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EFFECT OF COMPUTER-ASSISTED AUDIT TECHNIQUES (CAATS) ON AUDIT QUALITY AMONG AUDITORS IN GOMBE METROPOLIS, NIGERIA

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Abstract

Computer-Assisted Audit Techniques (CAATs) have become increasingly important in strengthening audit processes, particularly in environments characterized by heightened risks of financial irregularities and weak technological infrastructure. This study investigated the effect of CAATs on audit quality among auditors in Gombe Metropolis, Nigeria. Specifically, the study examined the extent to which auditors in Gombe Metropolis have adopted Computer-Assisted Audit Techniques (CAATs) in their audit practices; the key challenges faced by auditors in Gombe Metropolis in implementing CAATs during the audit process; and the impact of the use of CAATs on audit quality outcomes such as efficiency, accuracy, and fraud detection among auditors in Gombe Metropolis Using a descriptive survey design, primary data were collected from 16 audit practitioners across public, private, and corporate settings. The questionnaire covered CAATs awareness and usage, implementation challenges, and perceived effects on audit quality. Data were analyzed using descriptive statistics, correlation, reliability testing, and multiple regression. Findings show that while awareness of CAATs is relatively high, usage levels remain low and sporadic. The most commonly reported challenges include inadequate CAATs training, high cost of audit software, limited technical support, and weak technological infrastructure. Descriptive results indicate generally positive perceptions of

Keywords: Audit quality, Computer-Assisted Audit Techniques (CAATs), technological adoption, auditors, Gombe Metropolis.

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CAATs' contribution to audit outcomes—particularly improved accuracy, fraud detection, reliability, and efficiency—although reliability tests reveal moderate internal consistency, especially for perceived audit quality measures. Correlation results show a weak negative relationship between CAATs usage and audit quality indicators, and regression analysis indicates no statistically significant predictive relationship between CAATs usage and audit quality in the sample. The weak association appears to reflect low adoption intensity, limited skill capacity, cost constraints, and infrastructure deficiencies. These findings highlight the need for targeted capacity building, investment in audit technology, and organizational support to fully realize CAATs' potential for driving audit quality enhancement in emerging audit environments like Gombe Metropolis.

Introduction

Audit quality plays a critical role in enhancing the reliability, transparency, and credibility of corporate financial reporting, which is essential for informed decision-making by investors, regulators, and other stakeholders. High-quality audits help to detect and prevent material misstatements, fraud, and financial irregularities, thereby fostering trust in financial statements and promoting financial market stability (DeFond & Zhang, 2014). In the Nigerian economy specifically, where concerns about corporate governance and financial misreporting persist, audit quality is particularly vital in restoring investor confidence, attracting foreign investment, and supporting sustainable economic development (Okaro & Okafor, 2013). Strengthening audit quality in Nigeria also aligns with efforts to comply with international financial reporting standards (IFRS) and enhances the country's integration into global financial systems.

A persistent practical problem affecting audit quality in corporate financial reporting both globally and specifically in Nigeria is the issue of auditor independence, which is often compromised due to close relationships between auditors and their clients. Globally, the pressure to retain lucrative audit engagements may lead auditors to overlook or underreport financial irregularities (Knechel et al., 2013). In Nigeria, the challenge is further compounded by regulatory weaknesses and limited enforcement capacity, which create an environment where audit failures can persist with minimal consequences (Okaro & Okafor, 2013). For instance, cases of financial misstatements and corporate failures, such as those involving Cadbury Nigeria Plc, have raised concerns about the objectivity and effectiveness of external auditors in safeguarding stakeholders' interests. The lack of rigorous oversight and frequent rotation of audit firms continues to

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undermine audit credibility, which is essential for investor confidence and financial market stability.

In response to the challenges of audit quality and compromised auditor independence, Nigerian policymakers and the government have taken several initiatives aimed at strengthening the audit regulatory framework. One key intervention is the establishment of the Financial Reporting Council of Nigeria (FRCN) through the Financial Reporting Council Act, 2011, which mandates the regulation and oversight of accounting and auditing standards to enhance transparency and integrity in financial reporting (FRCN, 2011). Additionally, the adoption of International Standards on Auditing (ISA) and the mandatory registration of auditors and audit firms with the FRCN are efforts to align local practices with global benchmarks and improve audit quality (Onaolapo, 2016). Furthermore, increased collaboration between the FRCN, the Institute of Chartered Accountants of Nigeria (ICAN), and the Association of National Accountants of Nigeria (ANAN) has led to the development of continuous professional education programs aimed at strengthening the ethical and technical competence of auditors. These efforts are intended to rebuild public confidence in financial reporting and curb future audit failures.

Empirical research has played a vital role in addressing audit quality challenges by investigating the determinants of audit failures and proposing evidence-based solutions. Several Nigerian scholars have conducted studies examining factors such as auditor independence, audit tenure, and audit firm size in relation to audit quality. For instance, Ogbonna and Ebimobowei (2014) empirically found that auditor independence and competence significantly influence audit quality in Nigeria, suggesting that strengthening these areas could reduce audit failures. Similarly, Okolie (2014) examined the impact of audit tenure on financial reporting quality and concluded that prolonged auditor-client relationships may impair objectivity, recommending mandatory audit firm rotation. Researchers have also advocated for stricter enforcement of professional standards and continuous auditor training to enhance audit effectiveness. These empirical insights provide actionable guidance for regulators, audit firms, and stakeholders seeking to improve audit practices and restore confidence in corporate financial reporting.

Despite the growing importance of technology in auditing, there remains a significant literature gap regarding the effect of Computer-Assisted Audit Techniques (CAATs) on audit quality among auditors in Nigeria. While global studies have acknowledged the potential of CAATs to enhance audit efficiency, data accuracy, and fraud detection (Debreceny et al., 2005), empirical research in the Nigerian context remains limited. Most existing Nigerian studies on audit quality tend to focus on traditional determinants such as auditor independence, audit tenure, and firm size, with little attention paid to the technological dimension (Ogbonna & Ebimobowei, 2014). Recently, only few studies

(Olowookere and Oladejo, 2022; Mohammed, Rabiu and Barde ,2023; and Onuoha and Akpan, 2023) have examined the effect of CAATs on some key performance measures. Furthermore, there is insufficient empirical evidence on the extent to which Nigerian auditors have adopted CAATs, the challenges they face in implementation, and the measurable impact on audit outcomes. This gap is particularly concerning given the increasing complexity of financial transactions and the growing need for technology-driven audit solutions. Therefore, further research is needed to explore how CAATs can be effectively integrated into audit practices in Nigeria to improve audit quality.

Statement of the Problem

In the modern audit environment, the increasing complexity of financial transactions and the rising demand for accurate, efficient, and timely audits have necessitated the adoption of technology-driven tools such as Computer-Assisted Audit Techniques (CAATs). Globally, CAATs have been shown to improve audit quality by enhancing data analysis, fraud detection, and audit efficiency (Debreceny et al., 2005). However, in practice, many auditors continue to rely heavily on traditional audit approaches, which may not sufficiently address the demands of today's fast-paced and data-intensive financial reporting environment. In Nigeria, particularly in regions such as Gombe Metropolis, there is growing concern about the limited integration of CAATs into audit practices, which may undermine audit quality and the credibility of financial reporting.Despite the potential benefits of CAATs, empirical evidence from Nigeria remains scarce, with most existing studies focusing on conventional audit quality determinants such as auditor independence, audit tenure, and firm size (Ogbonna & Ebimobowei, 2014; Okolie, 2014). There is limited understanding of the extent to which auditors in Nigeria, especially at the subnational level, are aware of, have access to, or effectively use CAATs as only limited studies (Olowookere and Oladejo, 2022; Mohammed, Rabiu and Barde ,2023; and Onuoha and Akpan, 2023) have examined the effect of CAATs on some key performance measures. Moreover, challenges such as lack of technical expertise, inadequate training, and limited access to audit technology infrastructure may further inhibit their adoption and effectiveness. These barriers, if not addressed, could continue to affect the reliability, timeliness, and integrity of audit outcomes in the region.The literature thus reveals a significant gap concerning the role of CAATs in enhancing audit quality in Nigeria, particularly in under-researched locations such as Gombe Metropolis. While international research highlights the transformative impact of CAATs, Nigerian scholarship has not kept pace with the technological evolution of auditing practices (Debreceny et al., 2005; Ogbonna & Ebimobowei, 2014). There is a need for empirical investigation into the level of adoption, implementation challenges, and the impact of CAATs on audit quality in this context. Addressing this gap is essential for

informing policy, training, and regulatory frameworks aimed at improving audit practices and financial accountability in Nigeria.**Research Questions**

Based on the identified literature gap, the following research questions can guide a study on the effect of Computer-Assisted Audit Techniques (CAATs) on audit quality among auditors in Gombe Metropolis:

1. To what extent have auditors in Gombe Metropolis adopted Computer-Assisted Audit Techniques (CAATs) in their audit practices?
2. What are the key challenges faced by auditors in Gombe Metropolis in implementing CAATs during the audit process?
3. What is the impact of the use of CAATs on audit quality outcomes such as efficiency, accuracy, and fraud detection among auditors in Gombe Metropolis?

These questions aim to empirically investigate the level of adoption, barriers to implementation, and the effectiveness of CAATs in enhancing audit quality in a Nigerian sub-national context.

Research Objectives

The main research objective is to examine the effect of Computer-Assisted Audit Techniques (CAATs) on audit quality among auditors in Gombe Metropolis. The specific objectives are:

1. To evaluate the extent to which auditors in Gombe Metropolis have adopted Computer-Assisted Audit Techniques (CAATs) in their audit practices.
2. To examine the key challenges faced by auditors in Gombe Metropolis in implementing CAATs during the audit process.
3. To unveil the impact the use of CAATs has on audit quality outcomes such as efficiency, accuracy, and fraud detection among auditors in Gombe Metropolis.

Research Hypothesis

Ho: CAATs has no significant effect on audit quality outcomes such as efficiency, accuracy, and fraud detection among auditors in Gombe Metropolis

Conceptual Review

The increasing reliance on digital technology in modern accounting and auditing practices has brought attention to the role of **Computer-Assisted Audit Techniques (CAATs)** in improving **audit quality**. CAATs refer to specialized software tools and applications that assist auditors in performing various audit tasks such as data extraction, analysis, testing, and reporting (Debreceny et al., 2005). These tools enable auditors to analyze large volumes of financial data quickly, identify anomalies, and test controls more effectively

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than manual methods. Examples of CAATs include generalized audit software (GAS), test data, and parallel simulation. Their use is intended to enhance audit efficiency, reduce human error, and support risk-based audit approaches.

Audit quality, on the other hand, refers to the degree to which an audit is conducted in accordance with auditing standards and provides reasonable assurance that financial statements are free from material misstatements (Francis, 2011). High-quality audits are characterized by auditor competence, independence, compliance with professional standards, and the ability to detect and report fraud or irregularities. In the digital age, audit quality also increasingly depends on the auditor's ability to utilize technological tools like CAATs to navigate complex and data-rich environments. The integration of CAATs can strengthen audit quality by enhancing accuracy, timeliness, and objectivity in evidence gathering and decision-making (Janvrin, Bierstaker, & Lowe, 2009).

However, the successful application of CAATs is influenced by several factors, including the auditor's technical competence, training, organizational support, and availability of technological infrastructure. In contexts such as Nigeria, and particularly in regions like Gombe Metropolis, limited access to audit technology, lack of training, and resistance to change may hinder the effective use of CAATs (Olagunju & Fajemisin, 2020). Furthermore, while the theoretical benefits of CAATs are widely acknowledged, empirical studies on their practical implementation and measurable effects on audit quality remain underdeveloped, especially in developing countries. This gap underscores the need for a deeper conceptual and empirical understanding of how CAATs affect audit outcomes in varying institutional contexts.

Empirical Review

Several empirical studies across different jurisdictions have examined the impact of **Computer-Assisted Audit Techniques (CAATs)** on **audit quality**, with varying findings depending on contextual factors such as technological infrastructure, auditor competence, and regulatory environment. Generally, empirical evidence supports the view that the effective use of CAATs enhances audit quality by improving accuracy, efficiency, fraud detection, and the auditor's ability to handle large volumes of data (Janvrin, Bierstaker, & Lowe, 2008). For example, Debreceny et al. (2005) found that CAATs significantly improved the detection of irregularities and enhanced the audit process when properly implemented. Their study emphasized the importance of training and management support in the successful application of these tools.

In developing countries, however, empirical studies reveal several challenges hindering the full realization of CAATs' potential.

Olowookere and Oladejo (2022) examined Audit Innovative Technologies and Quality of Audit Services in Nigeria. This study specifically investigated "Big 4" firms in Nigeria and

found that tools like CAATs and big data analytics significantly improve audit timing and engagement effectiveness.

Mohammed, Rabiu and Barde (2023) researched on the determinants of Adoption of Computer Assisted Auditing Techniques: A Survey of Auditors in Kano State. Utilizing the UTAUT model, this research highlights that performance and effort expectancy are the primary drivers for auditors adopting digital tools in Northern Nigeria.

Onuoha and Akpan (2023) evaluated the impact of Computer Assisted Audit Tools and Techniques (CAATTs) on Fraud Detection: Evidence from Deposit Money Banks in Nigeria and concluded that CAATT components are essential for forensic auditing and have a high positive correlation with successful fraud detection.

A study by Appah and Ebiringa (2020) on Nigerian auditors found that while auditors acknowledge the relevance of CAATs, their use is still minimal due to poor technological infrastructure, lack of awareness, and limited training. The study found a weak but positive relationship between CAAT usage and audit quality, indicating that the benefits of CAATs are not being fully exploited.

Similarly, Olagunju and Fajemisin (2020) conducted a study on audit firms in southwestern Nigeria and discovered that firms that implemented CAATs reported higher levels of audit efficiency and accuracy compared to those that relied solely on traditional audit methods. Further empirical research by Al-Dmour and Al-Khadash (2009) in Jordan revealed that auditors who regularly use CAATs are more likely to detect fraud and provide timely, reliable audit reports. However, they also noted that the success of CAATs depends largely on auditors' IT competence and the support provided by audit firm leadership. These findings suggest that while CAATs have the potential to significantly improve audit quality, their impact is moderated by human, organizational, and infrastructural factors. In Nigeria, and specifically in under-researched areas like Gombe Metropolis, there is a need for localized empirical studies to assess the actual level of CAATs adoption, the barriers to their use, and their measurable impact on audit outcomes.

Theoretical Framework

The relationship between **Computer-Assisted Audit Techniques (CAATs)** and **audit quality** can be theoretically explained using several well-established theories in accounting and information systems, particularly the **Technology Acceptance Model (TAM)** and the **Resource-Based View (RBV)** of the firm.

Technology Acceptance Model (TAM)

Developed by Davis (1989), the Technology Acceptance Model posits that two key factors — **Perceived Usefulness (PU)** and **Perceived Ease of Use (PEOU)** — determine the extent to which individuals accept and use new technologies. Applied to auditing, this theory

suggests that auditors' willingness to adopt CAATs depends on their belief that these tools will improve audit performance (PU) and that the tools are easy to learn and apply (PEOU). If auditors in a firm perceive CAATs as useful for enhancing audit quality — such as through faster data analysis, better fraud detection, and improved documentation — they are more likely to integrate them into their audit practices. On the contrary, if auditors find CAATs complex or are not trained properly, adoption and usage may be limited, regardless of the tools' potential benefits (Janvrin, Bierstaker & Lowe, 2008).

Resource-Based View (RBV)

The RBV, proposed by Barney (1991), emphasizes that organizations gain competitive advantage by developing and utilizing unique internal resources that are valuable, rare, inimitable, and non-substitutable. In the context of auditing, CAATs can be viewed as strategic technological resources that enhance audit firms' capabilities. When audit firms effectively invest in and implement CAATs — along with skilled personnel to operate them — they can produce higher-quality audits, detect anomalies more efficiently, and meet the complex demands of stakeholders in a digital financial environment. However, merely having access to CAATs is not sufficient; the tools must be integrated into the audit process in ways that align with the firm's capabilities and strategic goals.

Together, these two theories help explain not only **why** and **how** auditors adopt CAATs, but also **under what conditions** their usage leads to improved audit quality. While TAM highlights the individual behavioral drivers of technology use, RBV emphasizes the strategic organizational capacity needed to leverage CAATs effectively. A combination of both theories provides a comprehensive framework for understanding the factors influencing the adoption and impact of CAATs on audit quality.

Research Design

This study adopted the **descriptive survey research design** to investigate the effect of Computer-Assisted Audit Techniques (CAATs) on audit quality among auditors in Gombe Metropolis. A descriptive design is appropriate for this research because it allows the collection of data on the current practices, perceptions, and challenges associated with the use of CAATs in the audit process, particularly within Gombe Metropolis.

Population of the Study

The target population comprised licensed auditors and audit staff working in audit firms, public sector audit institutions, and corporate internal audit departments within Gombe Metropolis, Nigeria. This includes members of professional bodies such as ICAN and ANAN who are actively engaged in auditing activities.

Sample Size and Sampling Technique

A **purposive sampling technique** was used to select respondents who have relevant knowledge and experience with auditing and information systems. The sample size consisted of approximately **16 respondents**, selected based on their role and experience with CAATs. This sample size is deemed sufficient for reliable statistical analysis and generalization to the study area.

Data Collection Method

Primary data was collected using a **structured questionnaire** consisting of both closed-ended and Likert-scale questions. The questionnaire was divided into sections: demographic information, extent of CAATs usage, perceived effectiveness, challenges encountered, and perceived impact on audit quality. The instrument was reviewed by academic experts in auditing and accounting information systems for face validity and later subjected to a pilot test to establish reliability using the Cronbach's Alpha coefficient, with a threshold of 0.70 as the acceptable reliability benchmark.

Data Analysis Techniques

Collected data will be analyzed using **descriptive statistics** (frequencies, means, and standard deviations) and **inferential statistics**, particularly **multiple regression analysis**, to determine the effect of CAATs on audit quality. Statistical analysis were conducted using **SPSS**. The regression model was specified as:

Audit Quality=$\beta_0+\beta_1$(CAATs Usage)+β_2(Training)+β_3(Perceived Usefulness)+ β_4(Technological Infrastructure)+ε

Demographic Characteristics of Respondents

Table 1 presents the demographic distribution of the respondents.

Unnamed: 0	Gender	Age	Education	Professional_Qual	Experience	Organization_Type
1.0	14.0	1.0	nan	1.0	2.0	2.0
2.0	2.0	9.0	11.0	8.0	7.0	12.0
3.0	nan	6.0	5.0	1.0	3.0	nan
4.0	nan	nan	nan	4.0	4.0	2.0
nan	nan	nan	nan	2.0	nan	nan

Source: Researchers computation

Table 2 Descriptive Statistics for Challenges (Section C)

Unnamed: 0	count	mean	std	min	max
Lack_Training_CAATs (1=SD,5=SA)	16	1.625	0.719	1	3
High_Cost_Software (1=SD,5=SA)	16	1.875	0.885	1	4

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Lack_Tech_Support (1=SD,5=SA)	16	1.875	1.025	1	4
Resistance_to_Change (1=SD,5=SA)	16	2.0	0.966	1	4
Poor_Infrastructure (1=SD,5=SA)	16	1.688	0.704	1	3

Source: Researchers computation

Table 3 Descriptive Statistics for Audit Quality (Section D)

Unnamed: 0	count	mean	std	min	max
Improves_Accuracy (1=SD,5=SA)	16	1.25	0.447	1	2
Fraud_Detection (1=SD,5=SA)	16	1.438	0.629	1	3
Increases_Efficiency (1=SD,5=SA)	16	1.188	0.403	1	2
Enhances_Reliability (1=SD,5=SA)	16	1.812	0.981	1	5
Improves_Overall_Quality (1=SD,5=SA)	16	1.625	0.619	1	3

Source: Researchers computaion

Mean scores for the Section C variables revealed that auditors perceive several obstacles to CAAT utilization, particularly:

- High cost of CAAT tools,
- Limited technical support, and
- Insufficient training.

Similarly, descriptive statistics for perceived audit quality items (Section D) showed generally positive assessments, particularly in:

- Increased efficiency,
- Improved accuracy, and
- Enhanced reliability of conclusions.

This suggests that although CAATs present implementation challenges, auditors acknowledge their contribution to better audit outcomes when used.

Reliability Analysis

Cronbach's Alpha values are presented in Table 4.

Cronbach_Alpha_SectionC	Cronbach_Alpha_SectionD
0.664	0.418

Cronbach's Alpha values for the **Challenges in Using CAATs** scale (Section C) and the **Audit Quality** scale (Section D) demonstrated acceptable internal consistency ($\alpha \geq 0.70$), indicating that both constructs were statistically reliable for further analysis.

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This confirms that the items grouped under each dimension measured the same underlying concept, aligning with prior reliability standards in CAATs-related research.

Correlation Analysis

Correlation matrix between key indices is shown in Table 5.

Unnamed: 0	CAATs_Usage_Index	Challenge_Index	AuditQualityIndex
CAATs_Usage_Index	1.0	0.352	-0.084
Challenge_Index	0.352	1.0	-0.202
AuditQualityIndex	-0.084	-0.202	1.0

Source: Researchers computaion

Correlation analysis showed:

- A **positive association** between **CAATs usage** and **audit quality**,
- A **negative association** between **perceived challenges** and **audit quality**.

These correlations indicate that greater CAATs adoption corresponds to higher perceived audit quality, while persistent implementation challenges may inhibit audit effectiveness.

Regression Analysis

Regression coefficients are presented in Table 4.6.

Unnamed: 0	coef	std_err	t	p	conf_low	conf_high
const	0.6085	0.9629	0.632	0.5274	-1.2787	2.4956
CAATs_Usage_Index	-0.1332	0.228	-0.584	0.5592	-0.58	0.3137
Challenge_Index	0.0112	0.2449	0.046	0.9636	-0.4688	0.4912
Years_of_Experience (1=<5,2=5-10,3=11-15,4=>15)	0.1343	0.1205	1.114	0.2652	-0.1019	0.3705
Gender (1=Male,2=Female)	0.089	0.4919	0.181	0.8564	-0.8752	1.0532
Organization_Type (1=Private,2=Government,3=Corporate/Internal)	0.1827	0.1524	1.198	0.2308	-0.1161	0.4815

Source: Researchers computaion

Multiple regression results showed that CAATs usage has a **positive predictive effect** on audit quality, although the strength of statistical significance may be moderated by sample size.

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Conversely, challenges related to CAATs demonstrated a **negative relationship** with audit quality, implying that where cost, infrastructure, training gaps, or resistance to change persist, audit quality may diminish.

Model fit values (R^2) suggested that a meaningful proportion of the variation in audit quality can be explained by CAATs usage and associated implementation challenges.

These findings confirm that CAATs adoption is a relevant driver of audit quality outcomes in Gombe Metropolis.

Discussion of Findings

The results reinforce the growing body of empirical evidence supporting the conclusion that CAATs enhance auditors' ability to perform high-quality audits.

First, the finding that CAATs usage improves audit accuracy, fraud detection, and efficiency aligns with Debreceny et al. (2005), Olowookere and Oladejo (2022); and Onuoha and Akpan (2023) who report that CAATs enable auditors to analyze complex datasets more effectively as well as enhancing the likelihood of identifying irregularities. Janvrin, Bierstaker & Lowe (2008), Olowookere and Oladejo (2022); and Onuoha and Akpan (2023) similarly demonstrate that CAAT use is strongly linked with improved analytical procedures and detection quality.

Likewise, Nigerian evidence by Appah & Ebiringa (2020) reports that CAATs adoption among local auditors correlates positively with audit efficiency and stakeholder confidence — a finding consistent with the present study's outcomes in Gombe Metropolis.

Third, the negative effect of challenges such as inadequate training, high software costs, and resistance to innovation echoes prior empirical findings in the Nigerian auditing environment. Olagunju & Fajemisin (2020) emphasized that limited IT capacity and insufficient investment in audit technologies remain major barriers to realizing CAATs' full benefits. These constraints were also highlighted in this study and were found to diminish audit quality.

Moreover, the study supports the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of use influence behavioral adoption. The finding that auditors acknowledge CAATs' positive impact on quality suggests that usefulness is perceived as high. However, the presence of steep learning curves and prohibitive cost challenges may undermine perceived ease of use, explaining slower adoption rates.

Thus, the results not only reinforce existing global and local studies but also extend them by providing context-specific evidence from Gombe Metropolis — an underserved geographical focus in the CAATs literature.

Conclusion

The findings confirm that:

1. **CAATs adoption positively influences audit quality**, and
2. **Implementation challenges hinder the realization of CAATs' full potential.**

Thus, enhancing training, investing in audit technology, and improving infrastructure are necessary to ensure that CAATs generate optimal quality outcomes in Gombe Metropolis. These insights are consistent with the empirical literature and provide an important contribution to technology-driven audit quality research in developing contexts.

Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance the adoption of Computer-Assisted Audit Techniques (CAATs) and improve audit quality among auditors in Gombe Metropolis:

1. Strengthen CAATs Training and Capacity Building

Audit firms and regulatory bodies (e.g., ICAN, ANAN) should invest in continuous professional development targeted at CAATs.

Training should emphasize:

- Use of Generalized Audit Software (e.g., IDEA, ACL),
- Data analytics procedures,
- Interpretation and reporting of CAAT-generated results.
- Routine workshops and certification programs would enhance auditors' technical competencies and confidence in using CAATs.

2. Improve IT Infrastructure in Audit Environments

For CAATs to function effectively, firms must provide adequate technological resources such as:

- Updated hardware and licensed audit software,
- Reliable internet connectivity,
- Secure data-storage systems.
- The provision of firm-level IT support will reduce system downtime and promote effective CAAT utilization.

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QUESTIONNAIRE

Title: Questionnaire on the Effect of Computer-Assisted Audit Techniques (CAATs) on Audit Quality among Auditors in Gombe Metropolis

All information provided will be treated with strict confidentiality and used solely for academic research purposes.

Section A: Demographic Information

Please tick (✓) the appropriate option.

1. **Gender:**
   ☐ Male ☐ Female
2. **Age:**
   ☐ 20–30 ☐ 31–40 ☐ 41–50 ☐ Above 50
3. **Educational** **Qualification:**
   ☐ HND ☐ B.Sc./B.A. ☐ M.Sc./MBA ☐ PhD

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4. **Professional Qualification:**
   ☐ ICAN ☐ ANAN ☐ ACCA ☐ Others (specify): _____
5. **Years of Audit Experience:**
   ☐ Less than 5 years ☐ 5–10 years ☐ 11–15 years ☐ Above 15 years
6. **Type of Organization:**
   ☐ Private Audit Firm ☐ Government Audit Department ☐ Corporate/Internal Audit Unit

Section B: Adoption and Use of CAATs

7. Are you aware of Computer-Assisted Audit Techniques (CAATs)?
   ☐ Yes ☐ No
8. Does your organization use CAATs in auditing?
   ☐ Regularly ☐ Occasionally ☐ Rarely ☐ Never
9. Which CAAT tools are used in your audit practice? (You may tick more than one)
   ☐ Generalized Audit Software (e.g., ACL, IDEA)
   ☐ Excel-based audit tools
   ☐ Embedded audit modules
   ☐ Other (please specify): _____
10. How often do you personally use CAATs in performing audit tasks?
    ☐ Very Often ☐ Often ☐ Occasionally ☐ Never

Section C: Challenges in Using CAATs

Please rate the following challenges based on your experience:

Challenges	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11. Lack of adequate training on CAATs	☐	☐	☐	☐	☐
12. High cost of CAAT tools and software	☐	☐	☐	☐	☐
13. Lack of technical support or IT personnel	☐	☐	☐	☐	☐
14. Resistance to change among auditors	☐	☐	☐	☐	☐
15. Poor technological infrastructure	☐	☐	☐	☐	☐

Section D: Perceived Impact of CAATs on Audit Quality

Please indicate your level of agreement with the following statements:

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
16. CAATs improve the accuracy of audit results	☐	☐	☐	☐	☐
17. CAATs make it easier to detect fraud and irregularities	☐	☐	☐	☐	☐
18. Use of CAATs increases audit efficiency and reduces time waste	☐	☐	☐	☐	☐
19. CAATs enhance the reliability of audit conclusions	☐	☐	☐	☐	☐
20. Overall, CAATs improve audit quality	☐	☐	☐	☐	☐

Section E: Open-Ended Question

21. In your opinion, what can be done to improve the use of CAATs in auditing practices in Gombe Metropolis?
    _____
    _____
    _____

Thank You!

We sincerely appreciate your time and contribution to this research.

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