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- I. Title page
- II. Abstract (150-250 words)
- III. Keywords (3-5)
- IV. Introduction
- V. Literature Review
- VI. Methodology
- VII. Results and Discussion
- VIII. Conclusion and Recommendations
- IX. References (APA 7th Edition)
- X. Appendices (if necessary)
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EFFECT OF ARTIFICIAL INTELLIGENCE (AI) TOOLS ON ACCOUNTING RESEARCH EFFECTIVENESS AMONG POSTGRADUATE STUDENTS IN NIGERIAN UNIVERSITIES

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ABSTRACT

This study examines the impact of Artificial Intelligence (AI) technologies on the effectiveness of accounting research conducted by postgraduate students in Nigerian universities. While AI tools are increasingly integrated into global research practices, limited evidence exists on their specific influence within the Nigerian academic accounting context. Using a quantitative research design and survey data from postgraduate accounting students across selected universities, the study explores how AI adoption shapes research productivity, quality, and methodological rigor. The findings reveal significant positive relationships between AI tool usage and enhanced research effectiveness, although challenges persist in the form of technical limitations, ethical considerations, and inadequate institutional support. The study contributes to the literature on educational technology adoption in specialized disciplines within developing economies and offers practical recommendations for universities, regulators, and students to strengthen AI integration in accounting research.

Keywords: Artificial Intelligence, Accounting Research, Postgraduate Education, Research Effectiveness, Nigerian Universities

Introduction

Accounting research effectiveness represents a critical component of academic excellence in higher education institutions worldwide. Research effectiveness encompasses the ability of researchers to conduct high-quality studies that contribute meaningfully to knowledge advancement, demonstrate methodological rigor, and produce outcomes that influence both academic discourse and professional practice (Guthrie et al., 2019). In the context of postgraduate accounting education, research effectiveness becomes particularly crucial as it determines the quality of thesis production, scholarly publications, and the overall contribution to the accounting discipline. The contemporary academic landscape has witnessed unprecedented technological transformation, with Artificial Intelligence (AI) emerging as a revolutionary force reshaping research paradigms across disciplines (Guan et al., 2022). Accounting research and education in particular, have experienced the introduction of AI technologies that offer new approaches to data analysis, literature review, hypothesis development, and knowledge synthesis (Kokina & Davenport, 2017). The integration of AI in accounting research represents a significant departure

from traditional research methodologies that have historically dominated the field.

AI technologies, such as ChatGPT, Google Gemini, and specialized accounting analytical software, have emerged as powerful tools with capabilities ranging from automated literature reviews to advanced statistical analysis, potentially transforming how accounting research is conceived, conducted, and executed (Moll & Yigitbasioglu, 2019). These tools possess unique strengths that enable rapid information processing, pattern recognition in complex datasets, and sophisticated analytical capabilities that were previously inaccessible to many researchers, particularly in resource-constrained environments.

The Nigerian university education system, while experiencing rapid growth in accounting education at postgraduate levels, faces unique challenges regarding technology adoption and implementation (Okafor, 2012). With over 170 universities offering multiple accounting programs and approximately 15,000 postgraduate accounting students nationally (NUC, 2023), the extent of AI integration in research activities remains a critical concern for this substantial academic population. However, the specific patterns of adoption, effectiveness determinants, and

implementation challenges of AI applications in accounting research within Nigerian universities remain inadequately explored. The current study emerges against the backdrop of a global technological advancement context juxtaposed with Nigeria's specific educational and socioeconomic environment. Nigerian universities operate within an ecosystem characterized by infrastructural limitations, funding constraints, and varying degrees of technological readiness (Nwezeh, 2010). Nevertheless, there exists considerable enthusiasm among faculty and students regarding technology integration in teaching and research (Olaniran, 2020). Despite the increasing global application of AI technologies in academic research, a significant knowledge gap exists regarding their direct impact on postgraduate accounting research effectiveness within Nigerian universities. This gap is particularly concerning given the discipline-specific nature of accounting research and the unique socio-technological context of Nigerian higher education. Several areas demonstrate this research gap, including limited discipline-specific research on accounting studies, geographical bias toward developed economies in existing literature, inadequate understanding of variation patterns in AI adoption, unresolved ethical considerations, and the absence of systematic empirical studies on AI's impact on research quality and productivity.

The primary objective of this study is to investigate the effect of Artificial Intelligence tools on the effectiveness of accounting research among postgraduate students in Nigerian universities. Specifically, the study aims to:

1. Examine the awareness and utilization of AI tools, including ChatGPT, Google Gemini, and accounting analytical software, among accounting postgraduate students in Nigerian universities.
2. Evaluate the effect of ChatGPT on the productivity of accounting research among postgraduate students.
3. Assess the effect of Google Gemini on the quality of accounting research outputs produced by postgraduate students.
4. Examine the effect of SPSS with AI features on the methodological rigor of accounting research among postgraduate students.
5. Evaluate the effect of AI-powered accounting software on the quality of accounting research outputs produced by postgraduate students.

Based on the research objectives and literature review, the following hypotheses were formulated in null form:

H₀₁: ChatGPT has no significant effect on accounting research productivity among postgraduate students in

Nigerian universities.

H₀₂: Google Gemini has no significant effect on accounting research quality among postgraduate students in Nigerian universities.

H₀₃: AI-powered accounting software has no significant effect on accounting research quality among postgraduate students in Nigerian universities.

H₀₄: SPSS with AI features has no significant effect on methodological rigor in accounting research among postgraduate students in Nigerian universities.

Literature Review

This section presents conceptual review, empirical literature and theoretical framework of the study.

Conceptual Review

Accounting Research Effectiveness

Effectiveness of research is a construct that is multi-dimensional and encompasses several aspects of research outcomes and performance. In this study, effectiveness in accounting research is described in terms of four overall dimensions that, when combined, convey the comprehensive nature of research performance in academic settings. Productivity is a quantitative indicator of research output, including the number of final studies, published articles, conference proceedings, and research projects within stipulated periods (Guthrie et al., 2019). Productivity captures the ability of researchers to produce high-quality research outputs, which is especially important for postgraduate students who need to demonstrate sustained research productivity across their academic cycles. AI tools have the potential to impact productivity by automating mundane research activities, speeding up the processing of literature, and improving data analysis functions.

Quality refers to the academic rigor, theoretical depth, analytical acuity, and methodological refinement of research products (Raffournier & Schatt, 2018). This dimension encompasses theoretical adequacy, methodological appropriateness, analytical exactness, and contribution towards discipline learning. Quality issues are paramount in accounting research where precision, exactness, and professionalism are essential. AI technologies have the capacity to influence quality through enhanced methodological sophistication, analytical exactness, and availability of broader literature bases.

Efficiency is an indicator of reducing time, effort, and resources used in research endeavors while obtaining the ratio of inputs (time, effort, resources) to outputs (research findings, publications, generation of knowledge) (Zeff, 2018). Efficiency is particularly necessary in environments where there are minimal resources, and optimum utilization of available resources is needed. Efficiency may be enhanced by

utilizing AI tools that can also automate repetitive tasks, reduce manual data processing, and ease literature review procedures.

Innovation involves creating and applying new methods of research, techniques, questions, or theoretical frameworks in making progress towards disciplinary knowledge (Oler et al., 2010). Accounting research innovation is about developing new analysis methods, exploring previously unattempted questions, or inventing new theories. AI can facilitate innovation by pinpointing gaps in research areas, suggesting hypotheses, and allowing multidisciplinary approaches.

Artificial Intelligence Tools in Academic Research

ChatGPT is a sophisticated language model developed by OpenAI that utilizes sophisticated natural language processing algorithms to generate human-like text responses. In academic research environments, ChatGPT is used to carry out different tasks, including literature synthesis, content writing, hypothesis formulation, and research question formation. The strength of ChatGPT lies in its ability to process a vast amount of information within a short period of time and generate contextually accurate, coherent text that can assist researchers at each stage of the research process. In addition, Google Gemini is Google's advanced AI system that seeks to understand and generate text, code, and other forms of content. In research environments, Gemini offers capabilities in data analysis, pattern recognition, content summarization, and research method assistance. Its integration into the Google ecosystem allows researchers to access information materials and analysis capabilities with ease.

SPSS with AI features

SPSS with artificial intelligence capabilities represents a significant advancement in statistical analysis software for accounting research. Modern iterations of SPSS incorporate machine learning algorithms, automated data preparation, predictive analytics, and intelligent pattern recognition features. In the context of accounting research, SPSS's AI functionality assists researchers in identifying statistical relationships, recognizing inconsistencies in financial data, automating sophisticated statistical operations, and providing intelligent suggestions for the correct methods of analysis. SPSS's AI upgrade benefits accounting researchers particularly because they require sophisticated statistical analysis yet may not necessarily have sophisticated programming skills.

AI-Driven Accounting Software

AI accounting software refers to cloud-based accounting systems that integrate artificial intelligence features to process, analyze, and report data more efficiently. Xero AI, QuickBooks AI, and

Sage AI are some of these software, which offer features such as automated transaction categorization, intelligent financial forecasting, detection of anomalies in financial information, and predictive analysis of business performance. Under research environments, such applications provide researchers with the capability to apply real-life financial calculation strengths in order to carry out more practical and applied research approaches in accounting research.

Empirical Studies Review

Emerging literature has explored the relationship between AI tools and research effectiveness and quality. Zawacki-Richter et al. (2019) conducted a systematic review of 146 studies on the applications of AI in higher education. From their studies, there was an overriding focus on intelligent tutoring systems and automated grading, with relatively lesser emphasis placed on research purposes. The geographical distribution of reviewed studies showed peaks in Europe, North America, and East Asia, with indexations pointing towards wide research gaps in the adoption of AI within African learning institutions. The study confirmed the need for further in-depth studies on AI integration in research activities across different geographical locations.

Hsiao and Yang (2021) surveyed 423 researchers from various disciplines to examine AI adoption behaviors in academic research. Their report showed significant differences in disciplinary adoption, where the adoption levels were higher in computer science, engineering, and natural sciences compared to social sciences and humanities. The study separated perceived usefulness and compatibility with existing research habits as central drivers of adoption intention. These findings show that discipline-specific drivers are a main driver of AI adoption behaviors in academic research.

In accounting research, Kokina et al. (2021) investigated AI adoption among accounting researchers through bibliometric analysis and semi-structured interviews within a mixed-methods design. The study showed an increasing usage of AI techniques in accounting research, with an emphasis in areas of financial accounting and auditing. There existed immense heterogeneity between research communities, with technological proficiency and methodological problems being identified as key deterrents to broader adoption. In the Nigerian context, Adeyemi (2022) conducted a survey of 218 postgraduate students across different fields in three Nigerian universities and found a medium level of awareness but low usage of AI research tools. Technical infrastructure issues, cost considerations, and a lack of proper training were identified as key hurdles, the study found. There was no focus specifically among accounting students or usage

within fields in the study, supporting the call for targeted studies among accounting students.

Wang et al. (2023) conducted a quasi-experimental study with 142 doctoral students across different disciplines to examine the impact of AI research assistants on research productivity. Our findings showed that students using AI research assistants completed literature reviews 37% faster and had access to higher quality information sources compared to control groups. Quality assessments of subsequent research proposals, however, revealed ambiguous results, with increases in comprehensiveness being potentially offset by a shortage of theoretical depth. Focusing specifically on writing productivity, Lund et al. (2022) experimented with the effect of AI writing assistants on drafting research manuscripts in a sample of 89 researchers. The intervention was found to reduce draft completion time by 28% and to enhance volume of output, with specific benefits for non-native English speakers. Concerns were expressed regarding stylistic homogenization and the potential undermining of disciplinary writing characteristics.

In accounting studies, Moll and Yigitbasioglu (2019) made a comparison of methodological evolution of accounting studies based on bibliometric examination of five top accounting journals for twenty years. Their comparison revealed increasingly sophisticated methodology and greater application of computational power, particularly for quantitative research streams. While the study examined general technological trends rather than stated AI impacts, it provided context to guide technological uptake in accounting studies. More specific examination of AI impact on accounting research was conducted by Chen and Li (2023) in comparative study of 246 accounting research papers that utilized AI techniques with matched samples using traditional methods. The findings indicated that AI papers had greater methodological rigor and utilized bigger data, while findings regarding theoretical contribution and contextualization were inconclusive.

Larson and DeChurch (2020) surveyed 327 journal editors across disciplines regarding AI policy and academic authorship concerns. The study discovered widespread uncertainty regarding attribution requirements, transparency expectations, and quality control of AI-assisted manuscripts. Editorial policies and review practices manifested considerable heterogeneity, which may introduce inconsistencies in assessing AI-assisted research. Addressing integrity concerns, Zhang et al. (2022) conducted experimental research examining the effectiveness of plagiarism detection tools in identifying AI-generated academic text. The results showed significant limitations in current detection systems because only 62% of the AI-generated texts were adequately identified as being

non-human written, which brings academic integrity assurance mechanisms into question.

In accounting education specifically, Apostolou et al. (2023) surveyed 157 accounting instructors on the application of AI in student research projects. The findings indicated significant concern over academic integrity and skill development, with 73% of the respondents stating that there were no institutional policies for regulating AI usage in academic work. Within the Nigerian university context, Olaniran (2020) assessed more general technological problems for academic researchers using input from 42 faculty members across different disciplines. Some of the major hindrances to overall technology adoption that could potentially influence AI adoption specifically included infrastructure constraints, irregular power supply, low internet access, and inadequate technical support.

From the scant literature, it is noted that AI tools positively impact the effectiveness and quality of accounting research. However, most of the extant literature are theoretical and conceptual in nature, which may be subject to the authors' biases. This paper addresses this lacuna by empirically examining how AI tools impact the quality and effectiveness of accounting research in the Nigerian universities.

Theoretical Review

This study is grounded in the Technology Acceptance Model (TAM) which provides theoretical backing to explain technology adoption processes in education. TAM was originally developed by Davis (1989) and subsequently extended by Venkatesh and Davis (2000). Technology adoption, according to TAM, is primarily affected by two important perceptions: perceived usefulness and perceived ease of use. In the context of AI adoption in accounting research, TAM provides explanatory power to describe usage behavior and adoption patterns. According to the model, accounting researchers' adoption of AI tools would be motivated primarily by perceived usefulness (researchers' beliefs about whether AI tools can enhance research quality, accelerate the process, enable new research methods, or otherwise improve research outcomes) and ease of use (researchers' attitudes regarding the availability, usability, and learning requirements of AI research tools).

The TAM2 is an extended model that incorporates social influence processes and cognitive instrumental processes, including additional explanatory dimensions of specific relevance in the academic research environment, where peer influence and quality are of utmost concern. The theoretical foundation for the explanation of individual, institutional, and contextual factors affecting AI adoption and use by accounting researchers in Nigerian universities is encapsulated in this framework.

Methodology

This study employed a quantitative research design involving a cross-sectional survey approach to examine the correlation between the utilization of AI tools and the efficacy of accounting research among Nigerian university postgraduate students. A quantitative design was utilized to enable statistical analysis of the relationship strength between variables and testing the hypothesized hypotheses in an organized manner. The study population comprised all postgraduate students taking accounting courses in Nigerian universities. According to the National Universities Commission (NUC, 2025), approximately 11,500 students were pursuing master's and doctoral-level accounting programs in Nigeria's 170 universities during the study period.

A multistage sampling technique was employed. In stage 1, twelve universities were purposively selected across Nigeria's six geopolitical zones to give a representative federal, state, and private institutions. The selection criteria were established postgraduate accounting programs (minimum five years), minimum enrolment of 50 postgraduate accounting students, geographical distribution across Nigeria and institutional diversity (federal, state, private). In stage 2, participants at each of the selected universities were drawn by stratified random sampling proportionate to programme level (Master's and Doctoral) and area of specialization.

Sample size was determined using Yamane's (1967) formula: $n = N / (1 + N(e)^2)$ Where: n = Sample size, N = Population size (11,500), e = Level of precision (5%)

$$n = 11,500 / (1 + 11,500(0.05)^2) = 387$$

To accommodate potential non-response, the sample size was increased by 20% to 464 respondents.

A structured questionnaire was developed based on research objectives and theoretical framework, comprising several sections, including demographic profile of respondents and the instruments on research variables. The instrument was put under rigorous validation through content validity review by three experts, face validity testing among 15 postgraduate accounting students, and reliability testing that yielded Cronbach's alpha coefficients between 0.78 and 0.91. The questionnaire were adopted from previous studies (Wang et al., 2023; Zeff, 2018; Zhang et al., 2021) with some modifications

The data were using multiple OLS regression. In addition, SPSS version 27.0 was used as the tool of analysis. The descriptive statistics include measures of central tendency, dispersion, frequencies. To test the hypothesized relationships, the following multiple regression model was specified:

$$ARE = \beta_0 + \beta_1 \text{ChatGPT} + \beta_2 \text{Gemini} + \beta_3 \text{SPSS_AI} + \beta_4 \text{APS} + \beta_5 \text{CONT} + \varepsilon$$

Where:

ARE = Accounting Research Effectiveness

ChatGPT = ChatGPT utilization

Gemini = Google Gemini utilization

SPSS_AI = SPSS with AI features utilization

APS = AI-Powered accounting Software utilization

CONT = Control variables (demographic characteristics)

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Coefficients

ε = Error term

Results and Discussion

The study collected data from 464 postgraduate accounting students in twelve universities in Nigeria. Table 1 below presents the descriptive analysis.

Table 1
Descriptive Analysis

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	241	52.0
	Female	223	48.0
Age Group	Below 25	102	22.0
	26–30	172	37.1
	31–35	118	25.4
	Above 35	72	15.5
Programme of Study	Master's	316	68.1
	PhD	148	31.9
Year of Study	First Year	153	33.0
	Second Year	190	41.0
	Third Year and above	121	26.0

Work Experience	None	79	17.0
	1–3 years	181	39.0
	4–6 years	126	27.2
	Above 6 years	78	16.8
AI Tool Awareness	High Awareness	284	61.2
	Low/Moderate Awareness	180	38.8
AI Tool Usage (Adoption Rate)	ChatGPT	354	76.3
	SPSS (AI capability)	270	58.2
	AI Accounting Software	243	52.4
	Google Gemini	228	49.1
Frequency of AI Tool Usage	<3 times per week	209	45.0
	3-5 times per week	255	55.0
Formal AI Training	Yes	162	35.0
	No	302	65.0
Institutional Support	Adequate	195	42.0
	Inadequate	269	58.0

The sample was gender-balanced (52% male, 48% female), and most of the respondents were aged 26-30 (37.1%). Most of the respondents were pursuing their master's (68.1%) and were in their second year of study (41%). Regarding work experience, 39% had between 1-3 years, providing them with practical experience to study. Findings were of high AI tool awareness (61.2%) but variable usage. ChatGPT had highest adoption rate (76.3%), followed by SPSS AI capability (58.2%), AI accounting software (52.4%),

and Google Gemini (49.1%). Positively, 55% of users had used AI tools three or more times a week. However, only 35% had received AI training formally, and 42% had said that they had enough institutional support.

Next, the correlation analysis was conducted. Correlation test revealed positive and significant associations between all AI tools and measures of research effectiveness.

Table 3
Correlation Analysis

Variables	1	2	3	4	5	6
1. ChatGPT	—					
2. SPSS AI capability	.432**	—				
3. AI Accounting Software	.401**	.567**	—			
4. Google Gemini	.449**	.512**	.436**	—		
5. Research Productivity	.521**	.476**	.439**	.428**	—	
6. Research Quality	.489**	.503**	.556**	.472**	.637**	—

ChatGPT correlated most with research productivity ($r = 0.521$, $p < 0.01$), whereas AI accounting software correlated strongest with research quality ($r = 0.556$, $p < 0.01$). Moderate inter-tool correlation (0.401-0.567) suggests complementary functionalities. Overall the results indicate the AI has positive correlations with

research quality and productivity in the Nigerian tertiary institutions. The mild correlations among the independent variables suggest absence of multicollinearity.

The regression analysis was conducted to test the research hypotheses.

Table 3
Multiple Regression Analysis Results

AI Tool	β Coefficient	t-value	p-value
Constant	0.22	6.37	0.000
ChatGPT	0.42	5.26	<0.001
Google Gemini	0.38	4.87	<0.001
SPSS with AI Features	0.41	5.12	<0.001
AI-Powered Accounting Software	0.44	5.31	<0.001
R-squared	0.34		
Adj. R-squared	0.36		
F	18.52		
Prob	0.000		

The results of the multiple regression analyses revealed that the use of AI tools significantly predicts different dimensions of research effectiveness among postgraduate accounting students in Nigeria. Across the estimated models, the overall fit was strong, as all models were statistically significant at $p < 0.001$, with explanatory power (R^2) ranging from 0.312 to 0.358. This indicates that between 31% and 36% of the variance in research effectiveness measures can be explained by AI tool adoption, highlighting their growing importance in shaping research outcomes.

A closer examination of the standardized regression coefficients (β) underscores the differentiated impact of specific AI tools on research effectiveness. AI accounting software exhibited the strongest predictive influence on research quality ($\beta = 0.442$), suggesting that domain-specific AI applications provide robust analytical support, reduce human error, and improve the reliability of results. This finding implies that specialized AI technologies are particularly effective in enhancing precision and credibility in accounting research. In terms of productivity, ChatGPT emerged as the most significant predictor ($\beta = 0.418$). This demonstrates its utility in facilitating literature reviews, generating research ideas, and accelerating writing processes. The result aligns with recent literature that identifies generative AI as a tool that enhances efficiency by reducing the time and cognitive load required in knowledge production. For postgraduate students balancing coursework, research, and professional commitments, this efficiency is especially valuable.

Methodological rigor was most strongly influenced by SPSS AI capability ($\beta = 0.412$). This relationship highlights the contribution of AI-enhanced statistical software in supporting complex analyses, improving accuracy in data handling, and guiding appropriate methodological choices. By integrating AI

functionalities into familiar statistical environments, such tools lower the barriers to advanced methods and improve overall research design strength.

Overall, the regression analysis demonstrates that AI tools are not just supplementary resources but play significant and differentiated roles in advancing research effectiveness. While AI accounting software enhances the quality and robustness of outcomes, ChatGPT drives productivity, and SPSS AI strengthens methodological rigor. Taken together, these findings suggest that a balanced adoption of general-purpose and specialized AI tools can create synergistic effects, equipping postgraduate researchers with the capabilities needed to conduct impactful, credible, and efficient research.

The analysis revealed that ChatGPT has a significant positive effect on accounting research productivity ($\beta = 0.42$, $t = 5.26$, $p < 0.001$). Therefore, the null hypothesis is rejected, indicating that ChatGPT significantly enhances research productivity among postgraduate accounting students. Google Gemini demonstrated a significant positive effect on accounting research quality ($\beta = 0.38$, $t = 4.87$, $p < 0.001$). The null hypothesis is rejected, indicating that Google Gemini significantly improves research quality. SPSS with AI features demonstrated a significant positive effect on methodological rigor in accounting research ($\beta = 0.41$, $t = 5.12$, $p < 0.001$). The null hypothesis is rejected, indicating that SPSS AI capabilities significantly enhance research methodological sophistication. AI-powered accounting software showed a significant positive effect on accounting research quality ($\beta = 0.44$, $t = 5.31$, $p < 0.001$). The null hypothesis is rejected, confirming that specialized AI accounting platforms significantly enhance research quality.

The findings are in line with research findings that AI

technologies significantly influence accounting research effectiveness among Nigerian university postgraduate students. The significant productivity effect of ChatGPT is in line with its content generation, literature summarizing, and streamlining research processes. Google Gemini's research quality effect is in line with its high-level analytical capabilities and its accommodation of full information sources. The unusually high effect of accounting analytical software on research quality is in line with the relevance of discipline-specific tools to specialized research contexts. These results support Technology Acceptance Model forecasts of technology adoption and use. The optimistic effects suggest that when AI tools are recognized as beneficial and relatively simple to use, they substantially enhance research outcomes. The results also validate global trends in AI adoption in scholarly studies but have specific evidence from the Nigerian context. Despite the benefits, there were challenges like insufficient access to AI tools (53%), lack of technical skill (47%), cost limitations (44%), and ethical concerns (39%) raised. These deficits necessitate the institutional support and formal training courses to achieve the maximum benefit of AI incorporation.

Findings align with Hsiao and Yang (2021) regarding disciplinary AI adoption patterns, confirming that specialized fields like accounting have divergent adoption patterns compared to overall academic disciplines. Quality improvement corroborates Chen and Li (2023) work on AI-enhanced accounting research quality, with the two studies showing that AI integration leads to more sophisticated methodological approaches in accounting research. The awareness-usage gap (61% versus 35% formal training) mirrors Adeyemi's (2022) study with Nigerian students in that it validates infrastructural and training concerns as long-standing hindrances to many fields in the Nigerian tertiary education setting.

This research differs from past studies in a number of important respects. The 76% ChatGPT adoption rate is considerably larger than the 28% adoption rate of text generation tools reported by Zawacki-Richter et al. (2019), possibly reflecting the rapid evolution of AI technology and more widespread acceptance following the mass release of ChatGPT in late 2022. The substantial quality gains ($\beta = 0.384-0.442$) are larger than conventional effect sizes reported in general academic research, suggesting that accounting research can be particularly suited to AI integration with its inherently data-rich and analytical orientation. Contrary to studies conducted in advanced economies identifying predominantly infrastructure-based adoption barriers, this investigation reveals training and institutional support gaps as the most important limits in the Nigerian education sector context, illustrating specific challenges for developing economies in technology

integration. This research additionally provides the initial empirical evidence on differential AI tool impacts in the specialized area of accounting research, extending beyond general academic AI adoption studies to provide discipline-specific insights.

Conclusions

This research presents empirical findings proving that Artificial Intelligence tools play a very significant role in affecting the effectiveness of accounting research by postgraduate students in Nigerian universities. Evidence confirms that AI tools improve research productivity and quality, although challenges in implementation persist. The four hypotheses were confirmed: ChatGPT significantly improves research productivity, Google Gemini and AI powered accounting software enhances research quality, and SPSS with AI features improves research methodological rigor. These findings confirm the Technology Acceptance Model as an applicable model to describe AI adoption in teaching environments. The study indicates that knowledge of AI tools is relatively high (61%), yet with huge gaps in formal training (only 35% had been trained) and institutional facilitation. The positive effects on research productivity demonstrate the potential for AI tools to transform accounting research processes, particularly in resource-constrained environments like Nigerian universities.

The study recommends as follows:

- i. Nigerian universities need to invest in AI infrastructure and establish specialized AI research support departments for accounting disciplines, as per the research. Formal AI training should be integrated into courses in research methodology, with specific workshops on AI use in accounting research. Guidelines for AI use need to be established to address the ethical concerns and academic integrity.
- ii. Institutional support mechanisms need to be strengthened to facilitate equitable access to AI tools, particularly among underprivileged groups. Peer-to-peer knowledge sharing platforms should be created to facilitate peer-to-peer learning on the use of AI. The performance of AI integration should be continuously assessed to monitor performance and refine policies accordingly.

With the integration of these recommendations, Nigerian universities will be in a position to maximize the use of AI software for enhancing research capacity, ensuring academic integrity, as well as advancing accounting scholarship regionally and globally.

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