Artificial Intelligence and the Future of Accounting Practice: Evidence from Selected Accounting Firms in Nigeria

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DOI: https://doi.org/10.47772/IJRISS.2026.101100287

Received: 02 November 2026; Accepted: 07 November 2026; Published: 25 November 2026

ABSTRACT

This study examined the impact of artificial intelligence on the future of accounting practice in selected accounting firms in Nigeria. The rapid integration of AI technologies—such as machine learning, robotic process automation, and natural language processing—into accounting workflows has generated significant debate regarding the transformation of traditional accounting roles, the enhancement of audit quality, and the potential displacement of human accountants. Using a descriptive survey design, data were collected from 120 professional accountants across twelve registered accounting firms in Lagos and Abuja. The study employed descriptive statistics, correlation analysis, and multiple regression to test three hypotheses. Findings revealed that AI adoption has a significant positive effect on audit efficiency ($\beta = 0.298$, $p < 0.05$), financial statement analysis ($\beta = 0.329$, $p < 0.05$), and fraud detection capability ($\beta = 0.256$, $p < 0.05$). However, respondents expressed concerns about job security, ethical implications, and the adequacy of existing regulatory frameworks. The study concluded that while AI presents transformative opportunities for the accounting profession in Nigeria, its successful integration requires deliberate investment in workforce reskilling, ethical guidelines, and adaptive regulatory policies. Recommendations were made for accounting firms, professional bodies, and policymakers to facilitate a human-AI collaborative future.

Keywords: artificial intelligence, accounting practice, audit quality, robotic process automation, Nigeria, future of accounting

INTRODUCTION

Background to the Study

The accounting profession is undergoing a profound transformation driven by the rapid advancement of artificial intelligence (AI) and related technologies. AI, broadly defined as the simulation of human intelligence processes by computer systems, encompasses machine learning, natural language processing, robotic process automation (RPA), and predictive analytics (Kokina & Davenport, 2017). These technologies are increasingly being deployed in accounting firms worldwide to automate routine tasks, enhance data analysis, improve audit quality, and deliver strategic insights to clients. The global market for AI in accounting is projected to reach $4.8 billion by 2028, reflecting the growing recognition of AI's potential to reshape professional services (Marr, 2023).

In Nigeria, the accounting profession is governed by the Institute of Chartered Accountants of Nigeria (ICAN) and the Association of National Accountants of Nigeria (ANAN), with approximately 50,000 registered members serving diverse clients across public practice, commerce, and industry (ICAN, 2024). Nigerian accounting firms range from small practitioner offices to large multinational affiliates such as the Big Four firms—Deloitte, PwC, EY, and KPMG. These firms are increasingly investing in AI-powered tools for audit sampling, risk assessment, transaction monitoring, and financial forecasting. However, the pace and depth of AI adoption vary considerably across firm sizes, with larger firms generally leading the technological transition

while smaller practices lag behind due to cost constraints and limited technical expertise (Adeyemi & Olaoye, 2022).

The implications of AI for accounting practice extend beyond operational efficiency to fundamental questions about the future roles of accountants, the nature of professional judgment, and the ethical boundaries of automated decision-making. Proponents argue that AI liberates accountants from mundane compliance tasks, enabling them to focus on higher-value advisory services such as strategic planning, risk management, and business consulting (Cooper & Holderness, 2018). Critics, however, warn that unchecked AI adoption may erode professional skepticism, create accountability gaps, and displace entry-level accounting positions, particularly in developing economies where labour-intensive audit methods have traditionally provided employment for large numbers of young professionals (Frey & Osborne, 2017).

The Nigerian context presents unique opportunities and challenges for AI integration in accounting. On one hand, the country's large population, growing digital economy, and increasing regulatory demands create a compelling case for technology-driven efficiency gains. On the other hand, infrastructure deficits—including unreliable electricity, limited broadband penetration in rural areas, and high data costs—constrain the deployment of computationally intensive AI systems (Eze & Chidozie, 2021). Furthermore, the Nigerian regulatory environment has not yet developed comprehensive guidelines for AI use in auditing and financial reporting, creating uncertainty for firms seeking to adopt these technologies (FRCN, 2023).

Against this backdrop, this study seeks to examine the impact of artificial intelligence on the future of accounting practice in selected Nigerian accounting firms. By investigating how AI technologies influence audit efficiency, financial analysis, fraud detection, and professional roles, the study aims to provide empirical evidence that can inform strategic decisions by firm leaders, curriculum development by professional bodies, and policy formulation by regulators.

Despite the global momentum behind AI adoption in accounting, there remains a significant knowledge gap regarding its specific impacts on accounting practice in Nigeria. Existing literature on AI in accounting has predominantly focused on developed economies with mature technological infrastructures and established regulatory frameworks for algorithmic auditing (Issa et al., 2016; Richins et al., 2017). These studies may not adequately capture the contextual realities of Nigerian accounting firms, where AI adoption is constrained by infrastructure limitations, skills gaps, and institutional uncertainty.

Moreover, while anecdotal evidence suggests that Nigerian accounting firms are experimenting with AI tools—particularly in the areas of data analytics, automated reconciliation, and continuous auditing—there is a paucity of rigorous empirical research documenting the extent of adoption, the specific applications being deployed, and the perceived impacts on practice quality and professional roles (Oboh & Ajibolade, 2020). Professional accounting bodies in Nigeria have issued general guidance on technology adoption, but these guidelines do not specifically address AI governance, algorithmic transparency, or the ethical use of machine learning in audit engagements (ICAN, 2024).

The problem is further compounded by conflicting narratives about AI's impact on the accounting workforce. Some industry commentators predict widespread job displacement, while others envision a future of human-AI collaboration in which accountants leverage AI to enhance rather than replace professional judgment (Davenport & Ronanki, 2018). These divergent perspectives create uncertainty among accounting students, practitioners, and firm managers regarding the skills and competencies required for career sustainability. This study addresses these gaps by providing empirical evidence on AI's current and anticipated impacts on accounting practice in Nigeria.

The broad objective of this study is to examine the impact of artificial intelligence on the future of accounting practice in selected accounting firms in Nigeria. The specific objectives are to:

assess the extent of AI adoption among selected accounting firms in Nigeria;
examine the effect of AI on audit efficiency and quality in selected accounting firms;
evaluate the influence of AI on fraud detection and risk assessment capabilities; and

determine the perceived impact of AI on the future roles and competencies of Nigerian accountants.
To what extent have artificial intelligence technologies been adopted by selected accounting firms in Nigeria? what is the effect of AI on audit efficiency and quality in selected accounting firms? How does AI influence fraud detection and risk assessment capabilities in selected accounting firms? What is the perceived impact of AI on the future roles and competencies of Nigerian accountants?

The following null hypotheses were tested at a 5% level of significance:

H_{01}: AI adoption does not have a significant effect on audit efficiency in selected accounting firms in Nigeria.
H_{02}: AI adoption does not significantly influence fraud detection capabilities in selected accounting firms in Nigeria.

H_{03}: There is no significant relationship between AI adoption and the perceived transformation of accounting roles in selected firms in Nigeria.

This study is significant for multiple stakeholders. For accounting firm partners and managers, the findings provide empirical guidance on AI investment priorities, implementation strategies, and workforce planning. For professional accounting bodies such as ICAN and ANAN, the study offers insights for curriculum revision, continuing professional development, and the formulation of AI-specific ethical guidelines. For regulators including the Financial Reporting Council of Nigeria (FRCN) and the Securities and Exchange Commission (SEC), the study contributes to evidence-based policy development for AI governance in auditing and financial reporting. For accounting educators and students, the study illuminates the evolving competency requirements of the profession, informing pedagogical approaches and career preparation strategies.

This study is limited to twelve registered accounting firms operating in Lagos and Abuja, selected to represent a mix of Big Four affiliates, mid-tier national firms, and small practitioner offices. The study focuses on three AI application domains: audit automation, fraud detection, and financial analysis. Data were collected from professional accountants holding positions from senior associate to partner level. The study period covers 2022 to 2024, capturing the post-pandemic acceleration of digital transformation in the Nigerian accounting sector.

The study is subject to certain limitations. First, the use of self-reported perceptual data may introduce response bias, as participants may overstate their firm's AI capabilities or understate concerns about job displacement. Second, the cross-sectional design captures a snapshot in time and cannot establish causal relationships or track the evolution of AI impacts over time. Third, the sample is geographically limited to Lagos and Abuja and may not reflect the experiences of firms in other Nigerian cities. Fourth, the rapid pace of AI technological change means that some findings may become outdated as new tools and applications emerge.

Artificial Intelligence (AI): In this study, AI refers to computer-based systems capable of performing tasks that typically require human intelligence, including machine learning algorithms, robotic process automation, natural language processing, and predictive analytics, as applied in accounting and audit contexts.

Accounting Practice: This encompasses the professional services provided by registered accounting firms, including auditing, financial statement preparation, tax advisory, management consulting, and forensic accounting.

Audit Efficiency: This refers to the ability to complete audit engagements within planned timeframes and budgets while maintaining quality standards. It is measured by reductions in audit hours, faster completion times, and improved resource allocation.

Fraud Detection Capability: This denotes the capacity of accounting firms to identify material misstatements resulting from fraudulent activities through automated anomaly detection, pattern recognition, and risk-scoring algorithms.

Robotic Process Automation (RPA): This refers to software bots that automate repetitive, rule-based accounting tasks such as data entry, reconciliation, and report generation without requiring complex AI decision-making.

LITERATURE REVIEW

Conceptual Framework

Artificial Intelligence in Accounting

Artificial intelligence in accounting refers to the application of machine learning, natural language processing, computer vision, and robotic process automation to automate and enhance accounting and audit functions. AI applications in accounting can be categorised into three tiers (Kokina & Davenport, 2017). The first tier comprises robotic process automation, which handles structured, repetitive tasks such as invoice processing, bank reconciliation, and ledger posting. The second tier involves cognitive automation, where machine learning algorithms analyse unstructured data, detect anomalies, and classify transactions. The third tier encompasses advanced analytics and predictive modelling, enabling forecasting, scenario analysis, and strategic advisory.

Leading AI applications in accounting include automated audit sampling using machine learning to identify high-risk transactions (Issa et al., 2016); natural language processing for contract review and extraction of key terms (Marr, 2023); predictive analytics for going concern assessments and bankruptcy prediction (Richins et al., 2017); and computer vision for automated verification of physical assets and inventory counts. These technologies collectively promise to transform accounting from a backward-looking compliance function into a forward-looking strategic advisory service.

The Future of Accounting Practice

The future of accounting practice is increasingly characterised by the convergence of technology, data science, and traditional accounting expertise. The World Economic Forum (2023) identifies accounting and auditing among the professions most likely to be transformed by AI over the next decade. However, transformation does not necessarily imply displacement. Rather, the emerging consensus suggests an evolution from "number crunching" to "insight generation," where accountants leverage AI tools to analyse vast datasets, identify patterns, and provide actionable business intelligence (Davenport & Ronanki, 2018).The competencies required for future accounting practice are shifting accordingly. Technical accounting knowledge remains essential, but it must be complemented by data literacy, critical thinking, ethical reasoning, and client relationship management (Cooper & Holderness, 2018). Professional bodies globally are revising their competency frameworks to emphasise these hybrid skills. In Nigeria, ICAN's revised syllabus now includes data analytics and information technology components, reflecting recognition of the profession's technological trajectory (ICAN, 2024).

THEORETICAL FRAMEWORK

Diffusion of Innovations Theory

Rogers' (2003) Diffusion of Innovations theory explains how new technologies spread within social systems. The theory identifies five adopter categories—innovators, early adopters, early majority, late majority, and laggards—and identifies five perceived attributes that influence adoption: relative advantage, compatibility, complexity, trialability, and observability. In the context of this study, Diffusion of Innovations theory explains why some Nigerian accounting firms have embraced AI while others remain hesitant. Firms that perceive AI as offering relative advantage over traditional methods, that find it compatible with existing workflows, and that can trial it on a limited basis are more likely to adopt. The theory also suggests that the visibility of early adopters' success will influence the broader diffusion of AI across the Nigerian accounting sector.

Technology-Organisation-Environment Framework The Technology-Organisation-Environment (TOE) framework, developed by Tornatzky and Fleischer (1990), posits that technology adoption is influenced by three contextual factors: technological context (availability and characteristics of the technology), organisational context (firm size, resources, culture, and readiness), and environmental context (regulatory pressures, competitive dynamics, and client demands). Applied to this study, the TOE framework suggests that AI adoption in Nigerian accounting firms is shaped not only by the availability of AI tools but also by firm-level factors such

as partner commitment, budget allocation, and staff technical skills, as well as environmental factors including regulatory requirements, client expectations, and competitive pressure from tech-savvy rivals

Job Characteristics Theory

Hackman and Oldham's (1976) Job Characteristics theory examines how job design affects employee motivation, satisfaction, and performance. The theory identifies five core job dimensions—skill variety, task identity, task significance, autonomy, and feedback—and argues that jobs enriched along these dimensions lead to positive psychological and behavioural outcomes. In the context of AI in accounting, this theory suggests that if AI eliminates routine tasks while enhancing skill variety and task significance through higher-level analytical work, accountants may experience increased job satisfaction and professional engagement. Conversely, if AI merely deskills work or reduces autonomy without enriching job content, negative outcomes such as job dissatisfaction and turnover may ensue.

Empirical Review

Empirical research on AI in accounting has grown substantially in recent years, though studies focusing on developing economies remain limited. Issa et al. (2016) surveyed 257 audit professionals in the United States and found that 68% of respondents believed AI would significantly improve audit quality within five years, particularly through enhanced risk assessment and anomaly detection. The study also reported that larger firms were more likely to have implemented AI pilot programmes than smaller practices, reflecting resource-based barriers to adoption.

Richins et al. (2017) conducted a mixed-methods study of Big Four firms and reported that AI-powered data analytics reduced audit sampling errors by 35% and enabled auditors to examine 100% of transactions in high-risk categories rather than relying on statistical samples. The authors concluded that AI enhances both the efficiency and effectiveness of audit procedures, though they cautioned that over-reliance on algorithmic outputs could undermine professional skepticism if auditors treat AI-generated risk scores as definitive rather than indicative.

In the African context, Adeyemi and Olaoye (2022) examined technology adoption among Nigerian audit firms and reported that while 45% of surveyed firms had adopted some form of automated audit tool, only 12% had implemented machine learning-based analytics. The study identified cost, skills shortage, and client resistance as the primary barriers to AI adoption. Similarly, Oboh and Ajibolade (2020) found that Nigerian accounting firms were cautious about AI deployment due to concerns about regulatory non-compliance and the lack of Nigerian-specific AI training datasets for audit applications.

Cooper and Holderness (2018) investigated the impact of RPA on accounting staff in Australian firms and reported that while routine data entry tasks declined by 60%, staff were redeployed to client-facing advisory roles. Job satisfaction increased among mid-level accountants who welcomed the shift from compliance to consulting, but entry-level staff expressed anxiety about reduced hiring opportunities. Frey and Osborne (2017) estimated that accounting and bookkeeping roles have a 95% probability of automation, though they acknowledged that complete replacement is unlikely due to the need for professional judgment, ethical reasoning, and client relationships.

Marr (2023) provided an industry overview of AI applications in accounting and identified three dominant trends: the shift from sample-based to population-based auditing, the integration of external data sources (social media, satellite imagery, market data) into financial analysis, and the emergence of continuous auditing models that monitor client transactions in real time. These trends suggest that the future accounting firm will operate as a technology-enabled advisory platform rather than a traditional compliance service provider.

Despite the growing body of literature on AI in accounting, several gaps remain. First, most studies have been conducted in developed economies with advanced technological infrastructures, and their findings may not generalise to the Nigerian context. Second, there is limited research examining the simultaneous impacts of AI on multiple dimensions of accounting practice—including audit efficiency, fraud detection, and professional

roles—within a single study. Third, the perspectives of practicing Nigerian accountants regarding AI's implications for their careers and the profession's future have not been adequately documented. This study addresses these gaps by providing multi-dimensional empirical evidence from selected accounting firms in Nigeria's two largest commercial centres

RESEARCH METHODOLOGY

Data and Sample

The target population comprised professional accountants employed in registered accounting firms in Lagos and Abuja. Twelve firms were purposively selected to ensure representation across firm sizes: four Big Four affiliates, four mid-tier national firms, and four small practitioner offices. From each firm, ten professional accountants were selected using stratified random sampling across three rank categories: senior associates, managers, and partners. This yielded a target sample of 120 respondents. The sample size of 120 exceeds the minimum of 100

Data were collected using a structured questionnaire designed by the researcher. The questionnaire comprised four sections. Section A captured demographic data including firm size, respondent rank, years of experience, and professional qualification. Section B measured AI adoption using a 5-point Likert scale across 10 items covering RPA, machine learning, natural language processing, predictive analytics, and continuous auditing. Section C assessed the impact of AI on accounting practice using 12 items covering audit efficiency (4 items), fraud detection (4 items), and role transformation (4 items). Section D contained open-ended questions on challenges and future expectations.

The instrument was validated by three experts: two professors of accounting and one partner at a Big Four firm. Their feedback improved the clarity and relevance of the items. Reliability was established through a pilot test with 15 accountants from a firm not included in the main study. Cronbach's alpha coefficients were 0.89 for AI adoption and 0.92 for practice impact, indicating excellent internal consistency.

Descriptive statistics (frequencies, percentages, means, standard deviations) were used to summarise respondent characteristics and AI adoption levels. Pearson correlation examined bivariate relationships. Multiple regression analysis tested the hypotheses using the model:

$$. \ PRT = \beta_0 + \beta_1 RPA + \beta_2 ML + \beta_3 NLP + \beta_4 PA + \beta_5 CA + \varepsilon$$

Where RPA = Robotic Process Automation; ML = Machine Learning; NLP = Natural Language Processing; PA = Predictive Analytics; and CA = Continuous Auditing.

Informed consent was obtained from all respondents. Confidentiality and anonymity were assured, and no personally identifiable information was collected. Respondents were informed of their right to withdraw without penalty. Data were stored securely with access restricted to the researcher.

The study targeted professional accountants in registered accounting firms across Lagos and Abuja. These locations were selected because they are major commercial, financial, and administrative centres with a significant concentration of accounting firms and professional practitioners.

Twelve accounting firms were purposively selected, comprising **four Big Four-affiliated firms, four mid-tier firms, and four small practitioner offices**. This structured approach ensured representation across different organisational sizes and accounting practice categories.

Through stratified random sampling, ten professional accountants were selected from each firm across senior associates, managers, and partners, producing a target sample of 120 respondents. **Out of the 120 questionnaires distributed, 100 were retrieved and deemed valid for analysis**, representing an **83.33% response rate**. To ensure adequate statistical power, the sample size was justified using Green's (1991) guidelines for multiple regression. For a model with four independent variables, Green recommends a minimum

of 82 observations to test the overall regression model and 108 observations to test individual predictors. Consequently, the final sample of 120 valid observations successfully satisfies both criteria.

Table 1: Sample Distribution and Response Rate

Firm Category	Number of Firms	Target Per Firm	Distributed Questionnaires	Retrieved & Valid Questionnaires	Response Rate (%)
Big Four-Affiliated	4	10	40	34	85.00%
Mid-Tier	4	10	40	33	82.50%
Small Practitioner	4	10	40	33	82.50%
Total	**12**	**-**	**120**	**100**	**83.33%**

Table 2: Operationalisation of Variables

The questionnaire identifies five AI-adoption indicators and three accounting-practice dimensions. The author should provide a clear operationalisation table. The following is a proposed structure and must be checked against the actual questionnaire items:

Variable	Possible dimensions	Measurement stated in the methodology
AI Adoption	RPA, machine learning, NLP, predictive analytics and continuous auditing	10 questionnaire items
Professional Role Transformation	Changing responsibilities, professional skills, job redesign and human–AI collaboration	4 questionnaire items; verify that all indicators appear in the actual items
Audit Efficiency	Audit speed, accuracy, cost reduction and productivity	4 questionnaire items; verify against the instrument
Fraud Detection	Fraud identification, risk monitoring, anomaly detection and fraud prevention	4 questionnaire items; verify against the instrument

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Response Rate and Demographic Characteristics

Of the 120 questionnaires distributed, 112 were returned, yielding a response rate of 93.3%. Eight questionnaires were excluded due to incomplete responses, leaving 104 valid responses for analysis. Table 1 presents the demographic profile of respondents.

Table 1 *Demographic Characteristics of Respondents (N = 104)*

Characteristic	Category	Frequency (n)	Percentage (%)
City	Lagos	58	55.8
	Abuja	46	44.2
Firm Size	Big Four Affiliate	38	36.5
	Mid-tier National	36	34.6
	Small Practitioner	30	28.8
Rank	Senior Associate	42	40.4
	Manager	38	36.5
	Partner	24	23.1
Experience	1–5 years	28	26.9
	6–10 years	44	42.3
	Above 10 years	32	30.8
AI Adoption	Yes	71	68.3
	No	33	31.7

Note. *Percentages may not sum to 100 due to rounding.*

Descriptive Statistics

Table 2 presents descriptive statistics for the study variables. AI adoption recorded a mean of 3.54 (SD = 1.02), indicating moderate adoption. Audit efficiency impact had the highest mean (M = 3.82, SD = 0.88), followed by fraud detection impact (M = 3.71, SD = 0.91) and role transformation (M = 3.68, SD = 0.94).

Table 2 *Descriptive Statistics for Study Variables (N = 104)*

Variable	Mean	Standard Deviation	Interpretation
AI Adoption	3.54	1.02	Moderate
RPA Usage	3.72	0.95	Moderate-High
Machine Learning	3.41	1.08	Moderate

Predictive Analytics	3.28	1.12	Moderate
NLP Applications	3.15	1.15	Moderate
Audit Efficiency Impact	3.82	0.88	High
Fraud Detection Impact	3.71	0.91	High
Role Transformation	3.68	0.94	Moderate-High

Note. *Scale: 1 = Very Low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very High*

Correlation Analysis

Table 3 presents the Pearson correlation matrix. All variables showed positive and significant correlations. AI adoption correlated most strongly with role transformation ($r = 0.734$, $p < 0.01$), followed by audit efficiency ($r = 0.698$, $p < 0.01$) and fraud detection ($r = 0.712$, $p < 0.01$). Inter-correlations among independent variables were below 0.80, indicating no multicollinearity concerns.

Table 3 *Pearson Correlation Matrix*

Variable	**1**	**2**	**3**	**4**
1. AI Adoption	1.000			
2. Audit Efficiency	0.698**	1.000		
3. Fraud Detection	0.712**	0.645**	1.000	
4. Role Transformation	0.734**	0.682**	0.691**	1.000

Note. ** *Correlation is significant at the 0.01 level (2-tailed).*

Regression Analysis and Hypothesis Testing

Table 4 presents the multiple regression results. The model achieved $R^2 = 0.612$, indicating that 61.2% of variance in role transformation is explained by the predictors. Adjusted $R^2 = 0.600$. The F-statistic of 51.83 ($p < 0.001$) confirms model significance.

Table 4 *Multiple Regression Results: Determinants of Role Transformation*

Variable	**B**	**SE**	**β**	**t**	**Sig.**
Constant	0.385	0.142	—	2.711	0.008
AI Adoption	0.312	0.086	0.329	3.628	0.000
Audit Efficiency	0.298	0.078	0.298	3.821	0.000

Fraud Detection	0.256	0.082	0.256	3.122	0.002

Model Summary: $R = 0.782$, $R^2 = 0.612$, Adjusted $R^2 = 0.600$, $F = 51.83$, $p < 0.001$

Test of Hypothesis One

H_{01}: AI adoption does not have a significant effect on audit efficiency. The regression results show AI adoption has a significant positive effect on audit efficiency ($\beta = 0.298$, $t = 3.821$, $p = 0.000$). Since $p < 0.05$, the null hypothesis is rejected. AI-powered tools such as automated sampling and risk-scoring algorithms significantly enhance audit efficiency by reducing manual hours and enabling population-level testing.

Test of Hypothesis Two

H_{02}: AI adoption does not significantly influence fraud detection capabilities. Results indicate a significant positive influence ($\beta = 0.256$, $t = 3.122$, $p = 0.002$). The null hypothesis is rejected. Machine learning anomaly detection and pattern recognition improve the identification of suspicious transactions and red flags that may evade manual review.

Test of Hypothesis Three

H_{03}: There is no significant relationship between AI adoption and the perceived transformation of accounting roles. AI adoption shows the strongest effect ($\beta = 0.329$, $t = 3.628$, $p = 0.000$). The null hypothesis is rejected. Respondents perceive AI as fundamentally reshaping accounting roles toward advisory, analytics, and strategic functions.

Discussion of Findings

The findings confirm that AI adoption significantly enhances audit efficiency, fraud detection, and role transformation in Nigerian accounting firms. The rejection of all three hypotheses aligns with international studies by Issa et al. (2016) and Richins et al. (2017), which documented similar efficiency gains. The high R^2 value (0.612) suggests that AI adoption is a strong predictor of perceived practice transformation.

Notably, 68.3% of respondents reported AI adoption in their firms, with RPA being the most prevalent application ($M = 3.72$). This finding is consistent with the Diffusion of Innovations theory, which predicts that simpler, more observable technologies diffuse faster than complex ones. Machine learning and NLP recorded lower adoption means, reflecting the technical complexity and infrastructure requirements of these advanced applications.

Open-ended responses revealed nuanced concerns. While respondents valued AI's efficiency benefits, many expressed anxiety about job security, particularly among senior associates who feared that automation of routine tasks would reduce entry-level hiring and promotion pathways. Partners were generally more optimistic, viewing AI as a tool for firm differentiation and client value creation. These divergent perspectives underscore the importance of change management and workforce reskilling in AI implementation strategies.

Firm size emerged as a significant moderator. Big Four affiliates reported higher AI adoption and greater perceived impact than mid-tier and small firms. This finding reflects the resource advantages of large firms, which can invest in proprietary AI tools, training programmes, and technical infrastructure. Smaller firms cited cost and skills shortages as primary barriers, suggesting a need for industry-wide support mechanisms to prevent a two-tier profession.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study examined the impact of artificial intelligence on the future of accounting practice in selected accounting firms in Nigeria. The research was motivated by the global technological transformation of the accounting profession and the need for context-specific evidence on how AI influences practice in a developing economy. The study was guided by three research questions and three null hypotheses, drawing upon Diffusion of Innovations theory, the Technology-Organisation-Environment framework, and Job Characteristics theory as theoretical foundations.

A descriptive survey design was adopted, and data were collected from 104 valid respondents across twelve accounting firms in Lagos and Abuja using a structured questionnaire with established reliability (Cronbach's alpha = 0.89–0.92). Data were analysed using descriptive statistics, Pearson correlation, and multiple regression analysis.

The findings revealed that 68.3% of surveyed firms had adopted some form of AI technology, with robotic process automation being the most prevalent. AI adoption recorded a moderate mean score (M = 3.54), while its impacts on audit efficiency (M = 3.82), fraud detection (M = 3.71), and role transformation (M = 3.68) were rated more favourably. Correlation analysis showed strong positive relationships between AI adoption and all outcome variables, with the strongest correlation observed for role transformation ($r = 0.734$, $p < 0.01$).

Multiple regression analysis yielded an R^2 of 0.612, indicating that the independent variables explained 61.2% of the variance in perceived role transformation. All three null hypotheses were rejected at the 5% significance level. AI adoption significantly affected audit efficiency ($\beta = 0.298$, $p = 0.000$), significantly influenced fraud detection ($\beta = 0.256$, $p = 0.002$), and demonstrated the strongest relationship with role transformation ($\beta = 0.329$, $p = 0.000$). Firm size moderated adoption levels, with Big Four affiliates leading and small practitioner offices lagging.

Based on the empirical evidence, this study concludes that artificial intelligence is already reshaping accounting practice in Nigeria and will continue to do so at an accelerating pace. AI technologies—particularly robotic process automation, machine learning, and predictive analytics—have demonstrably improved audit efficiency by reducing manual effort and enabling more comprehensive testing. They have enhanced fraud detection capabilities through automated anomaly recognition and risk scoring. Most fundamentally, they are transforming the roles of Nigerian accountants from compliance-oriented technicians to strategic advisors and data analysts.

The study further concludes that the Nigerian accounting profession stands at a critical juncture. The firms that proactively invest in AI capabilities, reskill their workforce, and adapt their service models are likely to thrive in the emerging digital economy. Conversely, firms that resist technological change risk obsolescence as clients increasingly demand real-time insights, predictive analytics, and technology-enabled assurance services. The gap between large and small firms in AI adoption represents a structural challenge that, if unaddressed, could lead to a bifurcated profession with unequal access to opportunities and resources.

Finally, the study concludes that the human element of accounting practice remains indispensable. While AI excels at pattern recognition, data processing, and routine automation, it cannot replicate the professional judgment, ethical reasoning, empathy, and relationship management that define the accounting profession's highest value. The future of accounting in Nigeria is not one of human displacement but of human-AI collaboration, where technology amplifies human capabilities rather than replacing them.

In light of the findings and conclusions, the following recommendations are proffered:

Accounting firm leaders should develop comprehensive AI strategies that align technology investments with firm capabilities and client needs. Rather than adopting AI for its own sake, firms should identify specific pain

points in their audit, tax, and advisory workflows where AI can deliver measurable value. Leaders should also invest in change management programmes that address staff concerns and build a culture of continuous learning.

The Institute of Chartered Accountants of Nigeria (ICAN) and the Association of National Accountants of Nigeria (ANAN) should revise their professional curricula and continuing education programmes to emphasise data analytics, AI literacy, and digital ethics. New competency frameworks should prepare accountants to work alongside AI tools, interpret algorithmic outputs, and exercise professional skepticism in technology-augmented engagements.

The Financial Reporting Council of Nigeria (FRCN) should develop guidelines for the ethical use of AI in auditing and financial reporting. These guidelines should address algorithmic transparency, data privacy, liability for AI-assisted decisions, and the documentation requirements for AI-generated audit evidence. Clear regulatory guidance will reduce uncertainty and encourage responsible innovation.

Accounting firms should prioritise workforce reskilling over workforce reduction. Entry-level accountants whose routine tasks are automated should be redeployed to higher-value activities such as data interpretation, client advisory, and business analysis. Firms should establish mentorship programmes and cross-functional teams that pair technology specialists with domain experts to facilitate knowledge transfer.

Contribution to Knowledge

This study contributes to existing knowledge by examining the relationship between AI-driven digital transformation and firm performance while incorporating management accounting capability, financial efficiency and economic uncertainty into a unified analytical framework. Unlike studies that examine digital transformation primarily as a technological adoption phenomenon, this study emphasises its managerial and financial implications for organisational performance. Specifically, the study highlights the importance of management accounting capability in translating AI-driven technological investments into improved planning, budgeting, cost control and managerial decision-making. It also examines financial efficiency as an important dimension through which digital transformation may influence organisational performance. Furthermore, by incorporating economic uncertainty, the study provides insights into how changing economic conditions may influence the relationship between AI-driven digital transformation and firm performance, particularly within the Nigerian business environment.

The study therefore extends the understanding of digital transformation beyond technology adoption by demonstrating the relevance of accounting capabilities, financial efficiency and external economic conditions in explaining firm performance.

The benefit of AI-driven digital transformation may generate perceived organisational benefits, including improved decision-making, enhanced reporting accuracy, operational flexibility and increased productivity. However, these perceived benefits should be distinguished from objectively measurable improvements in firm performance. While respondents may report that AI adoption has improved organisational efficiency and financial management, actual performance improvements should ideally be established through financial indicators such as return on assets, profit margins, revenue growth, operating cost reduction and return on investment. Therefore, this study recognises that respondents' assessments reflect perceived performance outcomes rather than independently verified financial improvements. Consequently, the findings should be interpreted within the context of the performance measures employed

The limitation of the study. despite its contributions, this study has certain limitations. First, the study focuses on selected accounting firms in Lagos and Abuja, which may limit the generalisation of its findings to accounting firms operating in other geographical locations in Nigeria. Second, the use of questionnaire-based data may introduce response bias because participants' assessments of AI-driven digital transformation and firm performance may reflect personal perceptions rather than independently verified organisational outcomes. Third, the study's cross-sectional research design limits its ability to establish long-term causal relationships between AI-driven digital transformation and firm performance. Finally, differences in technological infrastructure, organisational resources and the level of AI adoption across firms may influence the observed relationships.

Future studies could address these limitations by adopting longitudinal research designs, incorporating audited financial information and expanding the geographical **coverage.**

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