Effect of Digital Accounting Software on Fraud Detection and Prevention in Financial Institution Operating in Nigeria

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ABSTRACT

The paper examine the effect of digital accounting software on fraud detection and prevention in financial institution. Digital accounting software has been introduced as a tool to enhance fraud prevention and detection by automating financial processes, improving accuracy, and strengthening internal controls. However, despite its advantages, the adoption of digital accounting software in Nigerian deposit money banks faces several challenges. Forensic accounting is essential for fraud control and internal audit quality since financial fraud is largely caused by the underutilization of digital forensic techniques. Nigeria's increasing rate of electronic fraud emphasizes the necessity of regulatory action to stop additional losses, due to the increase in fraudulent activity in Nigeria's banking industry, digital forensic accounting tools are now required for fraud detection. This study adopted a survey research design, which the few listed financial institution that have high rating in Nigeria. It was concluded that capacity building and training is low in the sector, technology integrated needed to be practices by staff always while it was recommended that regular training for staff on the effective use of digital accounting software, particularly in fraud detection features such as anomaly monitoring and audit trail analysis and banks should not rely solely on digital tools but integrate them with strong governance frameworks, internal controls, and accountability structures to reduce opportunities for fraud.

INTRODUCTION

Banks and cybercriminals are engaged in a never-ending war, with both sides continuously improving their strategies. When financial institutions implement new technology to stop fraud, fraudsters take advantage of these vulnerabilities (ACI, 2020). Because e-banking has advanced, fraud in banking is increasingly considered necessary (Kesharwani & Radhakrishna, 2019). With roots in ancient methods, forensic accounting has developed into a crucial instrument for identifying fraud. These days, workplace dishonesty and the intricacy of financial crimes make fighting fraud even more difficult (KPMG, 2016). Targeting banks with high-tech crimes like account takeovers and data breaches, cybercriminals are constantly improving their techniques. Tools for digital forensic accounting have become essential for detecting fraud. In deposit money banks, these tools which include geographic analysis, communication monitoring software, and advanced analytics help stop fraud (Musa, 2020).

However, as seen by multiple fraud incidents where the Central Bank of Nigeria (CBN) stepped in to protect depositor funds, Nigerian banks continue to be susceptible to fraud as a result of technical improvements. Forensic accounting is essential for fraud control and internal audit quality since financial fraud is largely caused by the underutilization of digital forensic techniques (Olukowade & Balogun, 2022). Nigeria's increasing rate of electronic fraud emphasizes the necessity of regulatory action to stop additional losses, due to the increase in fraudulent activity in Nigeria's banking industry, digital forensic accounting tools are now required for fraud detection (Owojori & Asaolu, 2019).

In order to improve fraud control, this has put pressure on bank management to use forensic accounting services, the amount of questionable and fraudulent financial transactions is increasing globally [PricewaterhouseCoopers, 2022]. Businesses run the danger of engaging in unethical and dishonest actions as a result. Forensic accounting has become necessary due to the rise in corporate scandals around the world. Professional forensic accountants and traditional auditors are required since financial fraud has emerged as the world's most significant economic danger [Abdullahi and Mansor, 2018]. It is obvious that organizations must satisfy the demands of different stakeholders who are interested in governance and the caliber of the reports the organization produces, including users, bankers, investors, shareholders, auditors, non-professional investors, and financial directors. As a result, it is recommended that governments actively participate in the endeavor to identify fraudulent activity. Mohd Nassir and colleagues (2016) claim that it is easier to identify fraudulent and illegal activity when fraud is categorized according to the risk level for both organized and unstructured jobs.

Financial fraud, which falls under the larger category of economic frauds, has had a detrimental effect on the socioeconomic environment and the global economy. It has been acknowledged that preventing and detecting fraud is a crucial component of accounting operations, with particular duties for internal and external auditors. However, auditors' main responsibility is to make sure that a company's financial statements adhere to applicable legislation and accounting standards; they are not directly in charge of stopping or identifying fraud. A new field known as "forensic accounting" has emerged in response to the rising incidence of fraud [Wijerathna and Perera, 2020]. To identify or stop accounting fraud and white-collar economic crimes, this intricate method calls for a blend of investigative, auditing, and accounting expertise. Forensic accounting, a vital area of investigative accounting, was born out of the need to combat the increase in fraud. It establishes involvement in illegal, unethical, or economic activities and establishes whether a person or organization has engaged in unethical or illegal financial activities [Okoye and Gbegi, 2013]. A crucial area in the financial industry, forensic accounting is a vital instrument for identifying and stopping economic misconduct. To find and examine questionable financial activity, it blends criminal investigation methods with accounting principles.

Forensic accounting is becoming more and more crucial in safeguarding the financial integrity of businesses and economies in the current environment, where economic transactions are growing more intricate and multinational. Due to widespread fraud problems worldwide, and in Nigeria specifically, forensic accountants are now required. In order to protect depositor funds from mismanagement, the CBN has recently stepped in to oversee the operation of numerous banks. According to Owolabi (2010), there have been a number of financial and transactional scandals using Nigerian DMBs. Nigeria's financial crisis began in the 1930s, when all of the country's banks aside from the National Bank failed. During the banking boom and bust of the late 1940s, when all but four indigenous banks were not liquidated, there were other banking crises. In a nutshell, sixteen (16) banks failed between 1952 and 1954, and twenty-six (26) failed in the late 1990s. Other banks were renamed, restructured, or purchased entirely. In order to protect financial integrity, Nigerian deposit money banks (DMBs) must implement sophisticated detection techniques due to the widespread problem of fraud. In the battle against financial fraud, forensic accounting which blends accounting, auditing, and investigation abilities has become a powerful weapon (Ojo & Oni, 2021). Banks can increase their capacity to detect fraud by utilizing forensic accounting approaches, thereby improving their general stability and financial health. With their specific expertise and abilities, forensic accountants are anticipated to be crucial in detecting and reducing fraudulent activity at these banks.

According to Ogutu & Mwachiro (2023), there are three proxies: hiring forensic accountants, having litigation support abilities, and having forensic investigative skills. The study's use of forensic accounting was explained by these characteristics. Forensic accountants must possess litigation support abilities, which entail aiding in court cases involving financial issues. By using these abilities, accountants can increase the legal framework for fraud detection and prevention by offering expert testimony and presenting financial evidence in court. Forensic investigative skills, which include techniques for uncovering financial discrepancies and fraudulent activities, are not exclusive to qualified accountants. Non-qualified accountants, who have acquired these skills through training and experience, can also play a significant role in fraud detection in the deposit money banks.

Because financial fraud is so intricate and sophisticated, sophisticated detection and prevention techniques are required. In this context, forensic accounting has become an essential instrument that uses specific knowledge and methods to identify and deal with fraudulent activity (Ezeagba & Nwankwo, 2022). In order to detect, examine, and record fraudulent transactions and financial misrepresentations, it is essential. Forensic accounting offers a more reliable method because traditional auditing techniques frequently fail to identify complex fraud schemes. Given the complexity of fraudulent activity in Nigerian DMBs, forensic accounting provides a tactical edge in improving the banks' capacity to detect fraud. It is impossible to overestimate the importance of forensic accounting in Nigeria's banking industry. Numerous high-profile fraud cases have occurred in the nation, harming the financial institutions' reputations in addition to causing financial losses. The CBN, led by Professor Chukwuma Soludo, raised the minimum capital base to N25 billion in 2004 in response to capital shortages and liquidity issues in Nigerian banks. As a result, there were 25 Nigerian banks in 2006, down from 89 in 2004. A major contributing cause to the majority of financial industry fraud and distress instances is the failure to apply forensic accounting, which has resulted in subpar

management performance. According to Kennedy (2013), forensic accountants' investigative abilities and accounting expertise help legal professionals with fraud control and internal control quality.

According to Olukowade and Balogun's (2015) research, among other things, the audit committee would benefit from the assistance of forensic accountants in carrying out their oversight responsibilities by receiving confirmation on internal audit reports. A specialized branch of accounting known as "forensic accounting" deals with engagements arising from real or projected conflicts or litigation. In court, forensic evidence is used. According to Olukowade and Balogun (2015), forensic accounting specialists play an unquestionably important role in the current and developing environment since forensic In the execution of fraud cases, accountants assist the court, attorneys, law enforcement agencies like the police, regulatory agencies, and other organizations (such as the Nigeria Stock Exchange Commission and the Economic and Financial Crimes Commission). In order to uncover hidden financial misappropriation and fraudulent activities both inside and outside the financial sector, professionals like forensic accountants are needed due to the rising incidence of fraud and financial crime in deposit money banks and their business environments. He emphasized that forensic accounting was and is still practiced by both public and private accountants during the conflict. In order to collect, evaluate, and present financial data that can be used as reliable proof in court or administrative proceedings, forensic accounting a relatively new area of the accounting profession requires the use of sophisticated accounting, auditing, and investigative skills (Udo & Akpan, 2022). In his book on accounting concepts, forty many ways that misappropriation can occur, along with the consequences for accountants who commit fraud, ineptitude, or ignorance. In Scotland, a professional organization for chartered accountants was founded in the 1800s. This organization made it possible for accountants and attorneys to collaborate as members of the same association. As a result, accountants were able to serve as expert witnesses in their auditing function, and attorneys were legally allowed to offer accounting services to clients. The auditor's responsibilities during this time involved a significant amount of legal work. Although auditors' duties expanded in the early 20th century, their court appearances declined. This implies that the core ideas of accounting are being revived in modern forensic accounting. An essential part of any economy is the banking industry. The public's trust has been damaged by the ongoing rise in fraudulent activities in Nigerian banks for over a decade, endangering the stability of deposit money banks and harming shareholders' financial interests. To control the banking sector and accounting procedures, this calls for the adoption of stronger legislative and regulatory frameworks. At the moment, a pervasive increase in fraudulent activity and other abnormal behaviors has jeopardized the integrity and operational capabilities of Nigerian banks.

According to Adeyemi & Fagbemi (2023), fraud not only makes it more difficult for Nigerian banks to efficiently perform their financial duties, but it strains the nation's meager foreign exchange reserves without providing any discernible economic benefits to the working class or the general populace. A paradigm shift in the accounting field has resulted in a greater focus on the significance of forensic accounting. The demand for this service has grown significantly in advanced economies such as the US, Australia, the UK, Malaysia, and others (Hassan & Sanni, 2023). As a result, there are now more opportunities and forensic accounting is becoming more professional.

The increasing sophistication of financial fraud in deposit money banks has raised concerns about the effectiveness of traditional fraud detection measures. Digital accounting software has been introduced as a tool to enhance fraud prevention and detection by automating financial processes, improving accuracy, and strengthening internal controls. However, despite its advantages, the adoption of digital accounting software in Nigerian deposit money banks faces several challenges. Fraud remains a significant challenge in Nigeria's banking sector, particularly among deposit money banks, where financial integrity and security are critical. In recent years, financial fraud has evolved, with perpetrators leveraging technology to exploit weaknesses in accounting systems. This has led to substantial financial losses, regulatory fines, and reputational damage for banks. As a response, banks have adopted digital accounting software to enhance fraud detection and prevention. These software solutions offer automated transaction monitoring, real-time data analysis, anomaly detection, and secure financial reporting, all of which are essential for reducing fraudulent activities. Despite the potential of digital accounting software to strengthen fraud prevention mechanisms, its implementation in Nigerian deposit money banks is faced with several challenges. These include: Limited Adoption and Integration, Cybersecurity Risks – While digital accounting software enhances fraud prevention, it also introduces new risks such as hacking, data breaches, and cyber fraud. Inadequate cybersecurity measures can make these systems vulnerable, leading to potential financial losses, Inadequate Staff Training and Technical Expertise – The effectiveness of digital accounting software depends on the competence of the personnel handling it. Many banks lack adequately trained staff who can fully utilize the software's fraud detection capabilities, leading to inefficiencies, Software Limitations and System Incompatibility – Some digital accounting solutions have technical limitations, including system incompatibility, software bugs, and integration challenges with existing banking platforms. These issues may hinder fraud detection efficiency and reduce operational effectiveness, egulatory and Compliance Challenges – Regulatory frameworks governing digital accounting software in Nigeria are still evolving. Banks must ensure that these systems comply with financial reporting and fraud detection standards, which can be complex and require continuous updates.

Given these challenges, there is a need for a comprehensive study to evaluate the impact of digital accounting software on fraud detection and prevention in Nigerian deposit money banks. This research will assess the level of adoption, the effectiveness of

fraud detection mechanisms provided by these systems, and the challenges limiting their full potential. This study seeks to analyze the impact of digital accounting software on fraud detection and prevention in some listed deposit money banks in Nigeria. It will examine the extent to which these software solutions have been integrated into fraud prevention frameworks, the challenges encountered in their implementation, and the effectiveness of these digital tools in mitigating fraudulent activities. The findings from this study will provide insights into how banks can maximize the benefits of digital accounting software to enhance financial security and transparency.

The objectives of this study are to: examine the effectiveness of digital accounting software in detecting fraudulent activities and analyze the impact of digital accounting software on financial reporting accuracy and internal control mechanisms in banks.

Fraud

Fraud is defined as willful or purposeful misrepresentation that causes harm to another individual. It is intentional deception that results in harm to another individual, typically in the form of financial losses. The breadth and context of fraudulent schemes vary, particularly depending on the position of the criminals within an organization. Bribery, misappropriation, poor fund management, and budget padding are all prevalent in the public sector (Okpala & Enwefa, 2017). Based on this, different writers have defined fraud in ways that best fit their own perspectives (Ozili, 2015). When someone is under duress or has the chance to perpetrate fraud, they may do so. Nigeria's economy is threatened by corruption. Nigeria cannot continue to waste its resources in the fight against the global economic catastrophe brought on by corruption, thus Waziri (2009) urged Nigerians to manage their affairs more carefully and honestly. That there will be a catastrophe that they might not be able to recover from for a long time if Nigerians have a tendency to manipulate the economy into graft during global economic crises. Deprivation, he said, may be a weapon against its rebellion. She came to the conclusion that the EFCC would either abandon or impede its fundamental duty of looking into and prosecuting economic crimes and graft.

Fraud Detection

Fraud detection is the process of identifying and stopping fraudulent activity in financial systems by utilizing a variety of approaches and strategies to find anomalies and wrongdoing. The process of locating instances of fraud within a system or organization is known as fraud detection, according to Garcia & Martinez (2024). To identify and lessen financial fraud, this procedure uses both reactive strategies, such as forensic accounting investigations, and proactive ones, such as strong internal controls. Fraud detection is "the continuous process of monitoring financial transactions to identify suspicious activities or patterns that may indicate fraudulent behavior," according to Anderson & Brown (2023). Fraud detection is the process of employing investigative techniques to find and reveal intentional acts by staff members, outside parties, or both to falsify financial accounts or divulge private client data for illegal purposes. It seeks to identify anomalous behavior and departures from routine procedures, assisting companies in identifying current or possible criminal activity. Finding suspicious activity or irregularities in deposit money banks' financial operations is the main goal of fraud detection (Ibrahim & Musa, 2022). Conversely, fraud prevention is a proactive strategy to thwart fraud before it happens. It entails eliminating chances and reducing elements that can encourage dishonest behavior. Limiting access to sensitive areas is one possible preventive strategy in deposit money banks. having a resident control officer to guarantee compliance with internal and accounting controls, demanding second-level authorization for certain transactions, and keeping meticulous records and audit trails. According to Barra (2010) and Ozili (2018), these actions are essential for stopping fraud and guaranteeing adherence to company policies.

Fraud Prevention

The goal of fraud prevention is to proactively prevent an incident from occurring. In deposit money banks and other organizations, it is the process of preventing fraud and fraudulent operations. The closure of all enabling opportunities and factors that promote fraud in deposit money banks and other organizations was proposed by Barra (2010) and Ozili (2018). For instance, a deposit money bank's branch operations should have areas off-limits to non-staff of certain sensitive units, second-level authorization from a bank officer in charge, documentation and audit trails of certain sensitive activities, and, of course, a resident control officer to make sure that all internal and accounting system controls are followed in order to prevent or discourage fraud in an organization.

Agency Theory

When one party (the principal) assigns work to another (the agent), who then completes it, the agency problem is addressed by agency theory (Jensen and Meckling, 1976). When one person's activities impact the wellbeing of another in a contractual connection, whether explicit or implicit, there is an agency relationship. The agent is the person who acts, and the principal is the person whose wellbeing (utility), expressed in monetary terms, is impacted by the agent's actions (Akaranga, 2010). The relationship between an employer (the principal) and his employee (the agent) is the most common example of an agency relationship. The principal in an agency relationship wants the agent to behave in the principal's best interests.

But since the agent is supposed to look out for himself, he might not behave in the principal's best interests. A contract in which one or more people (the principal) hire another person (the agent) to carry out a task on their behalf, so giving the agent some degree of decision-making authority, is known as an agency relationship. It is reasonable to assume that the agent will not always

behave in the principal's best interests if both parties to the connection are utility maximizers (Okoye, Ajala and Adeniyi 2023). Alshurafat et al. (2020) emphasized the significance of establishing a forensic accounting-specific educational program that is in line with the demands of the industry and employers' expectations for pedagogical techniques.

Furthermore, Kavanagh and Drennan (2008) stressed that in addition to fundamental accounting competencies and sophisticated analytical abilities, it is critical for accounting graduates to gain a thorough understanding of business and practical knowledge pertinent to the actual business environment. This viewpoint emphasizes the necessity of training that emphasizes actual application and understanding of the business situation, going beyond the conventional theoretical framework. In order to combat fraud in organizations, awareness and education are essential preventive actions. Educating staff members on the various forms of fraud, their warning indicators, and their repercussions is crucial to developing an organizational culture that values honesty and openness. Through awareness and training programs, staff members can become more alert and identify possible dangers and dishonest practices.

All organizational levels should receive education and awareness; they shouldn't be restricted to accounting staff or financial divisions. Training classes that include topics including the company's code of ethics, internal regulations and processes, and how to properly report fraud concerns are essential. In order to prevent cyber fraud, this also includes instruction on how to utilize information systems and technology safely.

Furthermore, it is equally crucial to inform boards of directors and management about the dangers of fraud and how they may affect the company. Supervisors must understand their roles in identifying and stopping fraud and be able to foster an atmosphere where staff members can voice any suspicions without worrying about facing consequences. As a result, raising awareness and educating people are essential to building a fraud defense system and fostering an organizational culture that values and encourages accountability and integrity. The foundation of the investigation was Inspired Confidence. The argument states that the involvement of external stakeholders in a business directly causes the need for audit services. These stakeholders received objective accountability from the management that worked for them, in exchange for their investment in and commitment to the business. According to Theodore Limperg's Theory of Inspired Confidence, which was created in the 1920s, external stakeholders who want management to be impartially accountable are the ones that drive the need for audit services. Independent audits are necessary to guarantee reliable financial information because of the possible conflict of interest between stakeholders and management. According to the principle, auditors must carry out their responsibilities in a professional manner in order to satisfy the demands of reasonable users of financial data. This theory supports Bandura's idea of self-efficacy, which holds that people have faith in their capacity to plan and carry out actions in order to accomplish their objectives. According to Bandura's social learning-based theory, verbal persuasion, mastery experiences, and other people's observations all influence one's sense of self-efficacy. Bandura's theory is criticized for ignoring the emotional, social, and environmental factors that impact behavior in favor of an excessive emphasis on cognitive elements, especially self-efficacy.

Additionally, cultural variations in self-efficacy beliefs are not sufficiently addressed. Numerous ideas are employed in the detection, prevention, and mitigation of fraud. These include the Fraud Triangle Theory, the Fraud Scale Theory, and the Agency Theory. However, the Agency idea serves as the foundation for our investigation. One theory that aims to address the tension between the primary and its agents is the agency theory.

Shareholder Theory

The foundation of shareholder theory was laid by Friedman (1970), who argued that the primary responsibility of managers is to maximize the wealth of shareholders within legal and ethical boundaries. This position highlights the need for strong accountability systems, especially in financial institutions, where shareholders are often far removed from day-to-day operations. Jensen and Meckling (1976) extended this argument through the agency theory model, which explains that conflicts of interest arise because managers, acting as agents, may pursue personal benefits at the expense of the shareholders, the principals. To minimize such conflicts, effective monitoring mechanisms are required, and the introduction of digital accounting software provides a modern tool to reduce information asymmetry and align managerial actions with shareholder interests.

Scholars have consistently emphasized that reliable financial reporting is a central mechanism through which shareholders can monitor management. Kennedy (2013) showed that advanced accounting tools strengthen internal control and enhance fraud detection, which directly contributes to the protection of shareholder investments. Similarly, Olukowade and Balogun (2015) found that forensic approaches improve oversight of audit committees by enhancing the credibility of financial reports. These findings support the view that digital accounting software, by producing timely and accurate records, enhances transparency and thus helps reduce agency costs.

In the Nigerian banking sector, studies such as Modugu and Anyaduba (2023) demonstrate that forensic accounting practices are positively related to fraud control and reporting quality. When interpreted through the lens of shareholder theory, this suggests that banks' investment in digital accounting solutions not only strengthens fraud prevention but also safeguards shareholder wealth by reducing the risk of financial loss. Ogutu and Mwachiro (2023) further argue that specialized investigative skills, when integrated with digital tools, increase the effectiveness of fraud detection. This aligns with shareholder theory by reinforcing the monitoring role of shareholders through technological innovations.

Despite these advantages, scholars such as Augustine and Uagbale-Ekatah (2023) note that forensic and digital approaches in Nigeria still face regulatory and institutional challenges, limiting their full impact. From a shareholder perspective, this implies that while digital accounting software has strong potential to reduce agency problems, its effectiveness is contingent on proper governance structures and statutory support. Radu (2009) similarly observed that globalization and the complexity of financial transactions increase the risk of opportunism by managers, making the role of continuous, technology-driven monitoring even more crucial.

The shareholders' main objective is to maximize their wealth, which can only be accomplished if management works toward this objective. A monitoring system is required to reduce conflicting goals between management and shareholders. Forensic accounting is therefore a monitoring tool for DMB fraud identification and prevention. It is a tool for keeping an eye on the management's operations. Accounting literature frequently uses the idea of agency to explain how professional auditors and financial advisors, like forensic accountants, are chosen and succeed. This gives forensic accountants the authority to perform special duties on behalf of business owners.

In a case study of the Nigerian public sector, Joseph et al. (2016) examined the role of forensic accounting in fraud detection and prevention. According to the study, forensic accounting plays a significant role in Nigerian fraud identification and prevention. Additionally, the impact of forensic accounting services on reducing fraud in the Nigerian banking sector was investigated by Henry and Ganiyu (2017). Four (4) banks with an A+ credit rating GT Bank, Zenith Bank Plc, Skye Banks Plc, and Access Bank Plc were used in the study as an adjusted population.

In his research, Bassey (2018) found that forensic accounting significantly contributes to the reduction of criminal activity and corruption in a few Calabar microfinance institutions. Nowadays, forensic accountants are regarded as fraud detection specialists who work in developing economies. Nwaiwu and Aaron (2018) investigated the role of forensic accounting on the fraud detection performance and procedure of a few Nigerian listed firms. They employed a standardized questionnaire, and correlation and descriptive statistics were used for analysis. They verified that the proxies of the two variables have a substantial positive and negative association.

Khersiat (2018) evaluated the necessity of a forensic accountant. The effect of forensic accounting on fraud detection in deposit money banks in Lagos, Nigeria, was investigated by Adeola, O. (2023). This empirical study used a mixed-methods approach, combining qualitative interviews with bank management and forensic accounting experts with quantitative analysis using logistic regression. In addition to standard audit practices and internal controls in different deposit money institutions in Lagos, the study concentrated on a number of important forensic accounting variables, including the involvement of forensic accountants (EFA) and forensic investigative professional skills (FIS). The results showed a strong positive correlation between the efficiency of fraud detection systems and the involvement of forensic accountants. In particular, a Wald statistic with a high level of significance ($p < 0.05$) corroborated the regression analysis's finding that EFA greatly raised the likelihood of fraud detection by about 291.1%. Likewise, FIS showed a favorable effect on fraud detection, but to a somewhat smaller degree (Exp (B) = 2.044, $p < 0.05$). These findings demonstrated how important specialist forensic expertise is to improving financial accountability and transparency in Nigeria's banking industry. The study had limitations, mostly relating to sample size and scope, despite its contributions. The findings may not be as applicable to other areas or kinds of financial institutions in Nigeria if the study is limited to deposit money banks in Lagos.

Chukwudi (2020) investigated how forensic accounting affected the identification of fraud in Nigerian commercial banks located in Enugu State. A mixed-methods strategy was used in this empirical study, which included surveys and interviews with forensic accounting experts and bank executives.

The effect of forensic accounting variables like Internal Control Strength (ICS) and Use of Digital Forensic Tools (DFT) on fraud detection capacities was assessed quantitatively using logistic regression. DFT reduced the number of undetected fraud instances by 58.2%, according to the study, which indicated a substantial positive correlation between better fraud detection and the use of digital forensic tools ($p < 0.001$). Sample size restrictions and possible biases in self-reported data were among the drawbacks, though, and they might have impacted how broadly the study could be applied. Longitudinal studies and wider industry involvement could be useful in future study to confirm these results and investigate the scalability of forensic accounting procedures in Nigerian commercial banks.

A research on fraud and forensic accounting in a digital setting was carried out by Abretcht (2010). The study and the current study are different in a number of ways. The former used a literature review technique or desk, whereas the latter employs a field survey methodology. Another distinction is that the study did not address how forensic ICT affected Nigerian commercial banks' financial performance. Moorthy, Seetharaman, Mohamed, Gopalan, and San (2011) assess the function of information technology and its impact on the organization's internal auditing process. The study also emphasizes how IT systems (hardware and software) are being adopted globally to create a more regulated environment for conducting audits.

The study did not, however, look at how forensic ICT affected Nigerian commercial banks' financial results. The study also made use of data and information collected from a variety of secondary data sources. Journal articles that are acquired on the Internet and published in magazines are examples of secondary data sources. The usefulness of forensic accounting in effectively reducing

fraudulent activities in Nigeria is also examined by Dada et al. (2023). They analyzed their empirical data from questionnaires and oral interviews using multiple regression approaches. The results showed a significant and favorable relationship between fraud reduction and forensic accounting-based fraud investigation and detection.

In order to help the courts effectively prosecute those accused of fraudulent activities, the research suggests that the anticorruption commission establish a forensic accounting unit and hire professionals to ensure proper investigation of fraud cases. There is a need for more research in the banking industry because the study was not conducted in quoted deposit money banks. Modugu and Anyaduba (2023) investigated whether stakeholders significantly agree on the value of forensic accounting in preventing financial fraud, improving internal control quality, and enhancing financial reporting. With a sample size of 143, the study employed a survey design and included shareholders, management personnel, accountants, and practicing auditors.

The sample size was chosen using the simple random procedure, and the data analysis was conducted using the binomial test. The study's conclusions show that there is broad consensus among interested parties about the value of forensic accounting in financial reporting, fraud prevention, and internal control standards. According to the aforementioned conclusions, the study suggested that the National Universities Commission, the Association of National Accountants of Nigeria, and the Institute of Chartered Accountants of Nigeria promote formalization and specialization in the area of forensic accounting. There is a need for more research in the banking industry because the study was not conducted in quoted deposit money banks.

The present opinions of Nigerian academics and accounting professionals regarding the advancement and applicability of forensic accounting in Nigeria are investigated by Augustine & Uagbale-Ekatah (2023). In order to compare their work to existing research on the practice of forensic accounting in Nigeria, they used structured interviews. The following are their study's conclusions: Most people believe that forensic accounting is still in its infancy and lacks legal support; (2) that it is becoming more and more relevant in exposing intricate official corruption in Nigeria; and (3) that it lacks legal support and has little effect on financial crime, fraud, or corruption in Nigeria.

METHODOLOGY

This study adopted a survey research design to examine the effect of digital accounting software on fraud detection and prevention in listed deposit money banks in Nigeria. The design is appropriate because it enables the collection of firsthand information from respondents and supports the use of statistical tools to test relationships among variables.

The population of this study comprises employees of selected listed deposit money banks in Nigeria. Specifically, the study focuses on staff drawn from Access Bank Plc, Zenith Bank Plc, Guaranty Trust Bank Plc, United Bank for Africa Plc, and First Bank of Nigeria Plc. These banks were chosen because they represent some of the largest and most technologically advanced institutions in the Nigerian financial sector, with significant adoption of digital accounting software. The target respondents include personnel from accounting, internal audit, risk management, compliance, and IT departments, as they are directly involved in fraud detection and prevention processes.

DATA ANALYSIS
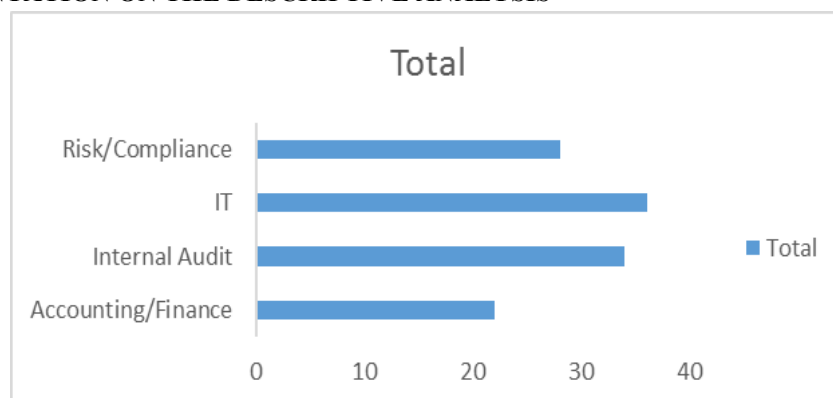## GRAPHICAL PRESENTATION ON THE DESCRIPTIVE ANALYSIS

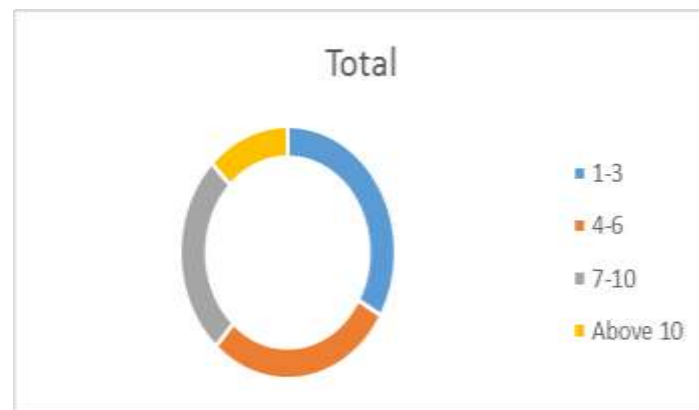**Fig. 4.1 graph of different department**

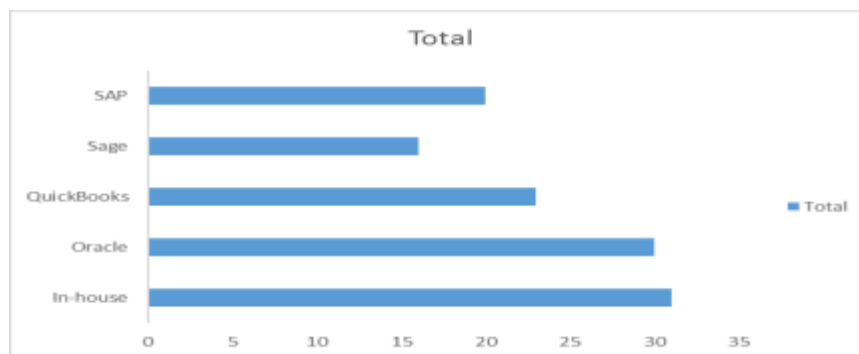**Fig. 4.2a graphical representation on working experience**

Fig. 4.3 a graph of types of software used my

THE FOLLOWING IS AN EXCEL OUT-PUT ON THE DATA ANAYSIS

	usage	Audit-trails	training	detection	Accuracy	speed	controls	reduction	prevention	overall-effect
Usage	1									
Audit-trails	-0.02152	1								
Training	0.055215	-0.01543	1							
detection	-0.00801	-0.1009	-0.1336	1						
Accuracy	0.093718	0.053588	-0.04053	-0.0269	1					
Speed	0.04968	-0.05975	-0.04415	0.06265	-0.07864	1				
controls	0.091081	0.010198	0.004442	0.050325	0.059329	0.070017	1			
reduction	0.011484	-0.25186	-0.00317	0.098948	-0.02536	0.183688	-0.12121	1		
prevention	0.119194	-0.0796	0.090471	0.003772	-0.06458	0.01788	0.039003	0.0418	1	
overall-effect	-0.13479	0.157602	0.062363	-0.00416	-0.0575	0.011891	0.019703	-0.07382	0.023183	1

Usage vs. Other Variables

i.   Usage & Prevention ($r = $ **0.119**) → very weak positive relationship; banks that actively use DAS may see slightly better prevention ratings.

ii. Usage & Overall Effect ($r = $ **-0.135**) → very weak negative relationship; usage alone does not guarantee improved overall fraud detection/prevention.

Audit-Trails vs. Overall Effect

  i.   Audit-trails & Overall Effect (r = **0.158**) → weak positive relationship; the presence of audit trails is somewhat linked with improved fraud detection/prevention.

  ii. Audit-trails & Reduction (r = **-0.252**) → weak negative relationship; banks with stronger audit trails reported slightly less perceived reduction in fraud (possibly because audit trails expose fraud rather than prevent it).

Training vs. Other Variables

  i.   Training & Prevention (r = **0.090**) → very weak positive link; training contributes slightly to prevention effectiveness.

  ii. Training & Detection (r = **-0.134**) → very weak negative; training alone is not strongly tied to better detection ratings.

Fraud Detection Sub-Variables

  i.   Detection & Reduction (r = **0.099**) → very weak positive; higher detection is slightly associated with more fraud reduction.

  ii. Detection has no strong link with overall effect (r = **-0.004**).

Accuracy, Speed, and Controls

  i.   All show very weak relationships with one another and with overall effect. For example, Controls & Accuracy (r = **0.059**) is negligible.

Overall Effect

  i.   The highest positive association is with Audit-Trails (r = **0.158**) → showing that among all factors, audit trail systems contribute the most (though still weakly) to the overall perception of fraud detection and prevention.

  ii. Other correlations with Overall Effect are near zero, meaning most DAS components are not strongly associated with overall perception in this dataset.

SUMMARY

The findings revealed that most relationships were weak or negligible, with the strongest positive correlation recorded between audit trails and overall fraud detection/prevention (r ≈ 0.16). This suggests that while digital accounting software plays a role, its overall impact is limited when used in isolation. Other factors such as governance practices, employee competence, and regulatory oversight appear to influence fraud control more strongly. The study highlights gaps such as inadequate staff training, partial adoption of software, and cybersecurity vulnerabilities that limit the effectiveness of DAS. These results emphasize the need for banks to not only invest in technology but also strengthen institutional capacity and compliance frameworks to fully realize the benefits of digital accounting software in fraud prevention.

RECOMMENDATIONS

The following recommendations are made:

  i.   Enhance Training and Capacity Building: Banks should prioritize regular training for staff on the effective use of digital accounting software, particularly in fraud detection features such as anomaly monitoring and audit trail analysis.

  ii. Strengthen Audit Trail Mechanisms: Since audit trails showed the strongest positive effect, banks should invest in systems that generate comprehensive, tamper-proof logs of transactions to support fraud detection and regulatory compliance.

  iii. Integrate Technology with Governance Practices: Banks should not rely solely on digital tools but integrate them with strong governance frameworks, internal controls, and accountability structures to reduce opportunities for fraud.

  iv. Collaborate with Regulators: Banks and regulators such as the CBN should work together to establish clear guidelines on digital accounting software adoption, compliance standards, and periodic audits to ensure transparency.

  v.   Invest in Advanced Analytics: Beyond basic accounting software, banks should adopt advanced fraud detection tools such as artificial intelligence, data mining, and predictive analytics to strengthen real-time fraud prevention.

REFERENCES

1. Abdullahi, R., and Mansor, N. (2018). Fraud prevention initiatives in the Nigerian public sector: Understanding the relationship of fraud incidences and the elements of fraud triangle theory. *Journal of Financial Crime*, 25(2), 527–544.

2. Abretcht, W. S. (2010). Fraud and forensic accounting in a digital environment. *Journal of Forensic Studies*, 12(4), 215–230.

3. Adeola, O. (2023). The impact of forensic accounting on fraud detection in deposit money banks in Lagos, Nigeria. *International Journal of Accounting and Finance Studies*, 11(2), 66–84.

4. Adeyemi, T., and Fagbemi, O. (2023). Fraud and financial strain in Nigeria: Implications for the banking sector. *Nigerian Journal of Finance and Management*, 15(1), 22–38.

5. Akaranga, S. (2010). The role of agency theory in accounting research. *Journal of Business and Management*, 12(1), 45–52.

6. Akinbowale, O. (2020). The impact of economic fraud on the global economy. *International Journal of Economics and Finance*, 8(4), 55–68.

7. Albrecht, W. S., Albrecht, C. O., and Albrecht, C. C. (2022). *Fraud examination* (7th ed.). Cengage Learning.

8. Alshurafat, H., Dellaportas, S., and Irvin, M. (2020). Educating forensic accountants: A framework for curriculum design. *Journal of Accounting Education*, 50, 100639.

9. Anderson, R., and Brown, D. (2023). Fraud detection in modern banking systems: A forensic approach. *Journal of Financial Crime Prevention*, 30(1), 18–35.

10. Augustine, U., and Uagbale-Ekatah, R. (2023). Current development and relevance of forensic accounting in Nigeria: Perspectives from practitioners and academics. *Journal of Accounting Research and Practice*, 19(2), 99–118.

11. Bailard, C., Ibrahim, K., and Musa, A. (2022). Cybercrime and the financial sector: Risks and responses. *Journal of Information Security Studies*, 15(1), 25–44.

12. Barra, R. A. (2010). The impact of internal controls and penalties on fraud. *Journal of Accounting and Public Policy*, 29(4), 399–424.

13. Bassey, B. (2018). Forensic accounting and fraud prevention in microfinance banks in Calabar. *International Journal of Finance and Accounting*, 7(1), 34–45.

14. Bhasin, M. L. (2021). Forensic accounting in detecting financial fraud: Evidence from global practices. *International Journal of Business and Management*, 16(2), 45–61.

15. Chukwudi, O. (2020). The effect of forensic accounting on fraud detection in commercial banks in Enugu State, Nigeria. *Journal of Financial and Business Studies*, 8(3), 77–92.

16. Dada, A., Ojo, F., and Mohammed, S. (2023). Forensic accounting and fraud reduction in Nigeria. *International Journal of Accounting and Business Research*, 13(2), 55–72.

17. Enofe, A. O., Okapor, J. A., and Atube, E. N. (2013). The role of forensic accounting in mitigating financial fraud in Nigeria. *International Journal of Business and Social Research*, 3(5), 158–165.

18. Enofe, A., Omagbon, P., and Ehigiator, F. (2015). Forensic accounting and fraud detection in Nigerian banks. *Journal of Accounting and Financial Studies*, 5(2), 23–36.

19. Garcia, M., and Martinez, J. (2024). Fraud detection methodologies in banking: A forensic accounting perspective. *Journal of Banking and Finance Research*, 18(1), 55–73.

20. Gbegi, D. O., and Adebisi, J. F. (2014). Forensic accounting skills and techniques in fraud investigation in Nigeria. *Journal of Accounting, Finance and Auditing Studies*, 3(4), 1–19.

21. Hassan, A., and Sanni, I. (2023). The evolution of forensic accounting practices in developed and emerging economies. *International Journal of Accounting and Financial Management*, 11(2), 45–63.

22. Henry, U., and Ganiyu, Y. (2017). Effect of forensic accounting services on fraud reduction in Nigerian banks. *Journal of Banking and Financial Management*, 9(1), 44–58.

23. Ibrahim, K., and Musa, A. (2022). Cyber fraud and forensic accounting in Nigeria's financial institutions. *African Journal of Information Systems*, 14(2), 88–104.

24. Islam, M. A., Rahman, A., and Hossain, M. (2011). Forensic accounting and corporate fraud in developing countries. *International Journal of Accounting and Finance*, 3(2), 1–15.

25. Jensen, M. C., and Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.

26. Joseph, C., Okafor, C., and Adebayo, K. (2016). Forensic accounting in fraud prevention and detection: Evidence from Nigeria's public sector. *International Journal of Accounting Research*, 12(1), 50–68.

27. Kavanagh, M. H., and Drennan, L. (2008). What skills and attributes does an accounting graduate need? Evidence from student perceptions and employer expectations. *Accounting & Finance*, 48(2), 279–300.

28. Kennedy, C. (2013). Forensic accounting and internal control: A Nigerian perspective. *International Journal of Accounting and Finance Research*, 7(1), 35–49.

29. Kennedy, C. (2019). Digital forensic tools and fraud detection in Nigerian banks. *Journal of Accounting and Finance Studies*, 9(2), 121–138.

30. Khersiat, O. (2018). Forensic accounting and tax fraud detection in Jordan. *Journal of Accounting Research and Audit Practices*, 10(2), 77–91.

31. KPMG. (2016). *Global profiles of the fraudster: Technology enables and weak controls fuel the fraud*. KPMG International.

32. Modugu, K. P., and Anyaduba, J. O. (2013). Forensic accounting and financial fraud in Nigeria: An empirical approach. *International Journal of Business and Social Science*, 4(7), 281–289.

33. Modugu, K. P., and Anyaduba, J. O. (2020). Forensic accounting practices and fraud detection in Nigerian deposit money banks. *Journal of Accounting Research*, 8(1), 44–60.

34. Modugu, K. P., and Anyaduba, J. O. (2023). Stakeholders' perspectives on forensic accounting and fraud control in Nigeria. *International Journal of Business and Management*, 18(3), 115–128.

35. Mohd Nassir, N., Ismail, H., and Omar, N. (2016). Fraud risk categorization and detection: Evidence from Malaysia. *Asian Journal of Accounting and Governance*, 7, 15–28.

36. Moorthy, M., Seetharaman, A., Mohamed, Z., Gopalan, M., and San, L. (2011). The impact of information technology on internal auditing. *African Journal of Business Management*, 5(9), 3523–3539.

37. Moyes, G., and Baker, C. R. (2021). Applying fraud preventative theory in forensic accounting practices. *Journal of Forensic and Investigative Accounting*, 13(1), 88–107.

38. Musa, A. (2020). Forensic accounting and fraud detection in Nigerian banks. *International Journal of Financial Studies*, 8(3), 211–228.

39. Nwaiwu, J., and Aaron, D. (2018). Forensic accounting relevance in fraud detection and performance of Nigerian companies. *International Journal of Economics and Financial Issues*, 8(3), 145–152.

40. Ojo, S., and Oni, A. (2021). Forensic accounting and fraud control in Nigeria's deposit money banks. *International Journal of Finance and Banking Studies*, 10(2), 85–97.

41. Okoye, E., and Gbegi, D. (2013a). Forensic accounting and corporate governance in Nigeria. *International Journal of Business and Management*, 8(15), 107–114.

42. Okoye, E., and Gbegi, D. (2013b). An evaluation of forensic accountants' skills and techniques in fraud investigation in Nigeria. *International Journal of Business and Social Science*, 4(7), 284–289.

43. Okpala, K. E., and Enwefa, J. (2017). Fraud in the Nigerian banking industry: Causes and remedies. *Nigerian Journal of Accounting Research*, 6(2), 101–115.

44. Olaleye, Y., and Fashina, A. (2019). Electronic fraud and the Nigerian banking industry: Challenges and prospects. *Journal of Banking and Finance Research*, 7(1), 33–50.

45. Olukowade, E., and Balogun, S. (2015). Forensic accounting services and audit committee effectiveness in Nigeria. *Journal of Accounting Research and Practice*, 6(2), 44–61.

46. Olukowade, E., and Balogun, S. (2022). Forensic accounting practices and fraud prevention in Nigerian deposit money banks. *Journal of Finance and Accounting*, 14(1), 22–35.

47. Omatta, S. (2016). Audit effectiveness in Nigerian banks: Challenges and prospects. *African Journal of Accounting, Economics, Finance and Banking Research*, 12(1), 1–14.

48. Omiya, P. (2019). Forensic tools and fraud prevention in deposit money banks. *Journal of Accounting and Finance Research*, 6(3), 88–104.

49. Owojori, A., and Asaolu, T. (2019). Forensic accounting and fraud detection in Nigerian banks. *Journal of Economics and Sustainable Development*, 10(2), 55–64.

50. Ozili, P. K. (2015). Fraudulent activities and governance challenges in Nigeria. *International Journal of Public Administration and Management Research*, 3(2), 21–32.

51. Ozili, P. K. (2018). Banking fraud and preventive measures in Nigeria. *Journal of Financial Regulation and Compliance*, 26(3), 373–389.

52. PricewaterhouseCoopers. (2022). *PwC's global economic crime and fraud survey 2022*. PwC.

53. Radu, C. (2009). The role of forensic accounting in detecting and preventing fraud. *Annals of the University of Oradea: Economic Science*, 18(3), 1314–1318.

54. Udo, U., and Akpan, E. (2022). Forensic accounting in Nigeria: A new dimension in fraud prevention. *International Journal of Accounting and Finance Research*, 9(2), 55–70.

55. Wijerathna, S., and Perera, H. (2020). Forensic accounting and fraud investigation: A Sri Lankan perspective. *Journal of Accounting in Emerging Economies*, 10(4), 555–572.

56. Waziri, F. (2009). The role of EFCC in combating corruption in Nigeria. *Journal of Financial Crime*, 16(3), 235–245.

57. Wisdom, J. (2019). Forensic accounting tools in fraud detection: Evidence from Nigerian banks. *African Journal of Accounting Research*, 8(1), 77–91.