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Artificial Intelligence Skills Required of Accounting Education Students for Job Performance in the Digital Era

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Abstract
This study examined the artificial intelligence (AI) skills required of Accounting Education students for effective job performance in the digital era. Guided by two research questions and two null hypotheses, the study adopted a descriptive survey design. The area of the study was Rivers State Ministry of Education. The population comprised 27,964 senior civil servants, from which a sample of 377 respondents was selected using the Krejcie and Morgan formula for determining sample size. Data were collected through a structured 30-item questionnaire titled Questionnaire on AI Skills Requirements in Accounting Practice (QASRAP), validated through content validation by three experts two in Business Education and one in Measurement and Evaluation and yielding a reliability coefficient of 0.78 using Cronbach's Alpha. Out of the 377 copies distributed, 362 valid responses were retrieved. Data were analysed using Mean and Standard Deviation to answer the research questions and independent samples t-tests to test the hypotheses at a 0.05 level of significance. The findings revealed that AI electronic office skills and AI emerging skills were perceived as very highly required for Accounting Education students' job performance. No significant gender differences were found in respondents' ratings It was recommended that accounting education programs integrate AI-focused learning strategies and support continuous professional development.

Keywords: Accounting education, Artificial intelligence, Digital era, Job performance.

Introduction

The accounting profession is rapidly evolving under the influence of artificial intelligence (AI) and digital technologies that redefine traditional work processes. Globally and within Nigeria, technological advancements have transformed the ways accountants analyze data, produce reports, and deliver strategic insights (Wang, 2021; Goel & Sethi, 2021). AI comprises tools and systems capable of automating data-intensive tasks, improving predictive accuracy, and enhancing decision-making efficiency (Sharma & Singh, 2020).

Robson and Smith (2019) noted that AI tools now support routine operations such as bookkeeping, tax computations, fraud detection, and financial forecasting. This transition has implications for the competencies accounting graduates must possess. In Nigeria, accounting education curricula often lag behind these developments, emphasizing manual procedures over intelligent systems (Nwaokokorom, Ikpeama, & Amakodi, 2024). Business educators have underscored the need to integrate AI literacy into coursework to align with employer expectations (ABEN, 2021; Nworgu & Okoli, 2022).

Job performance in the digital era refers to an individual's ability to apply technical, analytical, and cognitive skills to achieve workplace objectives effectively (Ogunyomi & Ojelabi, 2021). Ogunyomi and Ojelabi emphasized that accountants' proficiency with AI tools correlates positively with productivity, accuracy, and adaptability. The World Economic Forum (2020) projected that by 2025, AI-driven automation will impact over 85 million jobs, intensifying demand for digital competencies.

Electronic office skills are particularly important, including the ability to use intelligent document management systems, automate scheduling, manage emails, and employ virtual assistants for workflow optimization (Goleman, 2019; Latham, 2019). Katz (2017) reported that proficiency with AI-powered office applications improves operational efficiency and supports collaborative work environments. In a related study, Dadgar, Heravi, and Hemmat (2020) found that graduates with robust digital skills transition more successfully into professional accounting roles.

Emerging AI skills encompass competencies in data analytics, machine learning applications, predictive modeling, and cybersecurity awareness (Becker & Kelsey, 2018; Goel & Sethi, 2021). Nwaokokorom and Ikpeama (2023) noted that Nigerian employers expect graduates to use these capabilities for strategic planning, error detection, and evidence-based decision-making. Similarly, Nworgu and Okoli (2022) identified a gap between the skill sets employers prioritize and those commonly emphasized in accounting programs.

Experiential learning and interdisciplinary collaboration have been identified as effective pedagogical approaches for developing these competencies (Ji, 2020). Becker and Kelsey (2018) argued that curriculum reforms should incorporate AI-focused modules, practical simulations, and industry partnerships to enhance students' readiness. Graham (2018) further highlighted the importance of integrating experiential learning strategies to foster critical thinking and technological confidence.

Additionally, prior research has noted that gender can shape perceptions of technological relevance and confidence in using AI tools. For instance, Goleman (2019) and Ogunyomi and

Ojelabi (2021) observed that although men and women increasingly have comparable access to digital resources, differences may persist in attitudes toward adopting emerging technologies and in self-efficacy related to AI applications. However, recent studies, including Nworgu and Okoli (2022), suggest that these gaps are narrowing as educational institutions adopt more inclusive approaches that support equal participation in technology focused learning environments. This underscores the importance of examining whether gender influences perceptions of AI skill requirements among professionals, particularly in accounting education.

Emotional intelligence and adaptability remain critical soft skills in the AI-driven workplace (Goleman, 2019). Accounting graduates must not only master technical systems but also develop the capacity to engage effectively in virtual teams and dynamic environments (World Economic Forum, 2020).

In this context, the present study investigates AI electronic office skills and AI emerging skills perceived as essential for accounting education students' job performance. The findings are intended to inform curriculum development and instructional strategies in Nigerian universities and colleges.

Statement of the Problems

Despite the pervasive impact of artificial intelligence (AI) technologies on accounting practices, many graduates in Nigeria continue to enter the workforce without sufficient preparation to utilize intelligent systems, data analytics platforms, and other AI-enabled tools effectively. This inadequacy creates a critical gap in the professional readiness of accounting graduates, limiting their job performance capacity and reducing their competitiveness in an increasingly digital workforce (Nwaokokorom et al., 2024; ABEN, 2021). Employers expect graduates to perform tasks that go beyond traditional accounting knowledge, including data-driven analysis, real-time reporting, automated decision support, and fraud detection. However, the traditional accounting curriculum in many Nigerian institutions remains largely theoretical, placing minimal emphasis on experiential learning, digital literacy, and hands-on exposure to AI technologies. Consequently, there is a mismatch between the evolving demands of modern organizations and the competencies students acquire during their academic training. As companies in both public and private sectors integrate AI platforms into core operations, the demand for digitally literate professionals continues to rise (Goel & Sethi, 2021; Wang, 2021). In response to this concern, this study seeks to determine the AI electronic office and emerging skills required of accounting education students to meet industry expectations and enhance job performance in the digital era.

Purpose of the Study

The purpose of this study was to determine artificial intelligence skills required of accounting education students for job performance in the digital era. Specifically, the study identified:

1. AI electronic office skills required of Accounting Education students for job performance
2. AI emerging skills required of Accounting Education students for job performance.

Research Questions

The following research questions were formulated to guide the study:

1. What is the AI electronic office skills required of Accounting Education students for job performance?
2. What is the AI emerging skills required of Accounting Education students for job performance?

Hypotheses

The following null hypotheses were formulated and tested at .05 level of significance:

Ho_1: There is no significant difference in the mean ratings of male and female senior civil servants on the AI electronic office skills required of Accounting Education students for job performance.

Ho_2: There is no significant difference between the mean ratings of male and female senior civil servants on the emerging skills required of Accounting Education students for job performance.

Methodology

The researchers adopted descriptive survey design for the study. The area of focus was Rivers State, and the study's population consisted of 27,964 senior civil servants from the Ministry of Education. The sample size was determined to be 377, utilising the Krejcie and Morgan formula (Nwaokokorom & Ikpeama, 2023). Data collection was conducted using 30-item structured questionnaire titled *Questionnaire on AI Skills Requirements in Accounting Practice (QASRAP)*, which was divided into section A and B. The instrument was validated by three experts, two in Business Education and one in Measurement and Evaluation, through content validation, and yielded an overall reliability index of .78 using Cronbach's Alpha. The researchers administered the questionnaire in person, and out of 377 copies distributed, 362 valid responses were retrieved and analysed. Collected data were analysed using Mean and Standard Deviation for the research questions and independent samples t-tests for the hypotheses at the .05 level of significance. The decision rule for answering the research questions was based on real limits of numbers: Very Highly Required at 4 points (3.50–4.00), Highly Required at 3 points (2.50–3.49), Lowly Required at 2 points (1.50–2.49), and Very Lowly Required at 1 point (1.00–1.49). For hypothesis testing, decisions were based on whether the calculated t-value was greater than or equal to the critical t-value at the 0.05 level of significance, in which case the null hypothesis was rejected; otherwise, it was not rejected.

Results

Research Question 1

What is the AI electronic office skills required of Accounting Education students for job performance?

Table 1: Respondents Mean Ratings and Standard Deviation on AI electronic office skills required of Accounting Education students for job performance

S/N	ITEM DESCRIPTION	$\bar{X}$	SD	REMARK
Custer 2: AI Electronic Office skills. Ability to use AI to;				
1	Apply machine learning concepts	3.67	0.49	VHR

2	automate report generation	3.41	0.32	HR
3	automate data entry and processing	3.83	0.38	VHR
4	virtual assistants	3.59	0.68	VHR
5	intelligent document management	3.73	0.47	VHR
6	chatbots for customer support and services	3.85	0.36	VHR
7	use google assistant to schedules	3.74	0.44	VHR
8	design and presentation tools	3.78	0.42	VHR
9	digital calendar organisation	3.54	0.62	VHR
10	predict text and language processing	3.81	0.40	VHR
11	email management	3.82	0.48	VHR
12	time management	3.73	0.53	VHR
13	bookkeeping and accounting	3.78	0.42	VHR
14	Intelligent customer relationship management	3.58	0.48	VHR
15	Intelligent task management	3.74	0.45	VHR
	Cluster Mean	**3.71**	**0.19**	**VHR**

$\bar{X} = Mean,\ \ SD = StandardDeviation,\ N = 362$

Source: Field Survey, 2025

Data presented in Table 1 indicate that the Senior Civil Servants' responses yielded a cluster mean of 3.71 with a standard deviation of 0.19. This suggests a high level of agreement among respondents regarding the importance of the identified skills. Specifically, the results show that 14 items were rated as Very Highly Required (VHR) AI electronic office skills necessary for Accounting Education students to perform effectively in the digital era, while 1 item was rated as Highly Required (HR). Overall, the Senior Civil Servants unanimously affirmed that all the items listed in Table 1 represent essential AI electronic office skills needed for successful job performance in contemporary accounting practice.

Research Question 2

What is the AI emerging skills required of Accounting Education students for job performance?

Table 2: Respondents Mean Ratings and Standard Deviation on AI emerging skills required of Accounting Education students for job performance

S/N	ITEM DESCRIPTION	$\bar{X}$	SD	REMARK
Custer 2: AI Emerging skills. Ability to use AI to;				
16	collect, analyse and interpret large set of data	3.75	0.43	VHR
17	identify patterns and trends in financial data	3.73	0.46	HR
18	use cloud-based accounting software	3.72	0.46	VHR
19	evaluate the security of accounting software	3.74	0.24	VHR
20	adapt to new accounting technologies	3.80	0.40	VHR
21	evaluate the accounting workflows	3.45	0.50	VHR
22	apply the techniques in audit quality	3.65	0.59	VHR
23	apply the techniques in detection of fraud	3.73	0.48	VHR
24	apply the techniques in financial forecasting	3.58	0.50	VHR
25	predict text and language processing	3.56	0.60	VHR
26	extract useful information for accounting decision	3.69	0.49	VHR
27	develop a personal learning plan to stay	3.67	0.48	VHR

	current			
28	think critically in accounting solving	3.56	0.61	VHR
29	solve complex accounting problems	3.37	0.58	VHR
30	evaluate the ethical implications in accounting	3.66	0.48	VHR
	Cluster Mean	**3.65**	**0.22**	**VHR**

$\bar{X} = Mean,\ \ SD = StandardDeviation,\ N = 362$

Source: Field Survey, 2025

The data presented in Table 2 reveal that the Senior Civil Servants' responses produced a cluster mean of 3.65 and a standard deviation of 0.22. This indicates a high degree of consensus among respondents regarding the relevance of the identified skills. Specifically, the findings show that 13 items were rated as Very Highly Required (VHR) AI emerging skills necessary for Accounting Education students to perform effectively in the digital era, while 2 items were rated as Highly Required (HR). Overall, the Senior Civil Servants agreed unanimously that all the items in Table 2 constitute essential AI emerging skills needed for job performance in contemporary accounting practice.

Null Hypothesis 1

There is no significant difference in the mean ratings of male and female senior civil servants on the AI electronic office skills required of Accounting Education students for job performance.

Table 3: The t-test result of the mean responses of Male and Female Senior Civil Servants on Al electronic office skills required of Accounting Education students for job performance in the new era.

Gender	N	$\bar{X}$	SD	df	t-cal	t-cri	Decision
Males	212	3.70	0.18	360	0.51	1.96	Not significant
Females	150	3.71	0.19				

The results presented in Table 3 show that the calculated t-value (t-cal) is 0.51, while the critical t-value (t-cri) at the 0.05 level of significance is 1.96. Since the t-calculated value (0.51) is less than the t-critical value (1.96), the null hypothesis is retained. This implies that there is no significant difference in the mean ratings of male and female senior civil servants concerning the AI electronic office skills required of Accounting Education students for effective job performance in the digital era.

Null Hypothesis 2

There is no significant difference between the mean ratings of male and female senior civil servants on the emerging skills required of Accounting Education students for job performance.

Table 4: The t-test result of the mean rating of Male and Female Senior Civil Servants on AI emerging skills required of Accounting Education students for job performance in the digital era.

Gender	N	$\bar{X}$	SD	Df	t-cal	t-cri	Decision
Males	212	3.64	0.22	360	0.44	1.96	Not significant
Females	150	3.65	0.21				

The results shown in Table 4 indicate that the calculated t-value (t-cal) is 0.44, while the critical t-value (t-cri) at the 0.05 significance level is 1.96. Since the t-calculated value (0.44) is less than the t-critical value (1.96), the null hypothesis is retained. This means that there is no significant difference in the mean ratings of male and female senior civil servants regarding the AI emerging skills required of Accounting Education students for effective job performance in the digital era.

Discussion of the Findings

The results related to Research Question 1 revealed that senior civil servants perceived AI electronic office skills as critically important for Accounting Education students' job performance in the digital era. The high cluster mean of 3.71 indicated widespread agreement on the value of skills such as automating reports, using virtual assistants, intelligent document management, and managing scheduling tools. This finding aligns with Katz (2017) and Latham (2019), who emphasized that AI-powered office tools significantly enhance operational efficiency and reduce human error in accounting tasks. Additionally, Hypothesis 1 tested whether gender influenced perceptions of these skills. The t-test result showed no significant difference between male and female respondents' ratings, suggesting a shared recognition of the relevance of these competencies irrespective of gender. This consensus underscores that AI electronic office skills are viewed as fundamental and universally required capabilities for contemporary accounting graduates. It also indicates that expectations for technical proficiency have become standard benchmarks across diverse professional perspectives, reinforcing the necessity for accounting curricula to incorporate digital office applications comprehensively.

In relation to Research Question 2, the study found that AI emerging skills such as data analytics, predictive modeling, fraud detection, and adapting to new accounting technologies were also considered very highly required, with a cluster mean of 3.65. These results corroborate findings by Wang (2021) and Goel and Sethi (2021), who reported that emerging AI competencies are essential for strategic decision-making and maintaining competitiveness in rapidly evolving workplaces. Hypothesis 2 further tested whether gender differences existed in perceptions of these emerging skills, and the analysis revealed no significant difference between male and female respondents. This uniformity suggests that stakeholders across demographics equally value advanced AI capabilities, reflecting a broader trend in which proficiency in data-driven tools and innovative technologies is now indispensable in accounting practice. The consistent ratings highlight the urgency of equipping students with up-to-date skills that match evolving industry expectations.

Conclusion

In conclusion, this study establishes that senior civil servants in Rivers State Ministry of Education strongly recognize the necessity of AI electronic office skills and emerging AI competencies as foundational elements for accounting graduates' effectiveness in today's technology-driven workplace. This shared perspective points to a growing imperative for educational institutions to prioritize the development of these skills, thereby ensuring graduates can contribute meaningfully and remain competitive in the evolving accounting landscape.

Recommendations

Based on the findings, the following recommendations are made:

1. Accounting educators should design AI-focused courses and integrate experiential learning.
2. Institutions should promote certifications and online programs to build practical AI skills.
3. Collaboration with industry should be strengthened to provide practical exposure.
4. Further research should examine the impact of AI training on actual workplace performance.

References

Association of Business Educators of Nigeria. (2021). *Emerging trends in business education for sustainable development*. ABEN Conference Proceedings.

Becker, S. D., & Kelsey, R. (2018). Teaching AI in accounting education: Key considerations for curricular design and implementation. *Journal of Business Education*, 23(1), 45–58.

Dadgar, H., Heravi, A., & Hemmat, Z. (2020). The sustainable future of accounting education: Preparing students for Industry 4.0. *International Journal of Accounting Education and Research*, 5(2), 137–158.

Goel, K., & Sethi, M. (2021). Role of machine learning in accounting and auditing. *International Journal of Accounting Research*, 16(3), 205–218.

Goleman, D. (2019). Emotional intelligence in the age of artificial intelligence. *Harvard Business Review*, 97(10), 123–126.

Graham, C. R. (2018). Experiential learning in business education. *Journal of Experiential Education*, 41(1), 31–44.

Ji, S. (2020). Experiential learning and interdisciplinary collaboration for artificial intelligence education. *International Journal of Educational Technology in Higher Education*, 17(1), 1–15. https://doi.org/10.1186/s41239-020-00210-8

Katz, D. L. (2017). The impact of electronic office skills on employee productivity. *Journal of Business and Psychology*, 32(2), 147–155.

Latham, G. P. (2019). The importance of electronic office skills in the workplace. *Journal of Business Research*, 98, 241–248.

Nwaokokorom, O. W., Ikpeama, F. U., & Amakodi, S. E. (2024). Enhancing job performance of business education graduates in a digital era: Issues, challenges and way forward. *Nigerian Journal of Business Education*, 11(2), 376–381.

Nwaokokorom, O. W., & Ikpeama, F. U. (2023). Accounting and problem-solving skills required of business education students in the digital era. *Nigerian Journal of Business Education*, 10(1), 20–26.

Nworgu, B. G., & Okoli, B. E. (2022). Digital competency skills required of business education graduates for sustainable employment in Nigeria. *ABEN Book of Readings*, 9(1), 120–130.

Ogunyomi, P., & Ojelabi, R. (2021). Digital literacy and job performance of Nigerian professionals. *African Journal of Management Education*, 7(1), 65–78.

Robson, W., & Smith, J. (2019). AI and the accounting profession: Implications and opportunities. *Journal of Accounting Research*, 15(4), 302–315.

Sharma, G., & Singh, A. (2020). Programming in accounting education: A necessity in the age of AI. *Journal of Business and Accounting Studies*, 10(3), 112–126.

Wang, Y. (2021). The role of artificial intelligence in accounting education. *Journal of Accounting Education*, 56, 74–91. https://doi.org/10.1016/j.jaccedu.2021.100690

World Economic Forum. (2020). *The future of jobs report 2020*. https://www.weforum.org/reports/the-future-of-jobs-report-2020