American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

EFFECT OF AUDIT DIGITALIZATION ON FRAUD PREVENTION AND DETECTION: EVIDENCE FROM AUDITORS AT PWC NIGERIA.

[1]Ojeh Augustine, Ph.D., FCA, [2]Geoffrey Ndubuisi Udefi Ph.D. and [3]Festus Ndubuisi Nkwo

[1]Department of Accountancy, Faculty of Management Sciences, Enugu State University of Science and Technology ESUT, Enugu State, Nigeria.
[2]Department of Accountancy, Faculty of Management Sciences, Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI), Ebonyi State, Nigeria.
[3]Department of Accountancy, Gregory University Uturu, Abia State, Nigeria.
DOI: https://doi.org/10.5281/zenodo.15675374

Abstract: This study investigates the effect of audit digitalization on fraud prevention and detection, using empirical evidence from auditors at PwC Nigeria. It examines the extent of adoption and integration of digital audit technologies, identifies implementation challenges, and evaluates their impact on audit performance. Descriptive statistics show that 60% of auditors have adopted digital audit tools, with an integration rate of 55% into core audit processes. Key barriers include regulatory constraints (30%), cybersecurity vulnerabilities (25%), and skill gaps (25%). Despite these obstacles, correlation analysis reveals strong positive relationships between digital audit implementation and improvements in efficiency (r = 0.85), accuracy (r = 0.75), timeliness (r = 0.90), audit quality (r = 0.95), and stakeholder confidence (r = 0.85). These findings highlight the transformative potential of audit digitalization in enhancing fraud prevention and detection efforts. The study recommends upskilling auditors, regulatory reform, and stakeholder collaboration to overcome adoption barriers and maximize digital audit effectiveness in Nigeria.
Keywords: Audit digitalization, fraud prevention, fraud detection, digital adoption, PwC Nigeria

Introduction

In recent years, the digitalization of audit processes has emerged as a transformative trend within the auditing profession, offering significant potential to enhance fraud prevention and detection mechanisms. With the proliferation of advanced technologies and increasing reliance on digital systems for business operations, traditional audit methods have become insufficient to address the evolving nature of fraudulent activities. Consequently, auditors are leveraging digital tools and techniques to improve their ability to identify, assess, and mitigate fraud risks effectively (Ojo-Agbodu et al., 2024;

Alles, 2015; Herbert et al., 2017). PwC Nigeria, as one of the leading audit firms in the country, has been at the forefront of adopting such innovations, reflecting the broader global shift towards digital audit practices (PwC, 2020).

Ideally, the integration of digital audit technologies at PwC Nigeria would enable auditors to efficiently analyze large volumes of financial data, detect anomalies, and uncover potential fraud schemes with greater accuracy and speed. Such digital adoption would streamline audit procedures, enhance risk assessments, and strengthen internal controls, thereby improving the reliability of financial reporting and reinforcing stakeholders' trust (Appelbaum, Kogan & Vasarhelyi, 2017). However, the reality on the ground reveals challenges that hinder the full realization of these benefits. Limited adoption of digital tools, skill gaps among audit professionals, regulatory ambiguities, infrastructural shortcomings, and cybersecurity concerns all pose significant barriers to effective audit digitalization within PwC Nigeria (Odeyemi et al., 2024). These challenges risk perpetuating vulnerabilities to fraud, undermining audit quality, and reducing stakeholder confidence.

This study therefore aims to investigate the effect of audit digitalization on fraud prevention and detection specifically among auditors at PwC Nigeria. It seeks to assess the current extent of digital audit technology adoption, identify key obstacles hindering effective implementation, and evaluate the impact of digitalization on audit efficiency, accuracy, timeliness, and overall quality. The study also explores how these digital innovations influence auditor independence, objectivity, and professional judgment in the Nigerian context. Guided by research questions and hypotheses focused on adoption levels, challenges, and practical impacts, the study will provide empirical insights into the digital transformation of audit practices at PwC Nigeria.

Focusing exclusively on PwC Nigeria allows for a detailed examination of the firm's readiness, capacity, and experience in integrating digital technologies into fraud prevention and detection efforts. Although the findings may have implications for other audit firms and the wider profession, the study acknowledges the scope is deliberately narrowed to ensure depth and relevance. This focused approach also considers limitations related to data access and organizational confidentiality.

The significance of this study lies in its contribution to improving fraud prevention capabilities through digital audit innovation at a leading Nigerian audit firm. The findings will offer practical guidance for audit professionals, inform policymakers and regulators on creating supportive frameworks, and encourage technological advancement in the auditing sector. Ultimately, the study aspires to enhance the transparency, accountability, and trustworthiness of audit services at PwC Nigeria, supporting sustained confidence among investors and stakeholders in the country's financial reporting landscape.

Conceptual Review

Digital Audit Technologies: A Paradigm Shift in Auditing at PwC Nigeria

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

The adoption of digital audit technologies represents a fundamental shift in auditing, offering enhanced opportunities to strengthen fraud prevention and detection practices. For auditors at PwC Nigeria, operating within an environment marked by increasing fraud risks, understanding how digital tools are adopted and utilized is critical to safeguarding financial reporting integrity and mitigating fraudulent activities (Ogunleye & Fagbemi, 2022; Abdullahi & Mansor, 2015). This review examines the landscape of digital audit technologies adoption at PwC Nigeria and their implications for fraud prevention and detection.

Digital audit technologies encompass a broad range of tools and methodologies that leverage digital capabilities to streamline audit processes, analyze vast datasets, and detect anomalies that may indicate fraud. These include data analytics software, artificial intelligence (AI) and machine learning algorithms, robotic process automation, blockchain, and advanced audit analytics (Abiola, 2009). By automating routine tasks, improving data accuracy, and enhancing analytical capabilities, these technologies empower PwC auditors to identify fraud more efficiently and accurately.

The adoption of these technologies at PwC Nigeria is influenced by factors such as organizational culture, technological infrastructure, regulatory requirements, and the firm's internal capabilities (Stephenson, 2003). For instance, PwC Nigeria's commitment to innovation fosters a culture that supports digital transformation initiatives. However, challenges related to internet connectivity, regulatory clarity, and cybersecurity infrastructure affect the extent to which these technologies can be fully leveraged (Paul, 2015).

Challenges and Barriers to Implementing Digital Audit Technologies at PwC Nigeria

Despite the promising benefits, PwC Nigeria faces several challenges in fully integrating digital audit technologies for fraud prevention and detection (Aliyu & Hussaini, 2024; Carrier & Spafford, 2003). These challenges include:

Skill Gaps: Many audit professionals at PwC Nigeria may lack adequate training and expertise to maximize the use of sophisticated digital tools. Addressing these gaps requires targeted professional development and digital literacy programs (Bhasin, 2015).

Regulatory Constraints: Ambiguities in Nigeria's regulatory environment create uncertainties about the appropriate use of digital audit tools, which can deter full adoption. Clearer audit standards aligned with digital technologies are essential to support PwC Nigeria's digital initiatives (Bhasin, 2013).

Technological Infrastructure: Limitations in internet reliability, data management systems, and cybersecurity frameworks pose significant hurdles. These infrastructural challenges can impair effective deployment of digital audit solutions and compromise data integrity (Hermanson et al., 2006).

Cybersecurity Concerns: Given the sensitivity of audit data, fears over data breaches and cyber threats limit the extent to which PwC Nigeria can embrace digital tools confidently. Strengthening

cybersecurity protocols is paramount to building trust in digital audit processes (Jiawei & Micheline, 2011).

Opportunities for Overcoming Challenges

To address these barriers, PwC Nigeria can pursue several strategic initiatives:

Investment in Training: Continuous upskilling programs to improve auditors' digital competencies can bridge skill gaps and enhance technology adoption.

Advocacy for Regulatory Reforms: Engaging with regulators to update audit standards will create a supportive framework for digital audit practices.

Technological Upgrades: Investing in robust IT infrastructure, including secure data storage and high-speed internet, will facilitate seamless digital audit operations (Bharati, 2012).

Collaborative Knowledge Sharing: Encouraging inter-firm collaboration and dialogue with stakeholders can foster best practices and innovative solutions for digital audit challenges.

Impact of Digital Audit Technologies on Fraud Prevention and Detection at PwC Nigeria

Digital audit technologies significantly enhance PwC Nigeria's capacity to prevent and detect fraud through several key mechanisms:

Enhanced Analytical Capabilities: Tools powered by AI and machine learning enable auditors to analyze complex financial data efficiently and uncover subtle patterns indicative of fraudulent activity (Akinleye & Akadi, 2024; Albrecht et al., 2008). Automation allows for deeper and more comprehensive risk assessments.

Real-time Monitoring and Detection: Digital systems facilitate continuous transaction monitoring and real-time alerts, enabling PwC auditors to promptly identify and respond to suspicious activities, thereby reducing fraud impact (Ernest & Young, 2009).

Improved Audit Efficiency and Effectiveness: Automation of repetitive audit tasks frees auditors to focus on higher-value judgment areas, increasing audit coverage, accuracy, and timeliness (Moorthy et al., 2011). This leads to improved fraud detection outcomes and higher audit quality.

Theoretical Framework: Fraud Triangle Theory

This study is grounded in the Fraud Triangle Theory (FTT), originally conceptualized by Donald Cressey in 1953. Cressey's seminal research focused on individuals he termed "trust violators," who engaged in financial wrongdoing such as embezzlement. According to the theory, these individuals encounter a financial or personal pressure they feel unable to disclose, recognize an opportunity to exploit their position of trust within an organization, and rationalize their fraudulent actions to reconcile their behavior with their self-image as trustworthy persons (Cressey, 1973 as cited in Coenen, 2005; Adebisi & Gbegi, 2015).

The Fraud Triangle Theory posits three critical elements that must be present for fraud to occur:

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

Pressure: This refers to the motivation or incentive driving an individual to commit fraud. Pressures may arise from financial hardship, personal issues, employment-related demands, or other stressors that create a perceived need for illicit financial gain.

Opportunity: This element highlights the circumstances that enable fraud, typically due to weaknesses in organizational controls, oversight, or security. It reflects the individual's perceived ability to exploit gaps or loopholes within the organization's systems to misappropriate assets or manipulate information without immediate detection.

Rationalization: This involves the internal justification used by fraud perpetrators to excuse their behavior and neutralize feelings of guilt or ethical conflict. Rationalizations often allow individuals to align their fraudulent actions with their self-perception, minimizing internal resistance to wrongdoing.

Relevance to the Study

The Fraud Triangle Theory provides a robust framework for understanding the psychological and situational factors that contribute to fraudulent behavior, making it highly pertinent to this study focused on audit digitalization and its role in fraud prevention and detection at PwC Nigeria. In the Nigerian business environment, where audit practices are increasingly transitioning to digital platforms, it is essential to understand how these three elements manifest and interact within organizations.

By examining pressure, opportunity, and rationalization within the context of digitalized audits, this study can explore how digital audit technologies influence each element of the fraud triangle:

Digital tools can reduce opportunities for fraud by strengthening controls, automating transaction monitoring, and enhancing anomaly detection, thereby closing loopholes traditionally exploited by fraudsters.

Understanding the nature of pressures faced by employees and auditors, including organizational and financial stresses, can guide the development of supportive policies and interventions.

Digital auditization may also affect rationalization processes, as increased transparency and accountability foster ethical behavior and reduce justifications for misconduct.

Moreover, the Fraud Triangle Theory informs the design of strategies that PwC Nigeria and other organizations can implement to mitigate fraud risks effectively. By targeting the root causes—reducing pressures through employee support programs, minimizing opportunities via enhanced digital controls, and addressing rationalization by promoting a strong ethical culture—this study aims to contribute to improved fraud prevention and detection outcomes.

Ultimately, applying the Fraud Triangle Theory within the framework of audit digitalization highlights how technological innovations can complement traditional fraud risk management approaches, supporting auditors in safeguarding organizational integrity and financial reliability.

Empirical Review

Kosmas, Thulani & Edwin (2009) examined the effectiveness of digital auditing in detecting, investigating, and preventing bank frauds. The study used questionnaires, personal interviews, and document reviews, with a sample of thirty auditors from thirteen commercial banks and four audit firms in Zimbabwe. They found that the digital auditing department suffers from multiple challenges, including lack of needed material resources, technical know-how, interference from management, and unclear recognition of the profession. The study concluded that auditors must have the capacity, materially and technically, to improve their effectiveness in fraud prevention and detection.

Akabom-Ita (2012) investigated the empirical analysis of the impact of information technology on computerized auditing practice in Cross River state, Nigeria, using a self-administered interview where 40 interviews were conducted with various accounting professionals and employing ANOVA statistics to analyze the data. The study found that accounting professionals need to enhance their knowledge and skills of computerized accounting systems for the purpose of planning, directing, supervising, and reviewing the work performed. It concluded that professionals should better understand and evaluate their computerized accounting systems to enable them to carry out their functions more effectively.

Modugu & Anyaduba (2013) examined the role of forensic accounting in controlling financial fraud in Nigeria. The research evaluated the effectiveness of forensic accounting in fraud detection, corporate reporting, and internal control quality. Data were collected using a survey design from a sample of 143 respondents, and the statistical tools used for analysis were descriptive statistics. Findings revealed significant agreement on the effectiveness of forensic accounting in mitigating fraud. The study concluded that fraud is prevalent in the business environment and recommended specialization in forensic accounting and continuous monitoring of financial fraud. However, it did not consider the influence of technology on fraud detection.

Azih & Okoli (2015) investigated forensic accounting as a tool for efficient management in state-owned public sectors in Ebonyi State. The research evaluated forensic accounting techniques such as calculating economic damage, assessing bankruptcy levels, guiding reorganization, and addressing security fraud and business valuation. Data were collected through surveys of accountants, and mean and standard deviation were used for data analysis. Findings revealed that forensic accounting is essential for managing fraud and improving financial management. The study recommended increased training in forensic accounting but did not explore the technological aspects or influence of technology on fraud detection.

Oyedokun (2016) examined forensic accounting investigation techniques and their role in deterring fraudulent activities and corruption. The research evaluated the variety of forensic accounting methods used in investigations. Data were collected through content analysis, and the study identified techniques such as data mining, data matching, document reviews, computer-assisted reviews, litigation, arbitration, and mediation. Findings revealed that forensic accounting techniques are crucial

in mitigating investigation risks, although there is no standardized procedure for conducting forensic investigations. The study recommended that auditors and investigators be well-equipped with these methods. However, the research did not specify the most frequently used techniques by Nigerian practitioners nor the influence of technology in forensic accounting.

Imtihal & Raghad (2022) investigated the impact of digital auditing on improving the performance quality and reducing costs in private auditing firms and offices. The research sampled 20 auditing firms and 182 audit offices. Payroll costs and service quality were analyzed using traditional auditing techniques and digitized auditing techniques. The outcome of the research shows that the use of digital techniques saves time, effort, and costs and improves the overall quality of audits.

Methodology

This study employed a survey research design to investigate the effect of audit digitalization on fraud prevention and detection within PwC Nigeria. A descriptive approach was adopted to systematically collect data using structured questionnaires, which served as the primary instrument for gathering information from audit professionals within PwC Nigeria involved in fraud prevention and detection activities.

The population consisted of all audit professionals and relevant staff within PwC Nigeria engaged in audit digitalization and fraud-related processes. Given the specific focus, the population size was approximately 667 individuals. Using the Taro Yamane formula with a 5% margin of error, a sample size of 250 respondents was determined to provide reliable and representative results. Systematic sampling was employed to select participants, ensuring equal representation by choosing every k-th individual from the population list.

Data collection was conducted primarily online, with questionnaires distributed and responses collected through digital platforms. This method facilitated efficient access to respondents, enhanced response rates, and ensured timely completion of the survey. Secondary data from existing literature and internal audit reports were also reviewed to complement the primary data.

The collected data were analyzed using descriptive statistics to summarize key characteristics such as means, standard deviations, frequencies, and percentages. Additionally, Pearson's correlation coefficient was used to explore relationships between digital audit technology adoption, fraud prevention effectiveness, and implementation challenges. Statistical significance tests were applied to confirm the validity of these relationships and support the study's conclusions.

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

Results

Table 1: Descriptive Statistics on assessing the current level of adoption and utilization of digital audit technologies.

Metric	Mean	Median	Standard Deviation	Min	Max
Percentage of audit firms using digital audit tools	60%	65%	12%	45%	80%
Integration of digital tools into audit processes (%)	55%	60%	10%	40%	75%

Source: *Eviews 11 Output, 2025*

Table 1 presents the descriptive statistics on the adoption and integration of digital audit tools by auditors at PwC Nigeria. The data indicate that, on average, 60% of respondents reported the use of digital audit tools in their audit engagements. This suggests a moderately high level of digital tool adoption among PwC auditors, with a standard deviation of 12%, highlighting some variability in usage across audit teams. Additionally, the integration of digital tools into audit processes shows an average rate of 55%, with a standard deviation of 10%. This indicates that while digitalization is gaining traction within PwC Nigeria, full integration into audit workflows is still progressing gradually. These findings suggest that although the firm is actively engaging in digital audit practices, there is room for deeper integration to fully leverage the benefits of digitalization in enhancing fraud prevention and detection.

Table 2: Frequency Table Identifying key challenges and barriers hindering effective implementation of audit digitalization.

Challenge	Frequency
Lack of skilled personnel	25%
Regulatory constraints	30%
Technological infrastructure	20%
Cybersecurity vulnerabilities	25%

Source: *Eviews 11 Output, 2025*

Table 2 highlights the key challenges identified by auditors at PwC Nigeria in implementing audit digitalization effectively. Regulatory constraints emerged as the most frequently cited barrier, reported by 30% of respondents. This suggests that existing audit regulations and standards may not be adequately aligned with the dynamic requirements of digital tools and technologies, potentially limiting their application in fraud detection and prevention. Cybersecurity vulnerabilities were also a major concern, identified by 25% of respondents, underscoring the risks associated with data breaches and

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

the need for robust digital safeguards. A lack of skilled personnel was noted by another 25%, reflecting a gap in digital competency among some audit professionals. Technological infrastructure issues, such as inadequate systems or unreliable connectivity, were reported by 20% of the participants. These findings indicate that while PwC Nigeria is advancing in digital adoption, several institutional and structural barriers must be addressed to optimize the use of digital audit tools for fraud-related engagements.

Table 3: Descriptive Statistics on the potential impact of audit digitalization on fraud prevention and detection practices.

Impact Measure	Mean	Median	Standard Deviation	Min	Max
Effectiveness in enhancing audit efficiency (%)	70%	75%	8%	60%	85%
Improvement in audit accuracy (%)	65%	70%	7%	55%	80%
Timeliness of audit processes (%)	75%	80%	6%	65%	85%
Impact on audit quality	4.2	4.3	0.4	3.8	4.7
Stakeholder confidence rating	4.0	4.1	0.3	3.6	4.5

Source: *Eviews 11 Output, 2025*

Table 3 presents descriptive statistics reflecting auditors' perceptions at PwC Nigeria regarding the potential impact of audit digitalization on fraud prevention and detection practices. On average, respondents reported that digital audit tools contribute to a 70% improvement in audit efficiency, suggesting that automation and advanced analytics reduce manual workload and streamline fraud detection workflows. Accuracy of audits was also reported to improve by an average of 65%, highlighting the capacity of digital tools to reduce errors and identify anomalies in financial data with greater precision.

Moreover, the timeliness of audit processes was notably enhanced, with an average improvement of 75%, indicating that real-time data processing and continuous monitoring tools accelerate the identification and resolution of potential fraud issues. The impact on audit quality was rated at 4.2 out of 5, while stakeholder confidence received a rating of 4.0, both pointing to positive institutional perceptions. These findings affirm that audit digitalization at PwC Nigeria significantly strengthens the reliability and responsiveness of fraud-related engagements, reinforcing both internal audit credibility and external trust among stakeholders.

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

Test of Hypotheses

Table 4: Correlation Analysis

Variables	Pearson's Correlation	p-value	Interpretation
Adoption of digital audit technologies	1.00	--	Perfect positive correlation
Utilization of digital audit technologies	0.85	<0.001	Strong positive correlation, significant difference

Source: *Eviews 11 Output, 2025*

Restatement of the hypothesis 1 (H_{01}): There is no significant difference in the adoption and utilization of digital audit technologies among auditors at PwC Nigeria for fraud prevention and detection purposes.

Table 4 reveals a strong and statistically significant positive correlation ($r = 0.85$, $p < 0.001$) between the adoption and utilization of digital audit technologies by auditors at PwC Nigeria. This suggests that as the level of adoption increases, the actual integration and application of these technologies in fraud prevention and detection practices also increase correspondingly. Given the significance of the p-value, we reject the null hypothesis (H_{01}) and conclude that a significant difference exists between the levels of adoption and utilization, implying that while digital tools may be widely adopted in principle, their practical application in audit activities varies and warrants closer alignment for maximum impact.

Table 5: Analysis of key challenges and barriers hindering the effective implementation of audit digitalization for fraud prevention and detection among auditors at PwC Nigeria.

Challenges	Skill Gaps	Regulatory Constraints	Technological Infrastructure	Cybersecurity Vulnerabilities
Skill Gaps	1.00	0.60	0.45	0.55
Regulatory Constraints	0.60	1.00	0.70	0.65
Technological Infrastructure	0.45	0.70	1.00	0.50
Cybersecurity Vulnerabilities	0.55	0.65	0.50	1.00

Source: *Eviews 11 Output, 2025*

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

Restatement of the hypothesis 2 (H_{02}): There is no significant relationship between the key challenges and barriers hindering the effective implementation of audit digitalization for fraud prevention and detection among auditors at PwC Nigeria.

Table 5 displays the correlation coefficients among the four major barriers to the effective implementation of audit digitalization at PwC Nigeria. The analysis shows moderate to strong positive correlations, ranging from 0.45 to 0.70, among the variables. The strongest correlation (r = 0.70) exists between regulatory constraints and technological infrastructure, suggesting that limitations in technological capacity may be significantly influenced by regulatory inadequacies. Similarly, regulatory constraints are moderately correlated with cybersecurity vulnerabilities (r = 0.65) and skill gaps (r = 0.60), indicating interrelated systemic challenges.

The presence of these statistically relevant interrelationships among the barriers demonstrates that the challenges to audit digitalization are not isolated but mutually reinforcing. Given this finding, the null hypothesis (H_{02}) is rejected. Therefore, there is a significant relationship between the key challenges, implying that overcoming one barrier may simultaneously reduce the severity of others. This emphasizes the need for an integrated approach to addressing implementation issues—particularly through policy reform, infrastructure investment, skills development, and enhanced cybersecurity frameworks within PwC Nigeria's audit operations.

Table 6: Analysis of impact of audit digitalization on fraud prevention and detection practices among auditors at PwC Nigeria.

Impact Measures	Efficiency	Accuracy	Timeliness	Audit Quality	Stakeholder Confidence
Efficiency	1.00	0.75	0.85	0.80	0.70
Accuracy	0.75	1.00	0.90	0.85	0.75
Timeliness	0.85	0.90	1.00	0.95	0.80
Audit Quality	0.80	0.85	0.95	1.00	0.85
Stakeholder Confidence	0.70	0.75	0.80	0.85	1.00

Source: *Eviews 11 Output, 2025*

Restatement of the hypothesis 3 (H_{03}): There is no significant impact of audit digitalization on fraud prevention and detection practices among auditors at PwC Nigeria.

Table 6 presents the correlation coefficients among key impact dimensions of audit digitalization, specifically within the operational context of PwC Nigeria. The results reveal strong positive correlations across all variables, with coefficients ranging from 0.70 to 0.95, indicating a high degree of interdependence between digital audit capabilities and their fraud mitigation outcomes.

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

The strongest correlation (r = 0.95) exists between timeliness and audit quality, suggesting that real-time digital auditing enhances audit reliability and depth.

Timeliness also correlates strongly with accuracy (r = 0.90), reflecting how prompt access to digital audit data may lead to more precise fraud detection.

Audit quality and stakeholder confidence are similarly related (r = 0.85), implying that improved audit outcomes via digital tools increase trust in the financial reporting process.

Even the lowest coefficient (r = 0.70 between efficiency and stakeholder confidence) still indicates a substantial relationship, affirming the perceived value of digital auditing in boosting external trust.

Given the consistently strong and statistically meaningful correlations, the null hypothesis (H_{03}) is rejected. The analysis clearly indicates that audit digitalization has a significant positive impact on key aspects of fraud prevention and detection—namely audit efficiency, accuracy, timeliness, quality, and stakeholder confidence.

This reinforces the conclusion that adopting and utilizing digital audit technologies at PwC Nigeria meaningfully enhances the firm's capacity to detect and prevent fraud, while simultaneously elevating the credibility and reliability of its audit outcomes.

Summary of Findings

The findings of this study indicate a moderately encouraging level of digital audit technology adoption among auditors at PwC Nigeria. On average, 60% of respondents reported the use of digital audit tools, with a 12% standard deviation, while the extent of integration into fraud prevention and detection processes stood at 55%. This suggests that although digitalization efforts are in progress, full operational integration is yet to be realized. These results align with the assertions of Abdullahi and Mansor (2015) and Paul (2015), who noted that digital audit adoption in developing countries often lags due to uneven implementation and infrastructural constraints.

Key barriers hindering effective digitalization were also empirically confirmed. Regulatory constraints (30%) and cybersecurity vulnerabilities (25%) were the most prominent, followed by the lack of skilled personnel (25%) and technological infrastructure limitations (20%). Correlation analysis revealed moderate positive relationships among these challenges, such as between regulatory constraints and technological infrastructure (r = 0.70), and skill gaps and cybersecurity vulnerabilities (r = 0.55), indicating that these barriers are interconnected. These findings corroborate earlier observations by Bhasin (2013) and Hermanson et al. (2006), highlighting that digital audit success in emerging economies is strongly influenced by regulatory clarity, cybersecurity, and professional competency. However, the relatively high weight of regulatory issues as a barrier distinguishes this study, suggesting that within the Nigerian context, unclear or outdated audit standards may play a more dominant role than previously emphasized in international literature.

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication

On the impact of audit digitalization, respondents reported significant improvements: audit efficiency increased by an average of 70%, accuracy by 65%, and timeliness by 75%. Additionally, audit quality received a mean rating of 4.2 out of 5, while stakeholder confidence averaged 4.0. Correlation analysis further validated these perceptions, showing strong positive associations between these outcome variables—for example, between audit timeliness and quality ($r = 0.95$), and between audit quality and stakeholder confidence ($r = 0.85$). These results are consistent with the findings of Albrecht et al. (2008) and Moorthy et al. (2011), who stressed the potential of digital audit tools to improve both operational effectiveness and stakeholder trust in audit outcomes. The statistically significant correlation between digital tool adoption and utilization ($r = 0.85$, $p < 0.001$) also leads to the rejection of the first null hypothesis, confirming that higher adoption leads to higher actual use—underscoring the need for targeted implementation strategies.

Furthermore, the study confirms that digital audit technologies are not only functionally relevant but also culturally and professionally transformative within the Nigerian audit context. While it aligns with international literature on the effectiveness of digital audits in improving fraud detection (Ernest & Young, 2009), it also bridges a critical local gap by offering specific insights into the Nigerian institutional and operational environment—particularly the underexplored role of sector-specific barriers such as regulation and skills mismatch in a top-tier firm like PwC.

Therefore, the study not only supports existing literature on the benefits and challenges of digital audit transformation but also extends the discourse by contextualizing it within a leading Nigerian audit firm. It bridges empirical and practical gaps by demonstrating how organizational readiness, regulatory reform, and technological investment jointly shape the trajectory of audit digitalization and its effectiveness in fraud prevention and detection.

Conclusion and Recommendations

The study concludes that digital audit technologies hold significant promise in strengthening fraud prevention and detection within the Nigerian audit landscape. While the adoption and integration of these technologies have shown encouraging progress, their potential is yet to be fully realized due to persistent challenges such as skill deficits, regulatory bottlenecks, and technological limitations. Nonetheless, the positive perceptions of digital tools among audit professionals—particularly in terms of improving audit quality, efficiency, and stakeholder trust—highlight the transformative potential of audit digitalization when effectively implemented. These findings align with existing literature that underscores the benefits of digital transformation in auditing, while also addressing context-specific gaps in the Nigerian environment, especially in high-stakes audit firms.

To harness these benefits fully, it is recommended that audit firms invest in continuous digital capacity building through targeted training and upskilling initiatives. Additionally, regulatory bodies and professional associations should introduce supportive frameworks that encourage technology adoption

while ensuring compliance and standardization. Promoting collaboration among stakeholders through forums and knowledge-sharing platforms will also be essential in overcoming implementation barriers. Finally, strategic investments in infrastructure and cybersecurity are vital to ensuring the safe and effective deployment of digital audit tools across the profession.

References

Abdullahi, R., & Mansor, N. (2015). Fraud triangle theory and fraud diamond theory: Understanding the convergent and divergent for future research. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 38-45.*

Abiola, I. (2009). An assessment of fraud and its management in Nigeria commercial banks. *European Journal of Social Science*, 10(4), 628-640.

Akabom-Ita, A. (2012). Empirical analysis of the impact of information technology on forensic accounting practice in Cross River state, Nigeria. *International Journal of Scientific and Technology Research, 1(7), 25-33.*

Akinleye, G. T., & Akadi, O. V. (2024). Forensic accounting and corporate fraud in deposit money banks in Nigeria. Journal of Financial Analysis and Investigation, 23(1), 98–115. https://accountingjournal.umyu.edu.ng/index.php/ujafr/article/view/108

Albrecht, W. S., Albrecht, C., & Albrecht, C. C. (2008). Current trends in fraud and its detection: *A global perspective. Information Security Journal, 17.* www.ebscohost.com

Alles, M. (2015). Drivers of the use and facilitators and obstacles of the evolution of Big Data by the audit profession. Accounting Horizons, 29(2), 439–449.

Aliyu, Y., & Hussaini, I. (2024). Forensic accounting and fraud management in public sector organisations in Nigeria. *TSU-International Journal of Accounting and Finance*, 3(1), 15–27. https://www.tsujournals.com/ijaf/vol3/iss1/2

Appelbaum, D., Kogan, A., & Vasarhelyi, M. A. (2017). Big Data and analytics in the modern audit engagement: Research needs. Auditing: *A Journal of Practice & Theory*, 36(1), 1–27.

Azih, N., & Okoli, B. E. (2015). Forensic accounting as a veritable tool for efficient management of state-owned public sectors in Ebonyi state: The accountants' perspective. *British Journal of Education*, 3(8), 55-62.

Bhasin, M. L. (2015). Fraud detection and forensic accounting issues in the banking sector. *European Journal of Business and Social Sciences*, 4(7), 1–12.

Bhasin, M. L. (2013). Corporate governance and forensic accountant: An exploratory study. JABM *Journal of Accounting-Business & Management, 20(2)*

Bharati, M. R. (2012). Data mining techniques and applications. *Indian Journal of Computer Science and Engineering, 1(4), 301-305.*

Carrier, B., & Spafford, E. H. (2003). Getting physical with the digital investigation process. *International Journal of Digital Evidence, 2(2), 4-14.*

Cressey, D. R. (1953). Other people's money. Montclair, NJ: Patterson Smith.

Ernest & Young (2009). Detecting financial statement fraud. http: www.ey.com/Publication/vww.LUAssets/FIDSFI Detecting Financial Statement Fraud.pdf.

Enofe, A. O., Abilogun, T. O., Elaiho, E. M., & Aliu, A. K. (2017). Digital environment and fraud prevention. *University of Port Harcourt Journal of Accounting and Business*, 4(2), 35-49.

Herbert, W. E., Tsegba, I. N., & Ogbodo, O. C. (2017). A comparative analysis of the use of forensic accounting techniques in the detection of fraud. *International Journal of Business and Social Science*, 8(8), 112–123.

Hermanson, D., Moran, B., Rossie, C., & Wolfe, D. (2006). Continuous monitoring of transactions to reduce fraud, misuse, and errors. *Journal of Forensic Accounting, 7(1), 17 – 30.*

Izedonmi, F., & Mgbame, C. O. (2011). Internal audit and the effectiveness of internal control systems. *Journal of Economics and International Finance*, 3(6), 412–420.

Jiawei, H., & Micheline, K. (2011). Data Mining Concepts and Techniques (3rd ed.). *Waltham, USA: Morgan Kauffman*.

Kosmas, N., Thulani, D., & Edwin, M. (2009). The effectiveness of forensic auditing in detecting, investigating, and preventing bank fraud. *Journal of Sustainable Development in Africa, 10(4), 405-425*.

Moorthy, M. K., Seetharaman, A., Muhamed, Z., Gopalan, M., & San, H. S. (2011). The impact of information technology on internal auditing. *African Journal of Business Management, 5(9), 3523-3539*.

Odeyemi, O., Ibeh, C. V., Mhlongo, N. Z., Asuzu, O. F., Awonuga, K. F., & Olatoye, F. O. (2024). Forensic accounting and fraud detection: A review of techniques in the digital age. *Finance & Accounting Research Journal*, 6(2), 202–214. https://doi.org/10.51594/farj.v6i2.788

Ogunleye, G. O., & Fagbemi, T. O. (2022). The role of forensic accounting in combating financial crimes in Nigeria's banking sector. *Journal of Money Laundering Control*, 25(3), 421–439. https://doi.org/10.1108/JMLC-01-2022-0001

Ojo-Agbodu, A. A., Adebayo, M. A., & Onyema, C. C. (2024).Impact of forensic accounting on fraud management: An examination of some selected deposit money banks in Nigeria. *International Journal of Research and Innovation in Social Science*, 8(5), 1648–1661. https://dx.doi.org/10.47772/IJRISS.2024.804119

Oyedokun, G., E. (2016). Forensic accounting investigation techniques: Any rationalisation? : https://ssrn.com/abstract=2910318

Paul, L. (2015). Auditing in a computer environment. *Certified Public Accountant (CPA) Journal, 1 (1), 1 – 6*.

PwC (2020). PwC Global Annual Review 2020: Our focus, your future. Retrieved from https://www.pwc.com/gx/en/about/global-annual-review-2020.html

Stephenson, P. (2003). A comprehensive approach to digital incident investigation. *Information Security Technical Report, 8(2), 42-52*.

American Journal of Information Technology and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2837-1038
Impact Factor: 8.51
Journal Homepage: https://americaserial.com/Journals/index.php/AJITM,
Email: contact@americaserial.com
Official Journal of America Serial Publication