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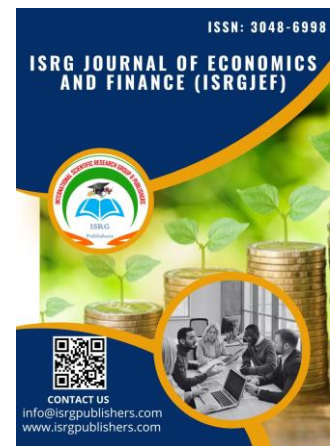
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IMPACT OF ARTIFICIAL INTELLIGENCE ON THE ACCOUNTING PROFESSION

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Abstract

This study examined the impact of artificial intelligence on the accounting profession using KPMG Nigeria, Lagos Office, as a case study. The study specifically investigated the effect of artificial intelligence on accounting efficiency, its influence on the roles and responsibilities of accountants, and the challenges associated with its adoption. A descriptive survey research design was adopted, while primary data were collected through a structured questionnaire administered to staff of KPMG Nigeria. Fifty questionnaires were distributed, out of which forty-five were completed and returned, representing a response rate of 90 percent. The data collected were analysed using frequency tables, percentages, and the Chi-square statistical technique. The findings revealed that artificial intelligence significantly improves accounting efficiency, positively influences the roles and responsibilities of accountants, and presents implementation challenges such as high cost, technical skill requirements, and data security concerns. The study concluded that artificial intelligence has a significant impact on the accounting profession and recommended increased investment in staff training, digital infrastructure, and continuous technological innovation.

Keywords: Artificial, Intelligence, Profession, KPMG.

1. INTRODUCTION

Artificial Intelligence (AI) has emerged as one of the most significant technological innovations of the modern era, transforming how organizations operate and make decisions. AI refers to computer systems capable of performing tasks that typically require human intelligence, including learning, reasoning, problem-solving, and data analysis (Russell & Norvig, 2021). The increasing adoption of AI across industries has enhanced operational efficiency, productivity, and decision-making processes, making it an essential component of contemporary

business practices (Brynjolfsson & McAfee, 2017; Ogbotor, 2025). Artificial intelligence has enhanced the quality and reliability of financial information by reducing human errors and improving data accuracy. Through machine learning algorithms and advanced analytics, organizations can process large volumes of financial data efficiently, detect fraudulent activities, identify patterns, and support strategic decision-making (Appelbaum *et al.*, 2017). As a result, AI is increasingly recognized as a valuable tool for

improving organizational performance and strengthening financial management systems.

The accounting profession has experienced remarkable changes due to technological advancements. Traditionally, accounting activities were largely manual, involving extensive paperwork and human effort. However, the introduction of computerized accounting systems and digital technologies has significantly improved the speed and accuracy of accounting processes (Romney & Steinbart, 2021; Apete & Orimuo, 2026). In recent years, AI has further transformed accounting by automating repetitive tasks such as bookkeeping, data entry, invoice processing, and financial reporting (Kokina & Davenport, 2017). Among the leading accounting firms adopting AI technologies is KPMG. KPMG has invested significantly in artificial intelligence, advanced data analytics, and automation tools to improve audit quality, risk assessment procedures, and advisory services (KPMG, 2024). The firm's commitment to digital transformation reflects the growing importance of AI in enhancing professional accounting services and maintaining competitiveness in a rapidly evolving business environment.

KPMG (Klynveld Peat Marwick Goerdeler) is one of the world's leading professional services firms and a member of the Big Four accounting firms. The organization was formed in 1987 through the merger of KMG (Klynveld Main Goerdeler) and Peat Marwick International. The global headquarters of KPMG is located in London, England, where the firm's international operations are coordinated and managed. Over the years, KPMG has expanded its presence across the world, providing audit, tax, and advisory services to businesses, governments, and non-profit organizations. As part of its global expansion strategy, KPMG established operations in Nigeria to provide professional accounting and consulting services to clients within the country. KPMG Nigeria operates as a member firm of KPMG International and has adopted the global standards, technologies, and professional practices of the international network. The firm has continuously invested in digital transformation, data analytics, and artificial intelligence to improve service delivery and operational efficiency. KPMG Nigeria maintains offices in major commercial and administrative centers across the country, including Lagos, Abuja, and Port Harcourt. The Lagos office serves as the headquarters of KPMG Nigeria and coordinates most of the firm's national operations. The Abuja office primarily serves government agencies, public sector organizations, and businesses within the Federal Capital Territory, while the Port Harcourt office focuses largely on clients in the oil and gas, energy, and related industries within the South-South region.

Despite its numerous benefits, the growing adoption of AI in accounting has generated concerns among professionals and stakeholders. Some researchers argue that automation may reduce the demand for certain accounting functions, thereby creating concerns about job security and workforce restructuring (Sutton *et al.*, 2016; Apete & Ogeh, 2026). Others contend that AI complements the work of accountants by allowing them to focus on higher-value activities such as financial analysis, advisory services, and strategic planning (Davenport & Kirby, 2016). While AI offers numerous opportunities for improved efficiency and effectiveness, questions remain regarding its impact on accountants' responsibilities, skills requirements, and professional relevance. Therefore, this study seeks to examine the impact of

artificial intelligence on the accounting profession, using KPMG as a case study. The specific objectives are to:

- i. examine the effect of artificial intelligence on the efficiency of accounting operations at KPMG.
- ii. determine the influence of artificial intelligence on the roles and responsibilities of accountants at KPMG.
- iii. assess the challenges associated with the adoption of artificial intelligence in accounting practice at KPMG.

Research Questions

- i. What effect does artificial intelligence have on the efficiency of accounting operations at KPMG?
- ii. How does artificial intelligence influence the roles and responsibilities of accountants at KPMG?
- iii. What challenges are associated with the adoption of artificial intelligence in accounting practice at KPMG?

Research Hypotheses

H0₁: Artificial intelligence has no significant effect on the efficiency of accounting operations at KPMG.

H0₂: Artificial intelligence has no significant influence on the roles and responsibilities of accountants at KPMG.

H0₃: There are no significant challenges associated with the adoption of artificial intelligence in accounting practice at KPMG.

2. LITERATURE REVIEW

2.1 Conceptual Framework

Artificial Intelligence

Artificial Intelligence (AI) is a branch of computer science concerned with the development of systems that can perform tasks requiring human intelligence. Such tasks include learning from experience, recognizing patterns, understanding language, solving problems, and making decisions. AI enables machines to process information and execute functions that traditionally depended on human intervention (Russell & Norvig, 2021; Aroghene, 2023). Over the years, AI has developed from a theoretical concept into a practical technology used across numerous industries. Modern organizations rely on artificial intelligence to improve efficiency, reduce operational costs, and support informed decision-making. Through technologies such as machine learning, natural language processing, expert systems, and robotic process automation, AI has become an important tool for achieving organizational objectives (Kaplan & Haenlein, 2019). The increasing availability of data and advancements in computing power have accelerated the adoption of AI worldwide. Businesses now use intelligent systems to automate operations, enhance productivity, and gain competitive advantages. As a result, artificial intelligence has become a key driver of innovation and digital transformation in the contemporary business environment.

Artificial Intelligence and Modern Organizations

The adoption of artificial intelligence has significantly altered how organizations operate and deliver services. AI enables firms to automate repetitive activities, process large volumes of information, and generate accurate results within a short period. This capability allows organizations to improve operational effectiveness and focus resources on strategic functions. In

addition, artificial intelligence assists organizations in forecasting trends, managing risks, and identifying opportunities for growth. Through predictive analytics and data-driven insights, managers can make more informed decisions and improve organizational performance. Consequently, many organizations consider AI an essential component of their long-term business strategies (Brynjolfsson & McAfee, 2017; Aroghene, 2022; Imene & Udjo Onovughakpo, 2023). The use of AI also supports innovation by creating new methods of service delivery and customer engagement. Organizations that successfully integrate AI technologies often achieve higher levels of productivity and competitiveness than those relying solely on traditional methods.

Artificial Intelligence in Accounting Practice

The accounting profession has witnessed significant technological transformation as a result of artificial intelligence. Traditional accounting systems relied heavily on manual procedures and human effort in recording, processing, and reporting financial information. The emergence of AI has introduced automated solutions that simplify these activities and improve overall efficiency (Kokina & Davenport, 2017; Aroghene et al., 2025; Ogbotor, 2025). Artificial intelligence is increasingly used in bookkeeping, transaction processing, account reconciliation, budgeting, auditing, taxation, and financial reporting. These technologies enable accountants to perform complex tasks more effectively while reducing the occurrence of human errors. AI-powered software can analyze financial records, identify irregularities, and provide insights that support managerial decision-making. The application of AI in accounting has enhanced the speed and quality of financial reporting. By automating routine processes, accountants can devote more time to professional judgment, strategic planning, and advisory services. This shift demonstrates the growing role of technology in shaping the future of the accounting profession.

Benefits of Artificial Intelligence in the Accounting Profession

The adoption of artificial intelligence has provided numerous benefits to the accounting profession. These benefits have transformed traditional accounting practices and improved the quality of accounting services. Some of the major benefits are discussed below:

i. Improved Accuracy in Accounting Operations

One of the most significant benefits of artificial intelligence is its ability to improve accuracy in accounting activities. Traditional accounting processes are often prone to human errors resulting from fatigue, negligence, or incorrect calculations. Artificial intelligence systems are capable of processing large volumes of financial data with a high degree of precision, thereby reducing mistakes and enhancing the reliability of accounting information. This contributes to the preparation of accurate financial reports and supports effective decision-making within organizations (Romney & Steinbart, 2021).

ii. Increased Efficiency and Productivity

Artificial intelligence enhances efficiency by automating routine and repetitive accounting tasks. Activities such as data entry, transaction recording, invoice processing, payroll administration, and account reconciliation can be completed within a short period. This reduces the workload of accountants and allows them to focus on more strategic responsibilities. Consequently, organizations

experience increased productivity and improved operational performance (Kokina & Davenport, 2017).

iii. Faster Processing of Financial Information

Artificial intelligence enables accounting systems to process large amounts of financial data rapidly. Unlike manual systems that require significant time and effort, AI-powered technologies can analyze thousands of transactions within seconds. This speed facilitates timely financial reporting and ensures that management has access to up-to-date information needed for decision-making purposes (Appelbaum et al., 2017).

iv. Improved Financial Reporting

Artificial intelligence supports the preparation of timely, accurate, and comprehensive financial reports. Automated reporting systems ensure consistency in financial information and reduce delays associated with manual report preparation. This enables stakeholders to obtain reliable financial information for planning, control, and decision-making purposes.

v. Competitive Advantage for Accounting Firms

Artificial intelligence enables accounting firms to provide faster, more accurate, and higher-quality services to clients. Firms that successfully integrate AI technologies are better positioned to meet client expectations, improve service delivery, and remain competitive in a rapidly changing business environment. For organizations such as KPMG Nigeria, the use of artificial intelligence contributes to operational excellence and long-term business success.

Challenges of Artificial Intelligence in the Accounting Profession

Despite its numerous advantages, the adoption of artificial intelligence in the accounting profession is not without challenges. One major challenge is the high cost associated with the acquisition, implementation, and maintenance of AI technologies. In addition, the effective utilization of AI requires specialized technical knowledge and skills, which may necessitate continuous training and professional development for accounting personnel. Another challenge relates to data security and privacy concerns, as AI systems often process large volumes of sensitive financial information. Furthermore, some accounting professionals may resist the adoption of AI due to fears of job displacement and uncertainty about changing job roles. These challenges may affect the successful integration of artificial intelligence into accounting practices if not properly managed.

2.2 Theoretical Framework

This study is anchored on the Technology Acceptance Model (TAM) and the Diffusion of Innovation Theory (DOI). These theories provide a foundation for understanding the adoption and utilization of artificial intelligence within the accounting profession.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by Davis (1989) to explain how individuals accept and use new technologies. The theory posits that the adoption of a technology is primarily influenced by two factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which an individual believes that using a particular technology will improve job performance, while perceived ease of use refers to the

extent to which the technology is considered free from effort. The relevance of TAM to this study lies in its ability to explain the acceptance of artificial intelligence by accounting professionals. Accountants are more likely to adopt AI technologies when they perceive that such technologies enhance efficiency, improve accuracy, and simplify accounting processes. Therefore, the theory provides a useful framework for understanding how artificial intelligence influences accounting practices and professional performance within KPMG Nigeria.

Diffusion of Innovation Theory

The Diffusion of Innovation Theory was developed by Rogers (2003) to explain how new ideas, technologies, and innovations spread and are adopted within organisations. It emphasizes that innovations are accepted when users perceive them as beneficial and compatible with existing practices. The theory is relevant because it explains the adoption of artificial intelligence in accounting firms such as KPMG Nigeria. The theory helps explain the process through which artificial intelligence is adopted and utilized to improve accounting efficiency, audit quality, and decision-making.

2.3 Empirical Review

Several empirical studies have examined the impact of artificial intelligence on the accounting profession. Kokina and Davenport (2017) reported that the integration of AI into accounting operations improved efficiency through the automation of routine tasks. Their findings indicated that accountants were able to devote more time to analytical activities, leading to improved productivity. The study concluded that AI enhances the effectiveness of accounting functions. Similarly, Issa, Sun and Vasarhelyi (2016) found that artificial intelligence improved auditing processes by strengthening fraud detection and risk assessment procedures. The researchers concluded that the adoption of AI contributes to higher audit quality and more reliable financial reporting. Sutton, Holt and Arnold (2016) observed that AI supports accounting professionals in performing complex analytical tasks. Their findings showed that intelligent systems complement professional judgment rather than replace it. The study concluded that AI serves as a valuable support tool within the accounting profession.

Appelbaum, Kogan, Vasarhelyi and Yan (2017) revealed that AI-driven accounting systems improve the accuracy and timeliness of financial information. Their findings further showed that organizations utilizing AI technologies experienced better decision-making outcomes. The study concluded that AI contributes positively to organizational performance. Moll and Yigitbasiglu (2019) found that artificial intelligence strengthens management accounting by improving data analysis and forecasting capabilities. The study concluded that AI has expanded the strategic role of accountants in organizations. Bonsón and Bednárová (2019) reported that AI technologies enhance financial reporting quality through improved data processing and monitoring. Their findings indicated increased transparency and efficiency in accounting operations. The study concluded that AI supports effective financial management. Brynjolfsson and McAfee (2017) found that digital technologies, including AI, significantly increase productivity and operational efficiency. The study concluded that organizations adopting AI achieve better performance and competitiveness. Bag *et al.* (2021) observed that AI adoption reduces operational costs while improving service delivery. Their findings revealed that organizations using AI

systems experienced improved efficiency and resource utilization. The study concluded that AI is a strategic asset for organizational growth. Raimo *et al.*, (2022) found that artificial intelligence enhances accounting efficiency by improving information quality and processing speed. The study concluded that AI contributes to better financial management practices. Davenport and Kirby (2016) reported that AI allows professionals to focus on high-value activities by automating repetitive functions. The study concluded that AI promotes innovation and professional development within accounting. Romney and Steinbart (2021) noted that intelligent accounting systems improve the accuracy of financial records and reporting processes. Their findings indicated that AI minimizes human errors and enhances operational effectiveness. The study concluded that AI is essential for modern accounting practice. Kaplan and Haenlein (2019) found that AI technologies improve organizational decision-making through advanced data analysis. The study concluded that AI has become a critical component of business and accounting operations.

Omotoso (2012) observed that technological innovations have significantly transformed accounting functions. The findings showed improvements in efficiency and service quality. The study concluded that technology remains a major driver of change in the accounting profession. Al-Htaybat and von Alberti-Alhtaybat (2017) reported that digital technologies improve transparency and accountability in financial reporting. The study concluded that AI enhances the quality of accounting information. Marshall and Lambert (2018) found that automation technologies reduce the burden of routine accounting tasks. Their findings indicated increased productivity among accounting professionals. The study concluded that AI improves workplace efficiency. Dhamija and Bag (2020) observed that AI strengthens financial decision-making through predictive analytics and real-time information processing. The study concluded that AI contributes significantly to organizational success. Ahmed and Al-Harthy (2022) found that AI improves the speed and accuracy of accounting processes. Their findings revealed enhanced operational performance among organizations that adopted AI technologies. The study concluded that AI supports sustainable business growth. Akinleye and Adu (2020) reported that technology adoption among accounting firms improved service quality and operational efficiency. The study concluded that AI positively influences accounting performance. Okafor and Eze (2021) found that AI applications enhance financial reporting accuracy and reduce human errors. The study concluded that AI is beneficial to accounting operations. Adeyemi and Ojo (2022) observed that AI improves audit efficiency and supports effective risk management practices. Their findings indicated that organizations adopting AI achieved better accounting outcomes. The study concluded that artificial intelligence has a positive impact on the accounting profession.

2.4 Gap in Literature

The reviewed literature revealed that several studies have examined the application of artificial intelligence in accounting, auditing, financial reporting, and decision-making. Most of these studies focused on the benefits of AI, such as improved efficiency, enhanced accuracy, fraud detection, and increased productivity within organizations. The studies generally established that artificial intelligence has a positive impact on accounting practices and organizational performance. However, despite the growing body of literature on artificial intelligence and accounting, limited attention has been given to its specific impact on accounting

professionals within professional service firms in Nigeria. In particular, few studies have focused on KPMG Nigeria and how artificial intelligence influences accounting efficiency, professional responsibilities, and the challenges associated with its adoption. This study seeks to fill this gap by examining the impact of artificial intelligence on the accounting profession using KPMG Nigeria, Lagos Office, as a case study.

3. RESEARCH METHODOLOGY

This study adopted a descriptive research design. The design was considered appropriate because it provides a systematic approach for examining and describing the impact of artificial intelligence on the accounting profession. The population of the study comprises the accounting and audit staff of KPMG Nigeria, Lagos Office. These employees were selected because they are directly involved in the application of artificial intelligence and other digital technologies in accounting and auditing activities. The sample size for the study was determined from the target population using an appropriate sampling technique. Simple random sampling was adopted to ensure that every member of the population had an equal opportunity to participate in the study.

The sample size for this study was determined using the Taro Yamane (1967) formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

$$n = \text{Sample size}$$

$$N = \text{Population size (57)}$$

$$e = \text{Level of precision (0.05)}$$

Substituting the values into the formula:

$$N = \frac{57}{1 + 57(0.05)^2}$$

$$N = \frac{57}{1 + 57(0.0025)}$$

$$N = \frac{57}{1.1425}$$

$$N = 49.89 \sim 50$$

Therefore, the sample size for the study is 50 respondents. The study utilized primary data obtained directly from respondents through the administration of structured questionnaires. The questionnaires were administered directly to the selected respondents at KPMG Nigeria, Lagos Office. The completed questionnaires were retrieved and used for analysis. The validity of the questionnaire was determined through face and content validity. The reliability of the instrument was determined using the Cronbach's Alpha reliability technique. A pilot study was conducted by administering the questionnaire to a small group of respondents outside the study population but with similar characteristics. The responses obtained were analyzed to determine the internal consistency of the instrument. A Cronbach's Alpha coefficient of 0.70 or above was considered acceptable, indicating that the questionnaire was reliable and suitable for data collection. The data collected were analyzed using descriptive statistics such as frequency counts, percentages, mean, and standard deviation. The hypotheses were tested using the Chi-square (χ^2) statistical technique at the 0.05 level of significance. The researcher ensured that respondents participated voluntarily. Information obtained from respondents was treated with confidentiality and used strictly for academic purposes.

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

The analysis of the questionnaire administered to respondents at KPMG Nigeria, Lagos Office. A total of 50 questionnaires were administered and 45 were successfully retrieved. This represents a response rate of 90%, while 5 questionnaires, representing 10% were not retrieved. The 45 retrieved questionnaires were considered adequate and were therefore used for the data analysis in this study.

Table 1: Demographic Distribution of Respondents

Category	Frequency	Percent
Gender		
Male	25	55.6
Female	20	44.4
Age		
20-29	15	33.3
30-39	10	22.2
40-49	15	33.3
50-above	5	11.1
Educational Qualification		
B.SC/HND	10	22.2
Master Degree	10	22.2
Professional qualification	15	33.3
Others	10	22.2
Department		
Audit	8	18.0
Tax	10	22.0
Advisory	10	22.0
Accounting/finance	12	27.0
Others	5	11.0
Years of Working Experience		
1-5	15	33.3
6-10	5	11.1
11-15	10	22.2
15 and above	15	33.3

Table 1 shows that 25 respondents representing 55.6% were male, while 20 respondents representing 44.4% were female. This indicates that both genders participated in the study with male respondents forming the majority. From the table, the age distribution of respondents within 20-29 years is 33.3%, 22.2% falls within 30-39 years, 33.3% within the category of 40-49, while 50 and above falls within the category of 11.1%. This implies that the organization has a large number of active personnel in their workforce. Also, the educational qualification of respondents with

BS.C/HND falls within 22.2%, respondents with master's degree accounted for 22.2% while professional qualification representing 33.3% the remaining respondents represents 22.2%. this distribution indicates that the respondents generally possess relevant academic background that could enable them to provide informed opinions on artificial intelligence. Likewise, the table indicates that 15 respondents representing 33.3% had between 1-5 years of working experience. Those with 6-10 years of working experience accounted for 5 respondents or 11.1%, while 10 respondents representing 22.2% had 11-15 years of experience. The remaining 15 respondents representing 33.3% had more than 15 years of experience. The distribution shows that the study included respondents with both relatively shorter and longer periods of professional experience, thereby providing different levels of workplace exposure relevant to the study. The table shows that the Accounting/Finance Department with 12 respondents or 27.0%. had the highest number of respondents, This was followed by The Tax Department accounted for 10 respondents representing 22.0%. While 10 respondents 22.08% were from the Advisory Department. Audit Department with 8 respondents represented 18% of the total. The remaining 5 respondents, representing 11.0%, belonged to other departments. The distribution demonstrates that respondents were drawn from different functional areas, providing a broader range of views concerning the effect of artificial intelligence on accounting operations and professional responsibilities.

Table 2: Responses to the Statement

Statement	Response	Frequency	Percentage (%)
AI has improved the efficiency of accounting operations at KPMG.	Strongly Agree	44	97.8
	Agree	0	0.0
	Undecided	0	0.0
	Disagree	1	2.2
	Strongly Disagree	0	0.0
AI has reduced the time required to complete accounting tasks.	Strongly Agree	45	100
	Agree	0	0
	Undecided	0	0
	Disagree	0	0
	Strongly Disagree	0	0.0
AI has improved the accuracy of accounting records.	Strongly Agree	45	100
	Agree	0	0.0
	Undecided	0	0.0

	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has reduced errors in financial reporting.	Strongly Agree	10	22.2
	Agree	35	77.8
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has enhanced the processing of accounting information.	Strongly Agree	40	88.9
	Agree	5	11.1
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has improved the quality of accounting services at KPMG.	Strongly Agree	34	75.6
	Agree	11	24.4
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has increased productivity in the accounting department.	Strongly Agree	40	88.9
	Agree	5	11.1
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has changed the traditional roles of accountants at KPMG.	Strongly Agree	36	80.0
	Agree	9	20.0
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0

AI enables accountants to focus on strategic and advisory functions.	Strongly Agree	24	53.3
	Agree	21	46.7
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has improved accountants' decision-making abilities.	Strongly Agree	11	24.4
	Agree	34	75.6
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has increased the demand for technological skills among accountants.	Strongly Agree	5	11.1
	Agree	40	88.9
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has improved collaboration among accounting professionals.	Strongly Agree	0	0.0
	Agree	45	100.0
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has enhanced accountants' job performance.	Strongly Agree	15	33.3
	Agree	30	66.7
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
AI has increased the value of accountants' professional	Strongly Agree	2	4.4

services.			
	Agree	43	95.6
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
The high cost of implementing AI is a major challenge at KPMG.	Strongly Agree	0	0.0
	Agree	0	0.0
	Undecided	5	11.1
	Disagree	40	88.9
	Strongly Disagree	0	0.0
Table 4.22: Lack of technical expertise limits the effective use of AI.	Strongly Agree	0	0.0
	Agree	30	66.7
	Undecided	15	33.3
	Disagree	0	0.0
	Strongly Disagree	0	0.0
Data security and privacy concerns affect AI adoption.	Strongly Agree	0	0.0
	Agree	20	44.4
	Undecided	25	55.6
	Disagree	0	0.0
	Strongly Disagree	0	0.0
Resistance to technological change hinders AI implementation.	Strongly Agree	35	77.8
	Agree	10	22.2
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0
Inadequate staff training affects the successful adoption of AI.	Strongly Agree	0	0.0
	Agree	25	55.6
	Undecided	10	22.2

	Disagree	10	22.2
	Strongly Disagree	0	0.0
	Total	45	100.0
System maintenance and technical failures limit the effective use of AI in accounting.	Strongly Agree	15	33.3
	Agree	30	66.7
	Undecided	0	0.0
	Disagree	0	0.0
	Strongly Disagree	0	0.0

Table 2 presents respondents' opinions on whether artificial intelligence has improved the efficiency of accounting operations at KPMG. The results indicate that 44 respondents, representing 97.8% of the total respondents, strongly agreed with the statement, while only one respondent (2.2%) disagreed. None of the respondents selected Agree, Undecided or Strongly Disagree. The findings indicate an overwhelming consensus among respondents that artificial intelligence has significantly enhanced the efficiency of accounting operations. This suggests that AI has improved the speed, effectiveness and quality of accounting activities within KPMG, thereby supporting the achievement of better organizational performance. The Table also reveals that all the respondents, representing 100.0%, strongly agreed that artificial intelligence has reduced the time required to complete accounting tasks at KPMG. None of the respondents expressed any contrary opinion. This unanimous response demonstrates that artificial intelligence has greatly improved operational efficiency by automating routine accounting processes and reducing the time required to complete financial tasks. The result implies that AI has enabled accountants to complete assignments more quickly and efficiently, thereby increasing overall productivity within the organization. It also shows that all 45 respondents, representing 100.0%, strongly agreed that artificial intelligence has improved the accuracy of accounting records. There were no responses in any other category. This indicates that respondents believe artificial intelligence has significantly minimized human errors and enhanced the reliability of accounting records. The finding suggests that AI has contributed positively to maintaining accurate financial information, thereby improving the quality of accounting services rendered by KPMG. It indicates that 35 respondents, representing 77.8%, agreed that artificial intelligence has reduced errors in financial reporting, while 10 respondents (22.2%) strongly agreed with the statement. No respondent expressed a negative opinion. The result suggests that respondents generally perceive artificial intelligence as an effective tool for reducing mistakes associated with financial reporting. Consequently, AI enhances the credibility, consistency and dependability of financial reports produced by KPMG.

Likewise, Table 2 shows that 40 respondents, representing 88.9%, strongly agreed that artificial intelligence has enhanced the processing of accounting information, while 5 respondents (11.1%)

agreed. The absence of negative responses indicates a strong level of acceptance of AI in processing accounting data. This finding implies that artificial intelligence has improved the speed, efficiency and accuracy of accounting information processing, thereby enabling better financial management within KPMG. Similarly, 34 respondents (75.6%) strongly agreed while 11 respondents (24.4%) agreed that artificial intelligence has improved the quality of accounting services at KPMG. None of the respondents disagreed with the statement. This finding suggests that respondents believe AI has enhanced service delivery through improved efficiency, greater accuracy and timely completion of accounting tasks. Therefore, AI contributes significantly to maintaining high-quality professional accounting services. 40 respondents, representing 88.9%, strongly agreed that artificial intelligence has increased productivity in the accounting department, while 5 respondents (11.1%) agreed. The responses indicate that AI has enabled accountants to accomplish more tasks within a shorter period while maintaining a high level of accuracy. This finding demonstrates that AI contributes positively to organizational productivity and operational performance. It shows that 36 respondents, representing 80.0%, strongly agreed, while 9 respondents (20.0%) agreed that artificial intelligence has changed the traditional roles of accountants at KPMG. This finding indicates that the adoption of AI has transformed accounting practice from routine manual activities to more analytical, strategic and advisory functions. The result suggests that accountants are increasingly expected to possess technological and analytical competencies in addition to their traditional accounting knowledge.

Meanwhile, 24 respondents, representing 53.3%, strongly agreed while 21 respondents (46.7%) agreed that artificial intelligence enables accountants to focus on strategic and advisory functions. The absence of negative responses indicates that respondents recognize AI as a tool that automates repetitive accounting tasks and allows professionals to devote more attention to value-added activities such as financial analysis, business advisory services and strategic decision-making. This demonstrates the changing nature of the accounting profession due to technological advancement. In same vein, 34 respondents, representing 75.6%, agreed, while 11 respondents (24.4%) strongly agreed that artificial intelligence has improved accountants' decision-making abilities. No respondent expressed disagreement with the statement. This finding suggests that AI provides timely, accurate and relevant information that supports informed professional judgment. Consequently, the use of artificial intelligence enables accountants to make better financial decisions and enhances the effectiveness of accounting practice within KPMG. 40 respondents, representing 88.9%, agreed that artificial intelligence has increased the demand for technological skills among accountants, while 5 respondents (11.1%) strongly agreed. None of the respondents disagreed with the statement. This finding indicates that the adoption of artificial intelligence has transformed the skill requirements of the accounting profession. Accountants are now expected to possess digital competencies alongside their traditional accounting knowledge. The result suggests that continuous learning and professional development are essential for accountants to remain effective and competitive in an AI-driven work environment.

The table indicates that all 45 respondents, representing 100.0%, agreed that artificial intelligence has improved collaboration among accounting professionals. No respondent expressed a contrary opinion. This finding implies that AI facilitates better communication, information sharing and teamwork within the

accounting department. The integration of intelligent systems enables accountants to access real-time information and collaborate more effectively, thereby improving operational efficiency and service delivery. 30 respondents, representing 66.7%, agreed while 15 respondents (33.3%) strongly agreed that artificial intelligence has enhanced accountants' job performance. The absence of negative responses demonstrates a positive perception of AI among the respondents. The finding suggests that AI has enabled accountants to complete tasks more efficiently, improve the quality of their work and focus on higher-value activities. Consequently, AI contributes to better individual performance and increased organizational effectiveness. 43 respondents, representing 95.6%, agreed that artificial intelligence has increased the value of accountants' professional services, while 2 respondents (4.4%) strongly agreed. This indicates that respondents believe AI enables accountants to deliver more reliable, timely and strategic services to clients. The result further suggests that AI has expanded the professional responsibilities of accountants beyond routine bookkeeping to include advisory, analytical and decision-support functions. It indicates that 40 respondents, representing 88.9%, disagreed that the high cost of implementing artificial intelligence is a major challenge at KPMG, while 5 respondents (11.1%) were undecided. None of the respondents agreed with the statement. This finding suggests that respondents do not consider implementation cost to be a significant barrier to AI adoption within KPMG. It may indicate that the organization has sufficient financial resources to invest in technological innovation and digital transformation. 30 respondents, representing 66.7%, agreed that lack of technical expertise limits the effective use of artificial intelligence, while 15 respondents (33.3%) were undecided. The finding indicates that technical competence remains an important factor in the successful implementation of AI. It suggests that organizations should continue investing in employee training and skill development to maximize the benefits of AI technologies. 25 respondents, representing 55.6%, were undecided on whether data security and privacy concerns affect AI adoption, while 20 respondents (44.4%) agreed. None of the respondents disagreed with the statement. This finding suggests that respondents have mixed opinions regarding the extent to which data security and privacy issues influence AI implementation. Although some respondents recognize security concerns, others may believe that existing organizational controls adequately address these risks. 35 respondents, representing 77.8%, strongly agreed, while 10 respondents (22.2%) agreed that resistance to technological change hinders the implementation of artificial intelligence. The absence of negative responses demonstrates that respondents consider

resistance to change as a significant obstacle to successful AI adoption. The finding suggests that organizations should strengthen change management strategies and encourage employees to embrace technological innovation.

25 respondents, representing 55.6%, agreed that inadequate staff training affects the successful adoption of artificial intelligence. However, 10 respondents (22.2%) were undecided, while another 10 respondents (22.2%) disagreed. These responses indicate that although the majority recognize training as an important factor in AI implementation, there are differing opinions among respondents. The result highlights the importance of continuous staff development programmes to improve employees' ability to utilize AI technologies effectively. 30 respondents, representing 66.7%, agreed while 15 respondents (33.3%) strongly agreed that system maintenance and technical failures limit the effective use of artificial intelligence in accounting. No respondent expressed disagreement with the statement. This finding suggests that respondents acknowledge the importance of maintaining reliable technological infrastructure for successful AI implementation. It further implies that regular system maintenance, timely software updates and prompt technical support are essential for maximizing the benefits of artificial intelligence within KPMG.

4.1 Test of Hypotheses

This section presents the test of the research hypotheses formulated in Chapter One. The hypotheses were tested using the Chi-square (χ^2) statistical technique at a 5% (0.05) level of significance. The choice of the Chi-square test was informed by the nature of the data collected through the structured questionnaire, which was measured using a five-point Likert scale. The test was employed to determine whether there is a statistically significant relationship between the variables under investigation. The decision to accept or reject each null hypothesis was based on the comparison of the calculated Chi-square value with the critical value at the appropriate degree of freedom and level of significance. The null hypothesis is rejected if the calculated Chi-square value is greater than the critical value

Where:

Exempted Frequency Per Response:

Sample size/no of cells=315/5=63

Hypothesis One

H₀₁: Artificial intelligence has no significant effect on the efficiency of accounting operations at KPMG.

Table 3: Chi-square observed and Expected frequencies for Hypothesis one

Responses	Observed	Expected	O-E	(O-E) ²	(O-E) ² /E
SA	258	63	195	38025	603.57
A	56	63	-7	49	78
U	0	63	63	3969	63
D	1	63	-62	3844	61.02
SD	0	63	63	3969	63
Chi square total					791.37

Degree of freedom (df) = No of cells-1=5-1=4

Critical value (using the Chi-square table) = 9.488

Significance Level (α) = 0.05

Decision

Since the calculated Chi-square (χ^2) value of 791.37 is greater than the critical Chi-square value at the 0.05 level of significance, the null hypothesis (H_{01}) is rejected, while the alternative hypothesis (H_{11}) is accepted. It is therefore concluded that artificial intelligence has a significant effect on the efficiency of accounting operations at KPMG Nigeria, Lagos Office. This finding indicates that the adoption of artificial intelligence has contributed positively to improving the speed, accuracy and overall effectiveness of

accounting activities within the organization. Consequently, the study provides empirical evidence that artificial intelligence plays an important role in enhancing accounting efficiency and supporting improved organizational performance.

Hypothesis Two

H_{02} : Artificial intelligence has no significant influence on the roles and responsibilities of accountants at KPMG.

Table 4: Chi-square observed and Expected frequencies for Hypothesis two

Responses	Observed	Expected	O-E	(O-E) ²	(O-E) ² /E
SA	93	63	30	90	1.43
A	222	63	159	25281	401.29
U	0	63	63	3969	63
D	0	63	63	3969	63
SD	0	63	63	3969	63
Chi square total					591.72

Decision

The calculated Chi-square (χ^2) value for Hypothesis Two is 591.72. Since the calculated value exceeds the critical Chi-square value at the 5% (0.05) level of significance, the null hypothesis (H_{02}) is rejected, while the alternative hypothesis (H_{12}) is accepted. Based on the outcome of the hypothesis test, it is concluded that artificial intelligence has a statistically significant influence on the roles and responsibilities of accountants at KPMG Nigeria, Lagos Office. The result suggests that the adoption of artificial intelligence has transformed the nature of accounting work by reducing routine

manual activities and enabling accountants to perform more analytical, advisory and strategic functions. This demonstrates that artificial intelligence has become an important factor in shaping the modern accounting profession within the organization.

Hypothesis Three

H_{03} : There are no significant challenges associated with the adoption of artificial intelligence in accounting practice at KPMG.

Table 5: Chi-square observed and Expected frequencies for Hypothesis three

Responses	Observed	Expected	O-E	(O-E) ²	(O-E) ² /E
SA	50	53	-3	9	0.17
A	115	53	62	3844	72.53
U	50	53	-3	9	0.17
D	50	53	-3	9	0.17
SD	0	53	53	2809	53
Chi square total					126.04

Decision

The calculated Chi-square (χ^2) value for Hypothesis Three is 126.04. Since the calculated value is greater than the critical Chi-square value at the 5% (0.05) level of significance, the null hypothesis (H_{03}) is rejected, while the alternative hypothesis (H_{13}) is accepted. The result of the hypothesis test shows that there are significant challenges associated with the adoption of artificial intelligence in accounting practice at KPMG Nigeria, Lagos Office. Therefore, organizations should effectively address these challenges to ensure the successful implementation and optimal use of artificial intelligence in accounting operations.

4.2 Discussion of Findings

The findings of this study revealed that artificial intelligence has a significant positive effect on the efficiency of accounting operations at KPMG Nigeria, Lagos Office. The responses obtained from the respondents showed that artificial intelligence has improved the speed, accuracy and quality of accounting

processes. This finding was further supported by the result of Hypothesis One, which indicated a significant relationship between artificial intelligence and the efficiency of accounting operations. The result suggests that the adoption of artificial intelligence has enhanced operational performance and reduced the time required to complete accounting tasks. The study also established that artificial intelligence has significantly influenced the roles and responsibilities of accountants at KPMG. The responses indicated that the use of AI has shifted accountants' responsibilities from routine data processing to more analytical, advisory and strategic functions. This finding was confirmed by the result of Hypothesis Two, which showed that artificial intelligence has a significant influence on the roles and responsibilities of accountants. The implication is that accountants are now expected to possess both accounting expertise and technological competence. Furthermore, the study found that although artificial intelligence offers numerous benefits to accounting practice, there are still challenges associated with its adoption. The responses identified issues relating to

technical expertise, staff training, technological change and system maintenance as factors that may affect the effective implementation of AI. The result of Hypothesis Three confirmed that these challenges are statistically significant. This implies that organizations need to continuously invest in employee development and technological infrastructure to maximize the benefits of artificial intelligence.

5. CONCLUSION & RECOMMENDATION

Therefore, the study concludes that the effective adoption and continuous improvement of artificial intelligence technologies are essential for enhancing productivity, service quality, and competitiveness in the accounting profession. Based on the findings and conclusions of this study, the following recommendations are made: KPMG Nigeria should continue to invest in advanced artificial intelligence technologies to improve the efficiency and effectiveness of accounting operations, regular training and professional development programmes should be organized to equip accountants with the technical knowledge and digital skills required to effectively utilize AI technologies, management should provide adequate technological infrastructure, technical support, and system maintenance to ensure the successful implementation of artificial intelligence, policies that encourage innovation and reduce resistance to technological change should be strengthened to facilitate the successful adoption of artificial intelligence across the organization and KPMG Nigeria should continuously review and upgrade its artificial intelligence systems to improve data security, operational efficiency, and the quality of accounting services.

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