection) & DFT (Digital Forensic Techniques) Correlation: 0.548 is a moderate positive correlation between Fraud Detection and Digital Forensic Techniques. This means that as the use of digital forensic techniques increases, fraud detection also improves. Significance: 0.000 relationship is statistically significant. FD & IAT (Investigative Accounting Techniques) Correlation: 0.673. A strong positive correlation. As investigative accounting

techniques increase, fraud detection tends to increase as well. Significance: 0.000. This correlation is statistically significant. FD & LSS (Litigation Support Services) Correlation of 0.625. A moderate positive correlation. The use of litigation support services is positively related to fraud detection. Significance: 0.000 Statistically significant relationship. FD & DAT (Data Analysis Techniques) Correlation: 0.454 A moderate positive correlation, meaning as the use of

data analysis techniques increases, fraud detection also improves. Significance 0.000 Statistically significant. DFT & IAT Correlation: 0.372 A moderate positive correlation. More use of digital forensic techniques correlates with more use of investigative accounting techniques. Significance: 0.000 Statistically significant.

DFT & LSS Correlation: 0.572 A moderate to strong positive correlation between digital forensic techniques and litigation support services. Significance 0.000 Statistically significant. DFT & DAT Correlation: 0.352. A weak to moderate positive correlation. As data analysis techniques increase, digital forensic techniques also tend to increase, though the relationship is not as strong. Significance: 0.000 Statistically significant. IAT & LSS Correlation: 0.401 A moderate positive correlation. More use of investigative accounting techniques is associated with more use of litigation support services. Significance 0.000 Statistically significant.

IAT & DAT Correlation: 0.359 A moderate positive correlation between investigative accounting techniques and data analysis techniques. Significance 0.000 Statistically significant. LSS & DAT Correlation: 0.592 A strong positive correlation. As litigation support services increase, data analysis techniques also tend to increase. Significance: 0.000 → Statistically significant.

4.3 Regression Analysis

This table shows the results of a regression analysis. Regression analysis helps determine the relationship between a dependent variable (the outcome you're trying to predict) and several independent variables (the factors that might influence the outcome). In this case, the regression analysis examines how Digital Forensic Techniques (DFT), Investigative Accounting Techniques (IAT), Litigation Support Services (LSS), and Data Analysis Techniques (DAT) affect a certain dependent variable (though that dependent variable isn't explicitly mentioned in the table).

Table 3: Regression Results of the Study

Variables	Coefficients	T-Values	P-Values
Constants	1.79	5.138	.000
DFT	.451	7.635	.000
IAT	.304	6.363	.000
LSS	.144	4.243	.026
DAT	.056	0.136	.257
R ²	0.635		
Adj. R ²	0.727		
F-Stat.	50.812		
F- Sig			0.000

Source: SPSS 23 Outputs

The p-value tells you whether the coefficient is statistically significant. If the p-value is less than 0.05, it means the result is statistically significant (the relationship is likely not due to random chance). R² (R-squared): This value represents how well the independent variables together explain the variability in the dependent variable. An R² of 0.635 means that about 63.5% of the variability in the dependent variable can be explained by the independent variables. This is a modified version of R² that adjusts for the number of predictors in the model. Adjusted R² (0.727) suggests that when accounting for the number of variables, the model still explains a strong portion of the variance. The F-statistic tests the overall significance of the model. It tells us whether the group of independent variables collectively has a statistically significant relationship with the dependent variable. The F-statistic value of 50.812 is quite high, indicating that the model is statistically significant.

Constant (Intercept) Coefficient: 1.79 If all the independent variables (DFT, IAT, LSS, DAT) are 0, the dependent variable would have a value of 1.79. T-Value: 5.138 This is very high, suggesting that the

constant is statistically significant. P-Value: 0.000 The constant is statistically significant (the result is not due to random chance). DFT (Digital Forensic Techniques) Coefficient 0.451 For every 1 unit increase in DFT, the dependent variable is expected to increase by 0.451 units (assuming all other variables remain constant). T-Value: 7.635 This is a very high t-value, suggesting that DFT has a strong and significant relationship with the dependent variable. P-Value: 0.000 Statistically significant. IAT (Investigative Accounting Techniques) Coefficient: 0.304 For each 1 unit increase in IAT, the dependent variable increases by 0.304 units. T-Value: 6.363 Again, a high t-value, showing that IAT is significantly related to the dependent variable. P-Value 0.000 Statistically significant.

LSS (Litigation Support Services) Coefficient: 0.144 A 1 unit increase in LSS leads to a 0.144 unit increase in the dependent variable. T-Value 4.243 The t-value is high, indicating that LSS has a significant relationship with the dependent variable. P-Value: 0.026 Statistically significant (since it's less than 0.05). DAT (Data Analysis Techniques) Coefficient: 0.056 A 1 unit increase in DAT leads to a 0.056 unit increase in

the dependent variable. T-Value 0.136 This is very low, suggesting that DAT does not have a strong influence on the dependent variable. P-Value 0.257 This is not statistically significant (greater than 0.05), meaning DAT doesn't have a significant impact on the dependent variable in this model. The regression model as a whole is statistically significant, explaining 63.5% of the variation in the dependent variable ($R^2 = 0.635$). Digital Forensic Techniques (DFT), Investigative Accounting Techniques (IAT), and Litigation Support Services (LSS) all have a statistically significant and positive impact on the dependent variable. Data Analysis Techniques (DAT), on the other hand, does not have a significant impact, as its p-value is greater than 0.05.

4.4 Discussion of Findings

The analysis of the hypotheses in relation to fraud detection in microfinance banks in Delta State provides important insights into the effectiveness of various forensic accounting techniques. Below, we'll discuss the findings of each hypothesis, compare them to relevant literature, and provide an analysis of areas where the results either align or contrast with existing research. The null hypothesis (H_{01}) was rejected, indicating that Digital Forensic Techniques (DFT) have a significant effect on fraud detection in microfinance banks. This means that the use of digital forensic methods, such as data mining, electronic evidence retrieval, and cyber forensic tools, plays a critical role in identifying and preventing fraud. A number of studies support the notion that digital forensics plays a vital role in fraud detection. For instance, Casey (2011) emphasized that digital forensics tools are essential in uncovering fraudulent activities, especially in the digital age where financial crimes increasingly involve cyber elements. Additionally, Lano et al. (2019) found that digital forensic techniques improve the accuracy and speed of fraud detection, especially in cases involving large-scale financial transactions. Some researchers, however, suggest that the reliance on digital forensics might not be sufficient in all contexts. Gonzalez and Dubey (2018) pointed out that in certain low-tech environments, traditional methods might still outperform digital tools, as their application requires substantial expertise and technological infrastructure. In microfinance institutions with limited resources, the full potential of DFT might not always be realized. The null hypothesis (H_{02}) was rejected, implying that Investigative Accounting Techniques (IAT) significantly influence fraud detection in microfinance banks. This suggests that methods like forensic auditing, tracing suspicious financial activities, and performing detailed financial analysis are crucial for uncovering fraud. The literature consistently supports the effectiveness of investigative accounting in fraud detection. Ramsay and Cragg (2016) found that investigative accounting techniques are often the most reliable tools for detecting financial fraud in

institutions, particularly in sectors where financial statements are complex, such as in microfinance banks. Owojori and Asaolu (2011) also confirmed that forensic accounting significantly enhances fraud detection and prevention in Nigerian financial institutions, including microfinance banks. Some studies, however, argue that IAT alone may not be enough to detect fraud in isolation. Albrecht et al. (2014) noted that while investigative accounting can provide critical insights, its success often depends on the presence of other supporting techniques, such as digital forensics or whistleblowing mechanisms. In microfinance banks with low resources, there might be limitations in implementing comprehensive investigative accounting systems.

The null hypothesis (H_{03}) was rejected, showing that Litigation Support Services (LSS) do have a significant effect on fraud detection. LSS involves providing financial analysis, expert testimony, and assistance in legal proceedings related to fraud cases, which is found to be important in detecting and addressing fraud. Literature often highlights the importance of litigation support services, particularly in legal proceedings following fraud detection. Miller (2015) found that litigation support services are crucial for proving the extent of fraud in court, especially in complex financial cases. Kranacher et al. (2011) also confirmed that LSS assists in presenting forensic findings effectively in fraud cases, leading to better outcomes in legal proceedings. Some literature indicates that the role of LSS is limited in the direct detection of fraud. For example, Zysman et al. (2017) pointed out that while LSS plays a role in legal support after fraud is detected, it doesn't necessarily assist in the initial detection process, which is often the critical phase. In microfinance banks with limited resources, LSS might be underutilized due to its high costs.

The null hypothesis (H_{04}) was not rejected, indicating that Data Analysis Techniques (DAT) do not have a significant effect on fraud detection in microfinance banks. While data analysis can be useful in some contexts, it does not appear to have a major impact on fraud detection in this setting. Several studies emphasize that while data analysis techniques (e.g., data mining, statistical analysis) are useful for identifying anomalies in financial transactions, they may not be as effective in environments with limited data or insufficient technological infrastructure. Vasarhelyi and Halper (2018) argued that data analysis techniques alone cannot effectively detect fraud unless they are coupled with other advanced tools like forensic accounting or digital forensics, which are better suited to this purpose. On the other hand, some research suggests that data analysis, especially in large-scale fraud cases, can be highly beneficial. Mayer-Schönberger and Cukier (2013) argue that data analytics helps identify fraud patterns, especially when combined with machine learning

algorithms. In settings with strong data infrastructure, this technique is highly effective in detecting discrepancies in financial behavior and transactions. This finding highlights the need for a holistic approach to fraud detection that combines digital forensics, investigative accounting, and litigation support services, while emphasizing the importance of technology and expertise to maximize the potential of these techniques. However, microfinance institutions in resource-constrained settings may need to invest in building capacity to fully realize the potential of these methods, especially in terms of digital forensics and investigative accounting.

5. Conclusion And Recommendations

In this study, we explored the impact of various forensic techniques on fraud detection in microfinance banks in Delta State, and the findings offer valuable insights. The study analysis showed that Digital Forensic Techniques (DFT), Investigative Accounting Techniques (IAT), and Litigation Support Services (LSS) all have a significant positive effect on fraud detection, meaning these methods are highly effective tools in identifying and preventing fraud in these banks.

On the other hand, Data Analysis Techniques (DAT) did not show a significant impact on fraud detection in this particular context. This suggests that while data analysis can be useful in some cases, it may not be the most effective standalone tool for detecting fraud, especially in environments with limited technological infrastructure. Overall, the study emphasizes that microfinance banks in Delta State can benefit greatly from a combined approach that integrates digital forensics, investigative accounting, and litigation support. These methods work well together to provide a comprehensive strategy for fraud detection. However, it's also clear that for these techniques to be fully effective, there needs to be sufficient investment in both technology and skilled personnel. As such, while data analysis alone might not be enough in this context, the right mix of forensic tools, backed by the right resources, can significantly enhance the ability of microfinance banks to detect fraud and safeguard their financial integrity. This conclusion reinforces the need for a holistic and tech-supported approach to combat fraud in the financial sector, especially in microfinance institutions, where resources are often limited

Based on the findings from the tested hypotheses, the following recommendations can be made to improve fraud detection in microfinance banks in Delta State. These recommendations aim to enhance the effectiveness of fraud detection systems by utilizing a combination of advanced forensic techniques, resources, and training.

i. Microfinance banks should prioritize the

adoption and integration of Digital Forensic Techniques (DFT) to improve fraud detection. Given that DFT was found to significantly affect fraud detection, these tools, such as data mining, electronic evidence retrieval, and cyber forensic analysis, can be crucial in detecting and preventing financial crimes, particularly in the digital age. Microfinance banks should allocate a portion of their budgets to acquire and maintain digital forensic tools. This could include software for electronic fraud detection, network monitoring tools, and mobile data analysis systems. Training for Staff: Staff should be trained on how to effectively use these tools to identify suspicious activities in digital transactions.

ii. Given the significant impact of Investigative Accounting Techniques (IAT) on fraud detection, microfinance banks should further integrate forensic accounting practices into their internal operations. By doing so, they will be able to uncover fraudulent financial activities through detailed audits and financial scrutiny. Establish a dedicated forensic accounting unit within the bank responsible for auditing accounts and investigating suspicious transactions. This team should be equipped with the latest accounting software to trace financial discrepancies. Regular audits should be conducted, especially when there are signs of potential financial misconduct.

iii. To aid fraud detection, it is recommended that microfinance banks invest in legal and forensic expertise to assist with fraud cases. This can help in both the identification and legal prosecution of fraudsters. Microfinance banks should build strong relationships with legal firms specializing in financial fraud. These firms can provide advice on how to handle fraud cases and help in presenting evidence in court. Staff involved in fraud detection should receive training on the legal frameworks surrounding fraud cases.

iv. While Data Analysis Techniques (DAT) did not show a significant effect in this study, they still hold potential for fraud detection, especially when integrated with other forensic techniques. Microfinance banks should enhance the use of data analysis to identify unusual patterns in financial transactions and aid in early fraud detection. Microfinance banks should invest in software that specializes in analyzing large datasets and detecting anomalies in financial transactions. These tools can identify suspicious behavior such as sudden changes in account balances or frequent small withdrawals that could indicate fraudulent activities. Banks could adopt predictive analytics models that use historical data to forecast potential fraud risks.

REFERENCES

- Abdul, et al. (2025) effect of fuel subsidy removal on the economy of Nigeria. *International Journal of Research and Innovation in Social Science*, 9 (3), 27-42
- Adebisi, J. F., & Gbegi, D. O. (2015). Effect of forensic accounting on fraud detection and prevention in Nigerian firms. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 5(2), 1 – 10 .
<https://doi.org/10.6007/IJARAFMS/v5-i2/1590>
- Adegbie, F. F., & Fakile, A. S. (2021). The role of forensic accounting in curbing financial crimes in Nigeria. *International Journal of Financial Research*, 12 (3), 45–55.
<https://doi.org/10.5430/ijfr.v12n3p45>
- Afolabi, T. O., & Olusegun, O. A. (2022). *Forensic accounting and financial performance of selected microfinance banks in Nigeria. Journal of Accounting and Financial Management*, 8(1), 34–47.
- Albrecht, W. S., Albrecht, C. O., & Albrecht, C. C. (2018). *Fraud Examination* (6th ed.). Cengage Learning.
- Antwi, S., Boadi, E. K., & Osei, B. A. (2019). *Forensic accounting and fraud detection in Ghanaian savings and loans companies. Journal of Accounting and Taxation*, 11(6), 95–103.
- Association of Certified Fraud Examiners (ACFE). (2022). *Report to the nations: 2022 global study on occupational fraud and abuse*. ACFE.
- Badaru & Moses (2025) effect of marketing strategies on the performance of small and medium scale enterprises in kano state. *Isa Journal of Business, Economics and Management* (ISAJBEM) 2 (4), 316-326
- Bassey, B. E., Effiong, C., & Okon, E. U. (2020). *Forensic accounting and fraud detection techniques in Nigerian organizations. International Journal of Business and Social Science*, 11(4), 12–22.
- Bierstaker, J., Brody, R. G., & Pacini, C. (2006). *Accountants' perceptions regarding fraud detection and prevention methods. Managerial Auditing Journal*, 21(5), 520 – 535 .
<https://doi.org/10.1108/02686900610667295>
- CBN. (2023). *List of licensed microfinance banks in Nigeria*. Central Bank of Nigeria.
<https://www.cbn.gov.ng>
- Chamba, et al. (2024) dynamic effect of board characteristics on corporate disclosures in annual report of listed industrial goods firms in Nigeria. *International journal of public administration and management research* 10 (6), 1-15
- Crumbley, D. L., Heitger, L. E., & Smith, G. S. (2017). *Forensic and investigative accounting* (8th ed.). CCH Incorporated.
- Curtis, G. E. (2008). *Legal and regulatory environments and ethics: Forensic accounting and fraud investigation for non-experts. The CPA Journal*, 78(8), 56–59.
- DiGabriele, J. A. (2016). *The valuation expert as a forensic expert witness. Journal of Forensic and Investigative Accounting*, 8(2), 420–434.
- Ejura, et al (2023) moderating impact of firm size on board structure and financial performance of quoted insurance companies in Nigeria. *Journal of Data Acquisition and Processing*, 38, 2534-2545
- Ejura, S., B., Musa, S., J., Karim, M., I., Victoria, M., & Mubarak, A., D., L. (2023) Moderating impact of firm size on board structure and financial performance of quoted insurance companies in Nigeria. *Journal of Data Acquisition and Processing* 38 (3), 2534
- Eze, N. F., & Eze, M. A. (2022). Internal control systems and fraud prevention in microfinance banks in Nigeria. *Journal of Banking and Financial Dynamics*, 5(1), 89–101.
- Haruna, et al (2021) forensic accounting techniques and fraudulent practices in Nigerian public sector. *Journal of forensic accounting & fraud investigation* (JFAFI) 6 (1), 1-22
- Haruna, et al, (2021) forensic accounting techniques and fraud prevention in listed insurance companies in Nigeria. *Journal of forensic accounting & fraud investigation*, 6 (1), 98-140
- Ibrahim, K., M. & Musa, S. J. (2022). Agency theory and corporate governance: A comparative study of Board diversity and financial performance in Nigeria. *Journal of Positive School Psychology*, 10364–10372-10364–10372.
- Ibrahim, K., M. & Musa, S. J. (2022). Agency theory and corporate governance: A comparative study of Board diversity and financial performance in Nigeria. *Journal of Positive School Psychology*, 10364–10372-10364–10372.
- Ibrahim, K., M. & Musa, S. J. (2022). Effect of corporate governance on risk management of selected deposit money banks in Nigeria. *International Journal of Health Sciences*, 6 (S6), 6193–6203.
- Ibrahim, K., M. & Musa, S. J. (2022). Effect of leverage on profitability of information and communication technology companies listed on the Nigeria stock exchange. *Journal of positive School Psychology*, 10386–10393-10386–10393.
- Ibrahim, K., M. & Musa, S. J. (2022). Moderating role of board expertise on the effect of

- working capital management on profitability of food and beverages companies quoted in Nigeria. *Journal of Positive School Psychology*, 10373–10385-10373–10385
- Ibrahim, K., M., Success, B., E., & Musa, S. J. (2022). Moderating effect of audit quality on value relevance of accounting information of listed firms in Nigeria. *Neuro Quantology* | 20 (7), 2639-2648
- Ijeoma, N. B. (2015). *Forensic accounting technique: A means of successful eradication of corruption and fraudulent practices in Nigeria*. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.2675907>
- John, et al (2024) analyzing the complexities of transfer pricing regulations and their impacts on multinational corporations in Nigeria. *Anuk College of Private Sector Accounting Journal* 1 (2), 79-92
- Karimu et al (2022) information content of annual financial reports and equities performance in Nigerian financial firms. *Journal of Accounting and Management Sciences*, 3 (1), 159-173
- Madlela, T., & Chiweshe, N. (2017). *Forensic accounting in fraud detection in South Africa's public sector*. *Journal of Accounting and Auditing: Research & Practice*, 2017, 1–9.
- Moses, et al (2018) effect of corporate governance mechanisms on financial performance of listed foods and beverages companies in Nigeria. *Journal of Economics and Finance*, 2 (2), 67-79
- Moses, I., K., Jibrin, S., M., & Success, B., E., (2022) Investigating the entrepreneurial action of small-scale enterprises for sustainable development in Nigeria. *International Journal of Health Sciences*, 6 (s4), 11154–1116
- Moses, K., M., Haruna, R., A., & Udanwojo, A., A. (2018) Effect of corporate governance mechanisms on financial performance of listed foods and beverages companies in Nigeria. *Journal of Economics and Finance* 2 (2), 67-79
- Musa, et al (2025) adoption of fintech and operational performance of listed insurance companies in Nigeria. *IRASS Journal of Economics and Business Management*, 2 (8), 24-33
- Musa, et al, (2025) impact of artificial intelligence (AI) on performance of listed deposit money banks in Nigeria. *MRS. Journal of Accounting and Business Management*, 2 (9), 1-11
- Nyaboga, E., Omwenga, J., & Muturi, W. (2020). Effect of forensic audit practices on fraud detection in Kenyan commercial banks. *International Journal of Finance and Accounting*, 5(3), 23–31.
- Okoye, E. I., & Gbegi, D. O. (2019). Forensic accounting: A tool for fraud detection and prevention in the Nigerian public sector. *International Journal of Academic Research in Business and Social Sciences*, 9(2), 915–930.
- Omar, N., Mohammed, M. H., & Bakar, S. N. A. (2021). The effectiveness of forensic accounting in detecting fraud: Evidence from Malaysia. *Asian Journal of Accounting and Governance*, 16, 9–19.
- Popoola, N. I., & Ayeni, I. O. (2021). Effectiveness of forensic accounting skills in detecting bank fraud in Europe. *Journal of Financial Crime*, 28(3), 672–687. <https://doi.org/10.1108/JFC-03-2020-0043>
- Rezaee, Z., & Wang, J. (2019). Forensic accounting education and practice: Insights from China. *Journal of Forensic and Investigative Accounting*, 11(2), 485–500.
- Singleton, T. W., & Singleton, A. J. (2010). *Fraud auditing and forensic accounting* (4th ed.). Wiley.
- SO Oginni, J Gambo, KM Ibrahim (2014) Nexus of Gender Pay Gap and Economic Growth: evidence from Nigeria. *International Journal of Management Sciences and Business Research* 3 (4), 7-9
- Ugwoke, R. O., Eze, N. F., & Agbo, M. O. (2020). Effect of forensic accounting practices on fraud control in selected Nigerian banks. *International Journal of Accounting and Financial Reporting*, 10(2), 132–144.