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Artificial Intelligence Competency and its Perceived Influence on the Employability of Business Education Students in Epe, Lagos State: Evidence from a Survey Study

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Abstract: Nigerian employees are adhering to the acquisition of Artificial Intelligence (AI) Competency as prerequisite to be employable for modern jobs but the level of AI competency gap is becoming a major concern for Business education students who may find it difficult to compete for jobs that require these skills. The study determines artificial intelligence competency and perceived influence on employability among Business education students. The study was guided by three research questions and employed a descriptive research design with a survey approach. The target population consisted of 2,291 Business Education students from public institutions in Epe, Lagos. Using the Taro Yamane formula, a sample size of 310 was calculated. Respondents were selected through simple random sampling. A researcher-developed questionnaire, labeled QAICPIBESEL, was validated by experts and subjected to a pilot test (with a reliability coefficient of r = 0.78) to gather data. Descriptive statistics, including mean and standard deviation, were utilized to address the research questions. Findings from the study showed the AI competency needed by Business education graduates are AI literacy, prompt engineering, data analytics literacy, ethical reasoning, privacy awareness, model limitations, workflow automation and decision intelligence with a grand mean (x = 3.30). Findings also revealed that many graduates are unaware of AI skills and their potential benefits, high costs and resource constraints inhibits or challenge the adoption of AI skills acquisition (x = 2.98). Findings also showed the acquisition make AI competency make students more attractive to employers (x = 3.23). The study concluded that AI competency influence business education students' employability. It was recommended among others that, institutions should provide lab access, licenses, AI policy for ethical use to Business education students.

Keywords: *Artificial Intelligence, Competency, Employability, Business Education Students, Epe.*

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I. INTRODUCTION

The high rate of graduate unemployment in Nigeria is largely rooted in a significant skills gap, where many graduates lack the creative, innovative, and entrepreneurial competencies necessary to transform resources into economic value. This issue is particularly evident in developing hubs like Epe, which is a vital contributor to the broader Lagos State economy. Despite its growth, many local graduates remain unemployed because they lack modern technical

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proficiencies most notably in Artificial Intelligence that are now mandatory in a competitive global market. When AI competencies are excluded from the Business Education curriculum, students from this field of study may likely face narrowed professional prospects and limited employability. This lack of integration ignores a fundamental shift in the educational landscape driven by rapid technological advancement. At the forefront of this change is AI, which empowers machines to execute complex tasks traditionally requiring human cognitive abilities, such as experiential learning, problem-solving, autonomous decision-making, and real-time adaptation to new data. AI is found in technologies such as voice recognition, language translation, and image analysis, with the goal of creating machines that think and learn like humans (Acquah, Boateng, & Aboagye, 2024). Similarly, Alhassan (2022) highlighted that AI in education is reshaping how students learn by providing personalized experiences, automating routine tasks and offering real-time feedback. In the field of Business Education, AI-based tools can cater to each student's unique learning needs, allowing them to better understand complex business concepts at their own pace. For instance, AI can analyze a student's strengths and weaknesses, enabling the creation of tailored learning plans. This helps Business Education students receive focused support on challenging topics while allowing them to progress quickly through areas of strength (Mensah & Osei, 2019). Moreover, AI enhances practical learning through simulations and virtual environments, where students can practise real-world business scenarios in risk-free settings. Examples include running a virtual company or engaging in AI-driven business simulations to improve decision-making and problem-solving skills (Badu, 2020).

By integrating AI, skill acquisition can become more effective. AI tools can simulate complex business scenarios, provide immediate feedback on tasks and create adaptive learning experiences that build practical skills more efficiently (Adjei, 2018). For example, AI-enabled platforms can assist students in practising financial analysis or marketing strategies through interactive simulations. Artificial Intelligence has also created new opportunities in entrepreneurship education, which is an important part of business education (Brynjolfsson & McAfee, 2017). AI systems can analyze market opportunities and guide students on how to design innovative business ideas (Godpower & Egbunefu, 2024). For example, AI platforms can simulate how a new product will perform in the market, which helps students understand risks and opportunities (Gupta, 2020). In this way, AI skills prepare graduates for the tasks ahead needed for business operations. When skill acquisition is enhanced, it paves way for its application thereby ensuring business education graduates' employability. Employability depends on various factors, including the skills acquired during their education, the practical experiences they have undergone, and their ability to adapt to the demands of the modern workplace (David, Ojo, & Amoda, 2024). Business education programmes aim to prepare students for careers in accounting, marketing, entrepreneurship and other business fields by equipping them with both theoretical knowledge and practical skills.

As highlighted by Akkaya-Kalayci and Yildirim (2021), Artificial Intelligence (AI) has become a crucial tool in business education, enhancing how knowledge is created, organized, and shared with students. Business education aims to equip students with the skills necessary for future careers in management, entrepreneurship, and leadership. AI supports this goal by not only improving the content taught but also enhancing the delivery methods (Akpomi, Nwile, & Kayii, 2022). The application of AI in business education begins with its ability to analyze vast amounts of business data and present it in a simplified manner (Gupta, 2020). This suggests that graduates of business education programs are likely to apply the AI skills they acquire to business operations, which can help them succeed in a competitive professional environment. Business education is focused on developing practical competencies and expertise needed to perform tasks effectively in real-world situations. In a similar vein, Enwedo (2025) described business education as a discipline that prepares students for various careers in the business sector by providing them with the necessary knowledge and skills for success. These include financial management, marketing strategies, entrepreneurship, and accounting. Skill acquisition in Business Education involves both theoretical classroom learning and hands-on experiences such as internships, projects and simulations. The need to incorporate technological skills into business education curriculum is a most.

Artificial Intelligence holds the transformative potential to narrow the divide between academic instruction and the practical requirements of the modern workforce. In locations such as Epe, Lagos State, where technological integration is expanding, AI-driven simulations provide Business Education students with practical experience that replicates real-world corporate operations, ensuring they are better equipped to meet the standards of prospective employers. Furthermore, as noted by Osei (2021), proficiency in AI enables students to remain aligned with emerging trends and tools, which is vital in a rapidly shifting economic landscape. However, the effectiveness of these advancements may be hindered by systemic obstacles, such as disparate access to technology and varying levels of instructor readiness (Owusu & Mensah, 2021). Despite these hurdles, incorporating AI into the curriculum fosters essential career development through features like customized learning paths and instantaneous feedback. Gary Becker's Human Capital Theory (1964) offers a pertinent theoretical lens for this dynamic, suggesting that investments in specialized training enhance an individual's productivity and professional worth. From this perspective, students who master AI-related competencies are actively building their "human capital," thereby increasing their economic value and competitive edge. Ultimately, the systematic inclusion of AI within Business Education serves as a fundamental driver for improving student employability and long-term career success.

Inculcating AI technologies into business education, students can enhance their digital literacy by mastering advanced digital tools such as virtual assistants and AI-driven customer support platforms (Okeke & Uzochukwu, 2022).

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However, more research is required to gain a comprehensive understanding of the specific AI competencies that Business Education students need to effectively address challenges related to graduate employability. To overcome these challenges, it is essential for business education graduates to develop AI skills within practical, real-world contexts where they can collaborate in teams to generate value and solve business operational problems (Eze & Ndubuisi, 2021). This approach will help students apply their knowledge and create sustainable, innovative solutions to the unemployment issue. Graduates who acquire AI competency will have the opportunity to leverage their creativity, initiative, and innovative thinking to become self-employed, which will indirectly contribute to realizing the objectives of Business Education. This, in turn, will enable business educators to effectively incorporate AI skills into their teaching and learning processes, ultimately enhancing students' employability. The study artificial intelligence competency and perceived influence on employability among business education students in Epe, Lagos State. Aiming to provide insights into challenges of acquiring these skills and how its applicability would influence employability.

➢ *Statement of the Problem*

Nigerian Industries continue to adopt AI in their business operations and the level of its competency gap is becoming a major concern. Since, AI is changing how businesses operate, is now a trend that employers include AI competency as a prerequisite for employment and any applicant who do not possess this skill is denied employments. In recent times, the growing influence of Artificial Intelligence (AI) on industries and the job market has created challenges for Business Education students' employability. This development would likely leave most business education students unemployment. Unfortunately, Businesses education Curriculum lacks the integration of AI competency and its application in the content and delivery. However, if this continues, many business education students may be unprepared for the demands of the modern workplace where AI competency are increasingly essential. Without proper AI competency, graduates may find it difficult to compete for jobs that require AI literacy, prompt engineering, data analytics literacy, ethical reasoning, privacy awareness, model limitations, workflow automation and decision intelligence which may lead to high unemployment among Business Education students. Lack of AI competency not only limits students' ability to meet employers' expectations but also affects their confidence and career opportunities. This situation calls for concerns and the need to bridge the gap of unemployment especially in Epe, Lagos state where there are emerging business hubs that has brought recent development in this area. This study determines the perceived influence of AI competency on business education students' employability.

➢ *Purpose of the Study*

The primary objective of this research was to determine artificial intelligence (AI) competency among Business Education students in Epe, Lagos State and to find out how this competency is perceived to influence their employability. Specifically, the study sought to:

- Determine AI competencies that Business Education students need to enhance employability in Epe, Lagos State
- Determine barriers that hinder the acquisition of AI competencies and the adoption of AI in Epe, Lagos State?
- Determine the perceived influence of AI competency on the employability of Business Education students?

➢ *Research Questions*

The following research questions guided the study:

- What AI competencies do Business Education students need to enhance employability in Epe, Lagos State?
- What barriers hinder the acquisition of AI competencies and the adoption of AI in Epe, Lagos State?
- What is the perceived influence of AI competency on the employability of Business Education students?

II. MATERIALS AND METHODS

➢ *Research Design*

For this investigation, the researcher utilized a descriptive survey design, which was selected for its effectiveness in documenting the current status of specific phenomena. This methodological choice was appropriate as it enabled the systematic description of existing conditions and variables relevant to the study's scope. Specifically, the design facilitated an accurate assessment of how Business Education students perceive the influence of AI competency on their future employment prospects.

➢ *Ethics Statement*

Before commencing the research among the Business Education students, official approval was secured from the Departmental Research Committee at Yaba College of Technology, Epe Campus. Furthermore, the researcher ensured that all ethical standards were met by obtaining informed consent from the student participants prior to their involvement in the study.

➢ *Area of the Study*

The research was situated in the Epe Local Government Area of Lagos State, an urban district located on the northern shores of the Lekki Lagoon. This location was specifically chosen due to its accessibility to the researchers and the presence of academic institutions offering specialized programs in Business Education.

➢ *Population and Sample*

The study targeted a total population of 2,291 registered Business Education students, ranging from first to fourth year, enrolled at Yaba College of Technology, Epe Campus, and Lagos State University of Education, Otto Ijanikin Campus, Epe. According to 2025 data from the respective departmental offices, these institutions were selected because they are the specific tertiary centers in the Epe region of Lagos State that offer Business Education. To represent this group, a sample size of 310 was established using the Taro Yamane formula. The researcher employed a random sampling technique to select 150 students from YABATECH

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and 160 from LASUED proportionally. This methodological choice ensured that every student had an equal chance of being included, thereby minimizing bias and strengthening the generalizability of the research outcomes.

- *Instrument for Data Collection and Study Procedure*

Data for this research were gathered using a self-designed instrument titled "Artificial Intelligence Competency and Perceived Influence on Business Education Students' Employability in Epe Lagos State" (AICPIBESE). This 18-item questionnaire employed a modified four-point Likert scale, assigning values from 4 to 1 for responses ranging from Strongly Agree to Strongly Disagree, which allowed for the collection of quantifiable data. To ensure the instrument's quality, two experts in Business Education performed face and content validation. Furthermore, a pilot test involving 40 students from the University of Lagos who were not part of the main study was conducted to assess the scale's internal consistency. Using Cronbach's alpha, a reliability coefficient of 0.78 was achieved, confirming the instrument was suitable for the study's objectives. The researchers, assisted by two trained aides, personally administered the questionnaires to the participants. While 310 copies were distributed, 10 were discarded following a sorting process due to incomplete or invalid responses. The final data set was analyzed using mean and standard deviation. To interpret the results, a decision rule was established where any item with a mean score of 2.50 or higher was accepted, while those scoring 2.49 or lower were rejected.

III. RESULTS AND DISCUSSION

- *Question Research One:* What AI competencies do Business Education students need to enhance employability in Epe, Lagos State?

Table 1 Mean Rating and Standard Deviation Reponses on AI competency Business Education Students need for employability

S/N	Statement	Mean	SDV	Decisions
1.	AI literacy	3.26	0.92	Accepted
2.	Prompt engineering	3.37	0.84	Accepted
3.	Data analytics literacy	3.35	0.92	Accepted
4.	Ethical reasoning	3.24	0.99	Accepted
5.	Workflow automation	3.29	0.84	Accepted
6.	Decision Intelligence	3.03	0.90	Accepted
7.	Model limitation	3.28	0.93	Accepted
8.	Privacy awareness	3.26	0.92	Accepted
	Grand Mean	**3.30**		

The data analysis detailed in Table 1 reveals that all items concerning the Artificial Intelligence competencies necessary for improving the employability of Business Education students were accepted. This is supported by an overall mean of 3.30, with individual mean responses ranging between 3.24 and 3.37 all of which comfortably exceed the 2.50 threshold. Furthermore, the standard deviation values, which fell between 0.85 and 0.99, suggest a high level of consensus among participants, as the responses are closely grouped around the mean.

- *Research Question Two:* What barriers constrain AI competency acquisition and adoption in Epe, Lagos state?

Table 2 Mean and Standard Deviation Reponses on Barriers Constrain AI Competency Acquisition and Adoption in Epe, Lagos State

S/N	Statement	Mean	SDV	Decisions
1.	Many students are ignorance of the availability of AI tools and their potential benefits.	2.75	1.11	Accept
2.	High costs and resource constraints hinder access to advanced AI technologies.	3.12	0.89	Accept
3.	Insufficient technical knowledge and training to effectively use AI tools.	3.16	0.97	Accept
4.	Inadequate technological infrastructure in educational institutions.	2.75	1.11	Accept
5.	Misunderstandings or fears about data privacy and AI ethics.	3.16	0.97	Accept
	Grand Mean	**2.98**		

The analysis of the data presented in Table 2 demonstrates that all identified obstacles to AI skill acquisition and tool adoption among Business Education students in Epe were accepted as significant. This is reflected in an overall mean score of 2.98, with specific item means spanning from 2.75 to 3.16, consistently surpassing the 2.50 benchmark. Additionally, the standard deviation values, which ranged from 0.89 to 1.11, indicate that the participants' responses were relatively consistent and closely aligned with the mean.

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- *Research Question Three:* What is the perceived influence of AI competency on the employability of Business Education students?

Table 3 Mean and Standard Deviation Reponses on Perceived Influence of AI Competency on the Employability of Business Education Students?

S/N	Statement	Mean	SDV	Decisions
1.	AI equips students with cutting-edge technical and analytical skills.	3.13	0.88	Accept
2.	Exposure to AI Competency prepares students for modern business challenges.	3.36	0.86	Accept
3.	AI proficiency makes students more attractive to employers.	3.04	0.96	Accept
4.	Prepares students for evolving job markets and emerging AI-driven roles.	3.20	1.12	Accept
5.	AI-driven platforms tailor education to individual needs, improving outcomes.	3.42	0.82	Accept
	Grand Mean	**3.23**		

The data analysis summarized in Table 3 demonstrates that all items evaluating the perceived impact of Artificial Intelligence proficiency on the employability of Business Education students were accepted. This is evidenced by an overall mean of 3.23, with individual mean scores ranging from 3.04 to 3.42 each exceeding the 2.50 cut-off point. Moreover, the standard deviation values, which fell between 0.82 and 1.12, indicate that the respondents' views were largely consistent and clustered closely around the mean.

IV. FINDINGS

This study revealed that Artificial intelligence competency for Business education students' employability includes AI literacy, prompt engineering, privacy awareness, workflow automation, data analytical literacy, decision-making and business intelligence skills help students identify and develop in-demand skills for the job market. The findings of this study conform to the notion of Okonkwo (2021), posited various types of Artificial Intelligence useful for Business Education students' skill acquisition include machine learning for data analysis, natural language processing for communication skills and robotic process automation for improving office administrative tasks. It also with the opinion of Ndlovu (2022) who added that these AI skills help students gain practical experience in handling digital business tools, thereby increasing their employability in modern workplaces.

This study showed barriers that constrain AI competency acquisition and tool adoption in Epe for Business education Students' employability. These barriers emphasized that many students are unaware of AI tools and their potential benefits, high costs and resource constraints hinder access to advanced AI technologies, insufficient technical knowledge and training to effectively use AI tools, inadequate technological infrastructure in educational institutions, misunderstandings or fears about data privacy and AI ethics. This finding conforms to Adeyemi (2022), who mentioned that one major barrier to the effective adoption of AI tools by business education students is limited access to digital infrastructure such as reliable internet and modern computers. Similarly, Mbatha, Ndhlovu, & Sithole, (2021) identified a lack of trained instructors and insufficient awareness of AI's relevance to employability as key challenges hindering its full integration into business education.

This study indicated that perceived influence of Artificial intelligence competency on Business education students' employability as AI equips students with cutting-edge technical and analytical skills, exposure to AI tools prepares students for modern business challenges, AI proficiency makes students more attractive to employers, prepares students for evolving job markets and emerging AI-driven roles, AI-driven platforms tailor education to individual needs, improving outcomes. This finding is in line with Ezeh (2022) who opined that AI has significantly enhanced business education students' skill acquisition by providing access to interactive learning platforms and real-time feedback, which improve their practical competencies. In the same vein, Mensah (2023) observed that the use of AI tools equips students with relevant digital and analytical skills, thereby increasing their employability in the modern job market.

V. CONCLUSION

Based on the findings of the study, it was concluded that AI competencies, including AI literacy, prompt engineering, privacy awareness, workflow automation, data analysis skills, decision-making, and business intelligence, would significantly enhance the employability of Business Education students in the evolving landscape of Epe. These skills would also offer personalized learning opportunities, boosting students' performance in modern workplaces. However, challenges such as a lack of understanding of AI and its benefits, high implementation costs, and resource limitations may obstruct the effective adoption of AI by Business Education students. Nevertheless, the impact of AI competencies on students' employability is crucial, as it equips them with essential technical and analytical skills needed in today's business environment. Mastery of AI would make these students more competitive and appealing to employers.

VI. LIMITATION AND FUTURE RESEARCH

While this study used clear and concise question that are easy for participants to understand to limit self-report bias, it is still possible that participants over reported positive behaviour. Future research should incorporate multiple methods of data collection to corroborate findings and utilise longitude data to validate these self-reported findings. Also, while findings from this study is limited to Epe as the

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geographical scope, future research may rule out the generalization of results to other broader or diverse context by exploring other geographical areas.

RECOMMENDATIONS

➢ *Based on the Findings of the Study, the Following Recommendations were Made:*

- Business education curriculum should introduce AI literacy modules, assessment rubrics, capstone projects using BI tools.
- Institutions should provide lab access, licenses, AI policy for ethical use.
- There should be professional development and instructional design support for lecturers.
- Industries should provide internship agreements that focused on analytical or automation roles in Epe.
- Students are encouraged to pursue a guided learning paths with certification targets.

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➢ *Conflict of Interest*

The authors affirm that there are no conflicts of interest related to the conduct of this research.

➢ *Data Availability Statemen*

The data presented in this study are included within the article. Any further inquiries can be directed to the corresponding author.

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