ARTIFICIAL INTELLIGENCE AND ACCOUNTING SERVICES AMONG THE ACCOUNTING PRACTITIONERS IN LAGOS STATE, NIGERIA

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Abstract

Currently, the accounting profession is one of the professions threatened by the emergence of artificial intelligence (AI). This research examined the effect of AI on accounting services. Unlike many earlier studies that focused on voice recognition and expert support systems, this study investigated five AI technologies: speech recognition, computer vision, Natural Language Processing, Expert assistance system, and machine learning. The level of preparedness of accountants for disruptive technology was also investigated. The participants were 140 practicing accountants from 70 audit firms in Lagos state, but only 117 completed copies of the questionnaire were retrieved. The study used logistic regression to assess the impact of AI on five accounting services: auditing, tax planning, data collection, and short and long-term financial decisions. The findings show that only speech recognition and expert support systems have a meaningful impact on accounting services, while the impact of other AI technologies lacks statistical basis. Furthermore, the study reveals that AI has taken over the investigated accounting functions except tax planning. Also, AI cannot throw many accountants out of jobs as majority of them are ready to acquire all pertinent skills that would keep them relevant. It is recommended that all accountants should take advantage of AI by leaving routine tasks for technology while focusing their skills and strengths on tasks that AI cannot yet handle. Also, the regulators of accounting education in academic institutions and professional bodies should increase the volume of relevant information and communication technology (ICT) skills that accountants must possess.

Keywords*: Artificial Intelligence, Machine Learning, Computer Vision, Expert Support System, Natural Language Processing, Speech recognition, accounting services*,

1.1 Introduction

Accounting is as old as business itself, and its role in the survival, growth, and profitability of a business can never be over emphasized. The role of accountants in fostering trust in the quality of financial reporting cannot be overstated in the corporate world (Ezeribe, 2019). Accounting is crucial to a corporation's performance since it aids in the tracking of financial income and expenditures. It provides measurable financial information to investors, management, and the government. It can be used to make business decisions and preserve and expand a business's financial health. It also aids in the creation of budgets and future projections, which can make or break a company, as financial records play an important role in budgeting data. Also, the inevitability of the profession in taxation, auditing, and management can never be overemphasized. However, the advancement in technology has threatened the relevance of the profession in the 21st century (Bhimani & Bromwich, 2010; Jhonson & Kaplan, 1987).

Disruptive technologies have begun to transform our world, particularly the business environment. One of the recent disruptive technologies that has made significant changes to the business world is AI. AI, or sometimes called machine intelligence, is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and other animals (Ziyad, 2019). There are numerous definitions available, but they can be summarised as the majority of them fall into one Systems that think like humans, act like humans, think rationally, and act rationally(Kok et al., 2010). Accounting functions were primarily done manually before the introduction of AI. However, the rise of intelligent machines has led to the use of machines that can do things as well as people. This has cut the time it takes to process accounting transactions by a reasonable amount when compared to manual operations (Akinadewo, 2021).

Artificial intelligence is applicable to many areas of management accounting and performance management (Nielsen, 2020). According to Ezeribe (2019), AI is currently threatening accounting services such as invoice and receipt generation, account consolidation, and auditing. Report writing, numerical data computation, account reconciliation, funds transfer (payments), loan application assessment, and financial transaction verification were also included in the list. According to experts, AI technology will have displaced up to 800 million jobs by 2030(Ezeribe, 2019).

Businesses are currently seeking for new ways to increase profitability by growing revenue, decreasing costs, and discovering new sources of value creation, all in the hopes of overcoming the negative long-term impacts of the 2007-2008 global financial crisis and becoming more competitive and sustainable (Stancheva-Todorova, 2018). Because of the increasing development of AI, according to an interview with 3,200 CEOs from more than 90 countries, global GDP could increase by up to 14% (equal to US$15.7 trillion) by 2030 (PricewaterhouseCoopers (PwC), 2019). According to another survey, four out of five CEOs lamented their staff's lack of vital IT skills and saw this as a threat to growth (PwC, 2018). In today's globalised and competitive economy, it is critical for business owners to grasp and analyse accounting data in order to ensure their company's long-term viability; however, many of them are still unable to effectively utilise accounting data (Tarmidi et al., 2018).

As technology progresses, accounting firms are hiring more non-accounting graduates to assist them in integrating new technologies into their operations. (Lin & Hazelbaker, 2019), One big firm, for example, disclosed that science, technology, engineering, and math majors account for more than 25% of its new entry-level employees. (Lin & Hazelbaker, 2019). Firms can utilise intelligent robots to count inventories, inspect fixed assets, manage bank audit confirmations, and understand contracts or other documents to generate relevant insights. Accountants who embrace AI are more likely to succeed, while those who do not risk falling behind (Lin & Hazelbaker, 2019).

Therefore, given the advancement in technology, the accounting profession is on the verge of experiencing a considerable transition in terms of its position and duties in business and non-business organisations. Proponents of the AI revolution see this as a positive step forward and are ready to handle any challenges that may result from it. Opponents, on the other hand, see it as a setback, stating that many accountants will not be able to cope with the digital work environment and hench thrown out of jobs (Stancheva-Todorova, 2018).

Artificial intelligence may result in unequal labour market gains as a result of several job losses and rise in unemployment (Moilanen, 2020). Despite the widespread acceptance of AI's growing relevance in changing traditional accountants' approaches to accounting jobs, academics, accounting professionals, and other stakeholders are concerned about how accountants in emerging economies, particularly Nigeria, will respond to this development (Akinadewo, 2021). The aim of this study is to assess the effect of AI on accounting services among the accountants in practise in Nigeria. The remaining portion of this article is disaggregated into a literature review, methodology, results, discussion, and conclusion.

2. Literature Review

The literature review is sectionalized into conceptual, theoretical, and empirical reviews.

2.1 Conceptual Clarifications

2.1.1 Artificial Intelligence

There are several definitions available, but the majority of them can be stated as systems that think like humans, act like humans, think rationally, and act rationally (Kok et al., 2010). Artificial Intelligence (AI) is a technique for having a computer, a computer-controlled robot, or software think intelligently in a way that is comparable to the human mind (Ezeribe, 2019). Artificial intelligence is a catch-all term for all types of machine intelligence. However, there are multiple different and distinct areas of AI study and application, even if they occasionally overlap. Types of AI technologies include speech recognition, computer vision, natural language processing, expert support systems, and machine learning.

Speech recognition, also known as speech to text, is a type of AI that entails recording and digitising sound waves, changing basic linguistic units or phonemes, creating words from phonemes, and contextually analysing the words to guarantee that words that sound the same are spelled correctly (Smadi et al., 2015).

Computer vision is a branch of science concerned with assisting computers with their vision. At the most basic level, computer vision issues attempt to infer information about the world from seen image data. It is a multidisciplinary study that is loosely characterised as a subfield of AI and machine learning, both of which may entail the application of specialised methodology as well as general-purpose learning approaches (Karn, 2021). Computer vision has recently gained traction and appeal due to the multiple uses it has found in sectors such as health sports,

entertainment and automobile amongst others. The visual recognition tasks of picture order, limitation, and identification are used in a lot of these kinds of apps.

Natural language processing (NLP) is a branch of (AI) that aims to help computers comprehend how humans write and communicate. People utilise NLP on a daily basis in the following ways: search engine related keywords, spell check, autocomplete, voice text messaging, spam filters, Siri, Alexa, or Google Assistant. Natural language processing, which allows people and computers to communicate, as well as automatic translation, makes it easier to communicate with people all over the world (Mishra & Agrawal, 2019).

An expert system is a computer software that tries to imitate human experts by providing guidance, teaching, and executing intelligent tasks. In artificial intelligence, an expert system is a computer system that models the decision-making abilities of a human expert. (Leung, 2009). Expert systems, rather than standard procedural code, are intended to tackle complex challenges by reasoning through bodies of knowledge represented mostly as if-then rules. AI technologies include expert systems, natural language processing, robotics, speech understanding, speech (voice) recognition, computer vision and scene recognition, intelligent computer-aided instruction, neural computing, intelligent agents, automatic programming, language translation, and news summarization. There are many important technologies that people use today. These include expert systems, neural networks, smart agents, fuzzy logic, and genetic algorithms.

Machine learning is a discipline of AI that focuses on using data to create computer systems that can learn and improve over time (Wehle, 2017). At its most basic, machine learning refers to any type of computer software that can "learn" without being expressly programmed by a human. Machine learning is currently a popular term for a variety of algorithms used in big data analytics and data mining. In the end, machine learning algorithms are the "brains" behind the majority of prediction programmes, such as spam filters, product recommenders, and fraud detectors (Helm et al., 2020).

2.1.2 Accounting Services

Accounting is the practise of recording a company's financial transactions. Accounting includes summarising, analysing, and reporting these transactions to oversight authorities, regulators, and tax collection bodies. Accounting financial statements provide a concise account of a company's operations, financial health, and cash flows over a period of time (Centre for Financial Reporting Reform, 2017).

2.2 Theoretical Review:

Shareholders' theory and Stakeholders' theory are reviewed while the study is underpinned by stakeholders.

2.2.1 Shareholders' Theory

The shareholder theory was proposed by Milton Friedman in the early twentieth century, and it posits that a business firm is solely responsible to its shareholders, and must make a profit for them (Pichet, 2011). Shareholder theory states that the primary responsibility of managers is to maximally satisfy the interest of the shareholders by using the firms' resources to grow their wealth and make profit for them. According to this reasoning, such action would benefit the society as a whole if done legally and without dishonesty or fraud (Castelo, 2013). The artificial intelligence is expected to cut costs and boost profitability for firms. However, the likelihood of productive outcomes is determined by managerial actions. A competitive equilibrium with shareholder value maximisation is never at Pareto Optimum in this scenario (Magill et al., 2013). This is because endogenous uncertainty suggests that company executives have externalities on their customers and employees.

2.2 2. Stakeholders Theory

Edward Freeman proposed the Stakeholder Theory in 1984, which addresses morality and values in organisational management (Freeman, 2016). The stakeholder theory is neither diametrically opposed to nor opposed to the shareholder theory. The stakeholder theory is intended to take other stakeholders' interests into account. Simply expressed, the idea views economic interests from a broader perspective than the shareholder theory. Employees, creditors, vendors, consumers, communities, environmental activists, and governments are all expected to consider all other firm stakeholders' interests. Though AI will reduce expenses and increase profitability, its impact on the employment of many unemployed workers must also be considered. When firms are stakeholder-oriented in the sense that their executives are instructed to optimize a weighted sum of their shareholder value and their contributions to customer and staff wellbeing, the new competitive equilibrium (stakeholder equilibrium) outperforms the capitalist equilibrium. (Magill et al., 2013). This study is underpinned by stakeholders' theory.

2.3 Empirical Review

Akinadewo (2021) investigated the connection between AI and accountants' approaches to accounting functions. The study used a structured questionnaire to collect data from 205 accountants who were specifically chosen for their experience with systems application for accounting and other financial transaction duties. Artificial intelligence has a considerable favorable impact on accountants' approach to accounting functions, according to the results of the logit regression analysis. As a result, when AI is used, accountants' approaches to functional duties will be drastically altered. The study concluded that accountants should be properly trained and retrained in a variety of AI technologies and accounting software packages in order to improve their functional abilities, effectiveness, and efficiency. In a related work, Kwarbai and Omojoye (2021) used multiple regression analysis on data acquired from 277 respondents across Nigeria's big four audit companies. The study discovered that AI has a significant impact on the accounting profession in Nigeria, and it is recommended that audit firms integrate AI into their sampling system so that, in the event of an audit, all data can be audited rather than just a sample. The findings from these studies corroborates the assertion of Ionescu (2019) who on

employing structural equation modelling technique to analyse survey data collected in Romania revealed that as a result of technological improvements, the accounting profession will face a significant transformation in the near future, with routines becoming automated and associated roles becoming obsolete.

Ologe (2020) investigated 399 accounting professionals to see how much they knew about AI and how they felt about it. To investigate for the effect of accountants' traits on their perception, the study utilized a between group design, an independent samples T-test, and a one way between group ANOVA. The results of a one-way ANOVA and an independent sample t-test revealed that accounting professionals in Nigeria have a high degree of awareness about the application of AI, although their knowledge is mostly theoretical, derived from personal readings and the media. Overall, accounting professionals have a favourable attitude about the use of AI in accounting, with the majority expressing support for its development and no concern about job displacement as a result of AI.

Damerji (2019) investigated the association between accounting students' level of technology readiness (TR) and AI technology adoption (TA) in a sample of 101 students from two colleges in Southern California. Technology readiness, perceived ease of use, and perceived usefulness all positively influence technological adoption, according to bivariate correlation and regression analysis. Technology readiness positively influences perceived ease of use and perceived usefulness, and perceived ease of use positively influences perceived usefulness. The relationship between technology readiness and adoption is mediated by both perceived ease of use and perceived utility, according to mediation research.

3. Methodology

This study employed explanatory survey research design by collecting primary data via a structured questionnaire from accounting practitioners in Lagos state Nigeria. 140 accountants in practice from 70 medium sized audit firms were purposively selected for the study. Two auditors were selected from each firm which made the total population 140, but only 117 valid and completed copies of the questionnaire were retrieved from the respondents. Five technologies of AI comprising speech recognition, computer image, natural language processor, expert support system and machine learning were measured on five points Likert scale while accounting services were measured in categorical scale using Yes or No.

4. Results and Discussion

4.1 Validity and Reliability Tests

The study employed content validity by making sure the contents of the instruments actually measured what they were supposed to measure, and by ensuring they addressed the objectives of the study. The data collected for each variable were subjected to factor analysis using Principal components Analysis. 4.0 was used as a threshold and all the data passed the test except one question under accounting services, which as a result could not be subjected to further

analysis. Subsequently, the study employed Cronbach's Alpha to test the reliability of all the data that passed factor analysis test. The results are as shown below:

Table 1 Reliability Tests

SN	Variables	No of questions	Cronbach's Alpha	Comments
1	Speech Recognition	6	.909	Reliable
2	Computer Vision	4	.850	Reliable
3	Natural Language Processing	4	.874	Reliable
4	Expert Support System	5	.917	Reliable
5	Machine Learning	6	.938	Reliable
6	Accounting Services	11	.939	Reliable
7	Challenges of Artificial Intelligence	6	.841	Reliable
8	Benefits of Artificial Intelligence	9	.897	Reliable
9	Skills Required for Artificial Intelligence	6	.820	Reliable

Source: Author's Computation (2021)

All the variables are reliable since their Cronbach Alpha's coefficient are not less than 0.7

4.2. Artificial Intelligence and Accounting Services

4.2.1 Artificial Intelligence and Auditing

The Cox & Snell R-square in table 4.2 which is .263 implies only 23.6% of factors that influences using technology for performing audit task are included in the model while the remaining factors (73. 7 %) were not included in the model. Also, Nagelkerke R-square which is .504 implies that 50. 4% of factors that influences using technology for performing audit task were included in the model while the remaining 49.6% factors were not captured by the model. Even thou the R-squares are low, their interpretation should be handled with caution because they are Pseudo-R-square and they are usually low. Moreover, the table shows that the model is significant which implies its validity (Chi-Square = 35.382, df =5, p = .000 < .05). Overall percentage of correct classification was 97% which also implies the robustness of the model.

Table 2 Artificial Intelligence and Auditing (Variables in the Equation)

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	SpeechRecognition	.289	.118	5.952	1	.015	1.335
	ComputerVision	.037	.193	.037	1	.848	1.038
	NaturalLanguageProcession	-.392	.221	3.146	1	.076	.676
	ExpertSupportSystem	.163	.122	1.767	1	.184	1.177
	MachineLearning	.257	.144	3.167	1	.075	1.293
	Constant	-4.239	1.819	5.427	1	.020	.014

Source: Author's Computation (2022)

The table reveals a significant positive effect of speech recognition on auditing service (β = .289, P= .015 <.05). This implies that the higher the investigated audit firms use the speech recognition form of artificial intelligence, the more they use it for performing audit assignment. This is also confirmed by the odd ratio (Exp(B) = 1.335> 1) which implies that the higher the use of speech recognition part of artificial intelligence, the more they use it for performing audit task.

However, other components of artificial intelligence in term of computer vision, natural language processing, expert support system and machine learning do not have a significant effect on audit task.

4.2.2 Artificial Intelligence and Tax Planning

In like manner, Cox & Snell R- square which .254 implies that only 25.4% of factors that affect tax planning by artificial intelligence were included in the model while other factors were not included. In the same vein Nagelkerke R-square indicates that 39.7% of factors that influence using technology for tax planning are included in the model while other factors were not included in the model. Notwithstanding the low R-square, the model is valid as shown by the omnibus test (Chi square = 33.964, df = 5, p = .000 < .05). Overall percentage of correct classification was 84.5% which implies the fitness of the model

Table 3. Artificial Intelligence and Tax Planning

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Speech Recognition	.130	.074	3.078	1	.079	1.139
	Computer Vision	-.010	.136	.005	1	.942	.990
	Natural Language Procession	-.058	.133	.192	1	.662	.943
	Expert Support System	.178	.102	3.043	1	.081	1.195
	Machine Learning	.090	.096	.883	1	.347	1.094
	Constant	-3.903	1.181	10.925	1	.001	.020

Source: Author's Computation (2022)

Table 3 shows that none of the component of artificial intelligence including Speech Recognition, Computer Vision, Natural Language Processing, Expert Support System and Machine Learning has significant effect on tax planning.

4.2.3 Artificial Intelligence and Data Gathering

Similarly, Cox and Snell R- square which .333 implies that only 33.3% of factors that affect data gathering by artificial intelligence were included in the model while other factors were not included. In the same vein Nagelkerke R-square indicates that 60.4% of factors that influence using technology for data gathering are included in the model while other factors were not included in the model. Notwithstanding the low R-square, the model is valid as shown by the omnibus test (Chi square = 47.004, df = 5, p = .000 < .05). Overall percentage of correct classification is 94% which implies the fitness of the model since it is greater than 70%

Table 4. Table Artificial Intelligence and Data Gathering

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Speech Recognition	.306	.129	5.596	1	.018	1.358
	Computer Vision	-.138	.228	.365	1	.545	.871
	Natural Language Procession	-.170	.213	.631	1	.427	.844
	Expert Support System	.641	.251	6.525	1	.011	1.898
	Machine Learning	.040	.151	.071	1	.790	1.041
	Constant	-7.995	2.653	9.077	1	.003	.000

Source: Author's Computation (2022)

The Table 4 shows that speech recognition has a significant effect on using technology for data gathering (B= .306, p = .018 < .05). Similarly, Expert support system has a significant positive effect on the use of technology for data gathering (B= .641, P = .011 < .05). However, computer vision (B= -.138, P = .545 > .05), Natural Language Processing (B= -.170, P = .427 > .05) and Machine Learning (B= .040, P =. 790 > .05) do not have any significant effect on data gathering.

4.2.4 Artificial Intelligence Short Term Decision

Moreover, Cox & Snell R- square which .319 implies that only 31.9% of factors that influence using computer technology for short term decisions by artificial intelligence were included in the model while other factors were not included. In the same vein Nagelkerke R-square indicates that 56.4% of factors that influence using technology for short term decisions are included in the model while other factors were not included in the model. Notwithstanding the low R-square, the model is valid as shown by the omnibus test (Chi square = 44.592, df = 5, p = .000 < .05). Overall percentage of correct classification is 92.2% which implies the fitness of the model since it is greater than 70%

Table 5 Artificial Intelligence and Short-Term Financial Decisions

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Speech Recognition	.321	.122	6.916	1	.009	1.379
	Computer Vision	-.187	.203	.845	1	.358	.830
	Natural Language Processing	-.272	.205	1.769	1	.184	.762
	Expert Support System	.600	.227	7.022	1	.008	1.823
	Machine Learning	.015	.138	.012	1	.914	1.015
	Constant	-6.256	1.964	10.147	1	.001	.002

Source: Author's Computation (2022)

Table 5 shows that Speech recognition has a significant effect on short term financial decisions (B= .321, P = .009 > .05). Also, the table shows that expert support system has a significant effect on short term financial decisions while other components do not have significant effect.

4.2 5 Artificial Intelligence and Long-Term Financial Decisions

In the same manner, Cox & Snell R- square which .152 implies that only 15.2% of factors that influence using computer technology for long term decisions by artificial intelligence were included in the model while other factors were not included. In the same vein Nagelkerke R-square indicates that 22.3% of factors that influence using technology for short term decisions are included in the model while other factors were not included in the model. Notwithstanding the low R-square, the model is valid as shown by the omnibus test (Chi square = 19.007, df = 5, p = .002 < .05). Overall percentage of correct classification is 79.3% which implies the fitness of the model since it is greater than 70%.

Table 6. Artificial Intelligence and Long-term Financial Decisions

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Speech Recognition	.111	.061	3.315	1	.069	1.118
	Computer Vision	.064	.105	.373	1	.541	1.066
	Natural Language Processing	-.051	.105	.239	1	.625	.950
	Expert Support System	.214	.093	5.291	1	.021	1.239
	Machine Learning	-.094	.078	1.467	1	.226	.910
	Constant	-2.434	.913	7.098	1	.008	.088

Source: Author's Computation 2022

Similarly, Table 6 shows that only expert support system has a significant effect on long term financial decisions (B= 2.14, p = .021 > .05).

4.3 Preparedness of Accountants for required skills to remain Relevant

The respondents were asked to show their level of thirst for certain skills that are necessary for them to remain relevant despite the artificial intelligence. Table 7 shows that 30 (25.6%) accountants are craving for technical skills to a great extent and 81 (69.2%) are thirsting for the skills to a very great extent, while 5(4.3%) were not sure. In like manner, 8(6,8 %) are not thirsting for emotional intelligence, 15 (12.8%) of them were not sure, 27 (23.1%) of them are thirsting for the skill to a great extent while 67 (57.3%) are craving for the skills to a very great extent. In like manner, 28(23.9%) accountants are craving for digital skills to a great extent, and 85 (72.6%) of them are thirsting for the skills to a very great extent, while 4 (3.4%) of them were not sure.

Furthermore, only 2 (1.8%) accountants were not craving for creative skills, 5 (4.3%) of them were not sure, 35 (29.9%) are craving for the skills to a great extent and 75 (64.1%) are craving for the skills to a very great extent. Also, 49 (41.9%) are craving for the ability to anticipate future trends accurately and fill the gaps in an innovative way to a great extent and 63 (53.85) are craving for the skills to a very great extent while only 5 (4.3%) were not sure. In the same vein, 44 (37.6%) accountants are longing for the ability to understand customer expectation and meet the desired outcome to a great extent while 68 (58.1%) are craving for the skills to a very great extent while 5 (4.3%) are not sure.

Table 7 Preparedness of Accountants for required skills to remain relevant

		Count	Column N	Max	Min	Mean	Median	Mode	SD	Row N %
To what extent do you thirst for Technical Skill?	To a very low extent	0	0.0%							
	To a low extent	0	0.0%							
	Not sure	5	4.3%							
	To a great extent	30	25.6%							
	To a very great extent	81	69.2%							
	.00	1	0.9%							
	Total	117		5.00	.00	4.62	5.00	5.00	.71	100.0%
To what extent do you thirst for emotional intelligence?	To a very low extent	0	0.0%							
	To a low extent	8	6.8%							
	Not sure	15	12.8%							
	To a great extent	27	23.1%							

	To a very great extent	67	57.3%							
	Total	117		5.00	2.00	4.31	5.00	5.00	.94	100.0%
To what extent do you thirst for digital skills?	To a very low extent	0	0.0%							
	To a low extent	0	0.0%							
	Not sure	4	3.4%							
	To a great extent	28	23.9%							
	To a very great extent	85	72.6%							
	Total	117		5.00	3.00	4.69	5.00	5.00	.53	100.0%
To what extent are you craving for creative skills?	To a very low extent	1	0.9%							
	To a low extent	1	0.9%							
	Not sure	5	4.3%							
	To a great extent	35	29.9%							
	To a very great extent	75	64.1%							
	Total	117		5.00	1.00	4.56	5.00	5.00	.70	100.0%
To what extent are you craving for the ability to anticipate future trends accurately and fill the gaps in an innovative way	To a very low extent	0	0.0%							
	To a low extent	0	0.0%							
	Not sure	5	4.3%							
	To a great extent	49	41.9%							
	To a very great extent	63	53.8%							
	Total	117		5.00	3.00	4.50	5.00	5.00	.58	100.0%
To what extent are you craving for the ability to understand customer expectation and meet the desired outcome	To a very low extent	0	0.0%							
	To a low extent	0	0.0%							
	Not sure	5	4.3%							
	To a great extent	44	37.6%							
	To a very great extent	68	58.1%							
	Total	117		5.00	3.00	4.54	5.00	5.00	.58	100.0%

Source: Author's Computation (2022)

4.4 Discussion of Findings

The study reveals that only speech recognition has a significant positive effect on audit service, which implies that the more people use speech recognition devices, the more they use them for audit assignments. This implies that audit artificial intelligence is replacing accountants for some audit tasks. This result backs up the findings of earlier researchers that artificial intelligence has a significant effect on accounting service (Kwarbai & Omojoye, 2021) and that the emergence of artificial intelligence would drastically alter the functions of accountants (Akinadewo, 2021) In the same manner, the study reveals that none of the artificial intelligence technologies has a significant effect on tax planning. This implies that artificial intelligence is not yet applicable to tax planning. This study lends credence to the position of Ezeribe (2019) that accountants who want to remain relevant should not limit their jobs to tax computation but also go for tax planning.

Moreover, the study shows that only speech recognition and expert support systems have a significant effect on data gathering, which is one of the functions of management accounting. Also, only speech recognition and expert support systems have a significant effect on short-term financial decisions, which are also a part of management accounting functions. However, only an expert support system has a significant influence on long- term financial decisions. The study indicates that only speech recognition and expert support systems are the two artificial intelligence technologies that have an effect on accounting services, while computer vision, natural language processing, and machine learning do not have an effect on accounting services yet. Moreover, the study found that accountants are ready to acquire all the necessary skills to cope with artificial intelligence and remain relevant. This also lends support to earlier findings that accountants have positive attitude to artificial technology (Ologe, 2020)

5. Summary and Conclusion

The study has empirically revealed that artificial intelligence has taken over some audit tasks and management accounting functions. However, it has not been able to take over tax planning. Furthermore, artificial intelligence cannot force many accountants out of work because the vast majority of them are prepared for disruptive technologies and are eager to learn all the necessary skills to remain relevant.

The study wishes to recommend that accountants take advantage of other forms of artificial intelligence technologies for effective and efficient service delivery. It is recommended that all accountants should take advantage of AI by delegating mundane tasks to technology while focusing their skills and strengths on tasks that AI cannot yet handle. Also, the regulators of accounting education in academic institutions and professional bodies should increase the volume of relevant information and communication technology (ICT) skills that accountants must possess. Future researchers are also encouraged to investigate the effect of artificial intelligence on other services provided by accountants.

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