

Artificial Intelligence Literacy and Entrepreneurial Competence Among Business Education Students in Eket Federal Constituency

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Abstract: *This study examined Artificial Intelligence Literacy and Entrepreneurial Competence among Business Education Students in Eket Federal Constituency. The study adopted a correlational research design to determine the relationships between four dimensions of artificial intelligence literacy, namely AI knowledge, AI technical skills, AI information evaluation skills and AI ethical awareness, and entrepreneurial competence. The population comprised Business Education students in the study area, from which 194 respondents were used for the study. Data were collected using a structured questionnaire designed to measure the study variables. The instrument was subjected to appropriate validation and reliability procedures before administration. Data collected were analysed using Pearson Product Moment Correlation (PPMC), while the four null hypotheses were tested at the .05 level of significance. The findings revealed significant positive relationships between AI knowledge and entrepreneurial competence ($r = .610, p < .001$), AI technical skills and entrepreneurial competence ($r = .670, p < .001$), AI information evaluation skills and entrepreneurial competence ($r = .580, p < .001$), and AI ethical awareness and entrepreneurial competence ($r = .550, p < .001$). All four null hypotheses were rejected. The study concluded that AI literacy is significantly associated with entrepreneurial competence among Business Education students. It recommended, among other measures, the integration of practical AI training, critical information evaluation and ethical AI use into Business Education programmes to enhance students' entrepreneurial capabilities.*

Keywords: Artificial Intelligence Literacy, AI Knowledge, AI Technical Skills, AI Information Evaluation Skills, AI Ethical Awareness, Entrepreneurial Competence, Business Education Students.

INTRODUCTION

The contemporary business environment is undergoing rapid transformation as a result of technological advancement, digitalisation and the increasing application of artificial intelligence (AI) in different aspects of human and economic activities. Artificial intelligence refers broadly to computer based systems and technologies capable of performing tasks that traditionally require aspects of human intelligence, such as learning, problem solving, decision making, language processing and pattern recognition. The growing availability of generative AI applications has further expanded the possibilities for individuals and businesses to use technology in creating, processing

and applying information. Consequently, knowledge and skills relating to artificial intelligence are becoming increasingly relevant to education, employment and entrepreneurship. The increasing importance of AI has significant implications for students in Business Education. Business Education is designed to equip learners with knowledge, skills, attitudes and competencies required for effective participation in business, office occupations, management and entrepreneurial activities. In an increasingly technology driven economy, the ability of Business Education students to understand and appropriately utilise emerging technologies may influence their capacity to identify opportunities, develop business ideas, solve business problems and compete effectively. AI literacy therefore extends beyond merely knowing how to use AI tools. It involves understanding basic AI concepts, recognising the capabilities and limitations of AI systems, applying AI appropriately, evaluating AI generated information and using AI responsibly and ethically. UNESCO's AI Competency Framework for Students identifies human centred thinking, AI ethics, AI techniques and applications, and AI system design as important dimensions of AI competency, with students expected to progress from understanding to applying and creating with AI (Miao et al., 2024).

Entrepreneurial competence, on the other hand, represents the knowledge, skills, abilities and attitudes that enable an individual to recognise opportunities, generate ideas, mobilise resources, make decisions, take calculated risks, solve problems and create value through entrepreneurial activities. For Business Education students, entrepreneurial competence is particularly important because their education is expected not only to prepare them for paid employment but also to equip them for self-employment and business creation. The development of such competence can enhance students' ability to transform knowledge and skills acquired through their education into productive economic activities. The relationship between AI literacy and entrepreneurial competence is becoming increasingly important because AI can support several entrepreneurial processes. An entrepreneur with adequate AI literacy may use AI enabled tools to conduct market research, analyse customer needs, generate business ideas, develop promotional content, improve communication, organise business information and support decision making. AI can therefore provide opportunities for students to perform some business activities more efficiently and creatively. However, the benefits of AI depend considerably on the user's ability to understand and critically evaluate its applications. Recent research on generative AI in education has identified AI literacy, critical thinking and ethical practices as important competencies for effective student engagement with AI, while also reporting gaps in areas such as prompt engineering, bias awareness and the management of AI generated outputs (Krause et al., 2025).

Within the Nigerian educational environment, the relevance of AI literacy is particularly significant because the country is increasingly seeking to develop digital and technological competencies among young people in response to the changing nature of work and entrepreneurship. Business Education students constitute an important group in this transformation because of their exposure to accounting, management, marketing, office technology, entrepreneurship and other business related areas. Their ability to combine these business competencies with appropriate AI knowledge could enhance their preparedness for emerging entrepreneurial opportunities. Nevertheless, possessing access to AI tools does not necessarily mean that students possess the literacy required to use them effectively, critically and ethically.

Despite the growing importance of artificial intelligence in education and business, there is still a need for empirical evidence on how AI literacy relates to entrepreneurial competence among Business

Education students, particularly within specific local contexts. Much of the discussion surrounding AI focuses on teaching, learning, productivity and employment, while comparatively less attention may be given to its relationship with the entrepreneurial competencies of students preparing for business careers. Examining this relationship among Business Education students in Eket Federal Constituency could therefore provide useful evidence for Business Education lecturers, curriculum planners, tertiary institutions and other stakeholders interested in strengthening entrepreneurship education and preparing students for an AI driven business environment. It is against this background that this study seeks to examine the relationship between artificial intelligence literacy and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Purpose of the Study

The purpose of this study is to examine the relationship between artificial intelligence literacy and entrepreneurial competence among Business Education students in Eket Federal Constituency. Specifically, the study seeks to:

1. determine the relationship between AI knowledge and entrepreneurial competence among Business Education students in Eket Federal Constituency.
2. determine the relationship between AI technical skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.
3. determine the relationship between AI information evaluation skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.
4. determine the relationship between AI ethical awareness and entrepreneurial competence among Business Education students in Eket Federal Constituency, Akwa Ibom State.

Research Questions

The following research questions were formulated to guide the study:

1. What is the relationship between AI knowledge and entrepreneurial competence among Business Education students in Eket Federal Constituency?
2. What is the relationship between AI technical skills and entrepreneurial competence among Business Education students in Eket Federal Constituency?
3. What is the relationship between AI information evaluation skills and entrepreneurial competence among Business Education students in Eket Federal Constituency?
4. What is the relationship between AI ethical awareness and entrepreneurial competence among Business Education students in Eket Federal Constituency?

Hypotheses

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

1. There is no significant relationship between AI knowledge and entrepreneurial competence among Business Education students in Eket Federal Constituency.
2. There is no significant relationship between AI technical skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.
3. There is no significant relationship between AI information evaluation skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.
4. There is no significant relationship between AI ethical awareness and entrepreneurial competence among Business Education students in Eket Federal Constituency.

METHODOLOGY

The study adopted a correlational research design. The design was considered appropriate because the study sought to determine the relationship between artificial intelligence literacy and entrepreneurial competence among Business Education students in Eket Federal Constituency. Specifically, the study examined the relationships between four dimensions of artificial intelligence literacy, namely AI knowledge, AI technical skills, AI information evaluation skills and AI ethical awareness, and entrepreneurial competence. The correlational design enabled the researcher to determine the degree and direction of relationships between the variables without manipulating any of them. The study therefore examined naturally existing variations in students' artificial intelligence literacy and entrepreneurial competence. The design was also appropriate because the study was not intended to establish a cause and effect relationship, but rather to ascertain whether significant relationships existed among the variables. The study was carried out in Eket Federal Constituency of Akwa Ibom State, Nigeria. Eket Federal Constituency comprises Eket, Esit Eket and Ibeno Local Government Areas. The area is one of the economically active areas of Akwa Ibom State, with considerable involvement in education, commerce, entrepreneurship and other business activities. The area was considered suitable for the study because it has tertiary institutions where Business Education is offered and where students are exposed to business related courses, entrepreneurship education and information and communication technologies. The increasing relevance of digital technologies and artificial intelligence to education and business activities also made the area appropriate for examining the relationship between AI literacy and entrepreneurial competence among Business Education students. The population of the study comprised all Business Education students in tertiary institutions located within Eket Federal Constituency who met the inclusion criteria for the study. The population consisted of students enrolled in Business Education programmes during the academic session in which the study was conducted.

The choice of Business Education students was informed by the nature of their academic programme, which combines business knowledge, vocational skills, entrepreneurship and technological competencies. These students were therefore considered appropriate for examining the extent to which AI literacy was associated with their entrepreneurial competence. The population of the study was 428 Business Education students obtained from the records of the relevant tertiary institutions and departmental authorities within Eket Federal Constituency. A sample of 200 Business Education students was selected from the population of the study. The sample size was determined using an appropriate sample size determination procedure based on the accessible population. A multistage sampling procedure was used in selecting the respondents. First, the tertiary institutions offering Business Education within Eket Federal Constituency were identified. Second, the institutions were stratified according to their respective categories. Third, respondents were selected from the identified institutions using proportionate sampling to ensure that institutions with larger populations were adequately represented. Finally, simple random sampling was used to select the individual Business Education students who participated in the study. The sampling procedure ensured that eligible students had a reasonable opportunity of being selected and also enhanced the representativeness of the sample. The instrument used for data collection was a researcher developed questionnaire titled Artificial Intelligence Literacy and Entrepreneurial Competence Questionnaire (AILECQ). The questionnaire was divided into two major sections. Section A contained items designed to obtain the demographic information of the respondents, while Section B contained statements measuring the

variables of the study. Section B was further divided into five clusters. Cluster A measured AI knowledge, Cluster B measured AI technical skills, Cluster C measured AI information evaluation skills, Cluster D measured AI ethical awareness, while Cluster E measured entrepreneurial competence. The items were structured on a four point Likert type rating scale of:

Strongly Agree (SA) = 4

Agree (A) = 3

Disagree (D) = 2

Strongly Disagree (SD) = 1

The use of the four point scale enabled the respondents to indicate the extent to which they agreed or disagreed with each statement. The instrument was subjected to face and content validation. Copies of the draft questionnaire were presented to experts in Business Education, Educational Psychology and Measurement and Evaluation for examination. The experts assessed the items in terms of their relevance to the variables, clarity of expression, adequacy of coverage, appropriateness of language and suitability for the target respondents. Their observations and recommendations were incorporated into the final version of the instrument before it was administered. The validation process helped to ensure that the questionnaire adequately represented the dimensions of artificial intelligence literacy and entrepreneurial competence investigated in the study. The reliability of the instrument was established through a pilot study conducted among 30 Business Education students who were not included in the main study. The responses obtained from the pilot study were analysed using Cronbach's alpha reliability coefficient to determine the internal consistency of the items in each cluster. The reliability coefficients obtained for the clusters were considered satisfactory for the main study. The overall reliability coefficient of the instrument was 0.89, while the coefficients for the individual clusters were 0.84 for AI Knowledge, 0.87 for AI Technical Skills, 0.86 for AI Information Evaluation Skills, 0.82 for AI Ethical Awareness, and 0.91 for Entrepreneurial Competence. The results indicated that the instrument possessed adequate internal consistency and was therefore considered reliable for data collection. The researcher obtained the necessary permission from the relevant authorities before commencing data collection. The researcher, with the assistance of trained research assistants, administered copies of the questionnaire directly to the selected respondents in their respective institutions. The purpose of the study was explained to the respondents, and they were assured that the information provided would be treated confidentially and used strictly for academic purposes. Respondents were also informed that participation was voluntary. The questionnaires were administered and retrieved after completion. Adequate care was taken to ensure that the respondents completed the questionnaires independently and that the instruments were returned without unnecessary interference. A total of 200 questionnaires were administered, out of which 194 were properly completed and returned, representing a return rate of 97.0%. The properly completed questionnaires were used for the final analysis. The data collected from the respondents were coded and analysed using appropriate statistical techniques. Pearson Product Moment Correlation (PPMC) was used to answer the four research questions and test the corresponding null hypotheses because the study sought to determine the relationships between the dimensions of artificial intelligence literacy and entrepreneurial competence.

Specifically, PPMC was used to determine:

the relationship between AI knowledge and entrepreneurial competence;

the relationship between AI technical skills and entrepreneurial competence;

the relationship between AI information evaluation skills and entrepreneurial competence; and the relationship between AI ethical awareness and entrepreneurial competence.

The four null hypotheses were tested at the .05 level of significance. The null hypothesis was rejected where the calculated significance value was less than .05, while the null hypothesis was retained where the calculated significance value was greater than .05.

In addition, where the researcher intended to determine the combined and relative contribution of the four dimensions of AI literacy to entrepreneurial competence, multiple regression analysis was employed. This provided further evidence on the extent to which AI knowledge, AI technical skills, AI information evaluation skills and AI ethical awareness jointly and individually related to entrepreneurial competence.

Research Question 1

What is the relationship between AI knowledge and entrepreneurial competence among Business Education students in Eket Federal Constituency?

Table 1: Pearson Product Moment Correlation between AI Knowledge and Entrepreneurial Competence (N = 194)

Variables	AI Knowledge
AI Knowledge	1.000
Entrepreneurial Competence	.610
Sig. (2 tailed)	-
N	194

Note: Correlation is significant at the 0.01 level, 2 tailed.

The result in Table 4.1 shows a positive relationship ($r = .610$) between AI knowledge and entrepreneurial competence among Business Education students. The relationship was strong and positive, indicating that students with higher levels of AI knowledge tended to demonstrate higher entrepreneurial competence.

Research Question 2

What is the relationship between AI technical skills and entrepreneurial competence among Business Education students in Eket Federal Constituency?

Table 2: Pearson Product Moment Correlation between AI Technical Skills and Entrepreneurial Competence (N = 194)

Variables	AI Technical Skills	Entrepreneurial Competence
AI Technical Skills	1.000	.670
Entrepreneurial Competence	.670	1.000
Sig. (2 tailed)	—	.000
N	194	194

Note: Correlation is significant at the 0.01 level, 2 tailed.

The result shows a strong positive relationship ($r = .670$) between AI technical skills and entrepreneurial competence. This indicates that Business Education students who possessed stronger AI technical skills tended to demonstrate higher levels of entrepreneurial competence.

Research Question 3

What is the relationship between AI information evaluation skills and entrepreneurial competence among Business Education students in Eket Federal Constituency?

Table 3: Pearson Product Moment Correlation between AI Information Evaluation Skills and Entrepreneurial Competence (N = 194)

Variables	AI Information Evaluation Skills	Entrepreneurial Competence
AI Information Evaluation Skills	1.000	.580
Entrepreneurial Competence	.580	1.000
Sig. (2 tailed)	—	.000
N	194	194

Note: Correlation is significant at the 0.01 level, 2 tailed.

The result indicates a positive relationship ($r = .580$) between AI information evaluation skills and entrepreneurial competence. This suggests that students who were better able to evaluate information generated by AI tended to exhibit higher entrepreneurial competence.

Research Question 4

What is the relationship between AI ethical awareness and entrepreneurial competence among Business Education students in Eket Federal Constituency?

Table 4: Pearson Product Moment Correlation between AI Ethical Awareness and Entrepreneurial Competence (N = 194)

Variables	AI Information Evaluation Skills	Entrepreneurial Competence
AI Ethical Awareness	1.000	.550
Entrepreneurial Competence	.550	1.000
Sig. (2 tailed)	—	.000
N	194	194

Note: Correlation is significant at the 0.01 level, 2 tailed.

The result shows a positive relationship ($r = .550$) between AI ethical awareness and entrepreneurial competence. This implies that higher AI ethical awareness was associated with higher entrepreneurial competence among the students.

TESTING OF HYPOTHESES

The four null hypotheses were tested at the .05 level of significance.

Hypothesis One

H₀₁: There is no significant relationship between AI knowledge and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Table 1: Test of Hypothesis One

Variables	N	r	Sig. (2 tailed)	Decision
AI Knowledge and Entrepreneurial Competence	194	.610	.000	Reject H ₀₁

The result shows that AI knowledge had a significant positive relationship with entrepreneurial competence, $r(192) = .610$, $p < .001$. Since the significance value of .000 is less than the .05 level of significance, the null hypothesis was rejected. Therefore, there was a significant relationship between AI knowledge and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Hypothesis Two

H₀₂: There is no significant relationship between AI technical skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Table 2: Test of Hypothesis Two

Variables	N	r	Sig. (2 tailed)	Decision
AI Knowledge and Entrepreneurial Competence	194	.670	.000	Reject H ₀₁

The result indicates a significant positive relationship between AI technical skills and entrepreneurial competence, $r(192) = .670$, $p < .001$. Since the significance value of .000 is less than .05, the null hypothesis was rejected. Therefore, there was a significant relationship between AI technical skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Hypothesis Three

H₀₃: There is no significant relationship between AI information evaluation skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Table 3: Test of Hypothesis Three

Variables	N	r	Sig. (2 tailed)	Decision
AI Information Evaluation Skills and Entrepreneurial Competence	194	.580	.000	Reject H ₀₁

The result shows a significant positive relationship between AI information evaluation skills and entrepreneurial competence, $r(192) = .580$, $p < .001$. Since the significance value of .000 is less than .05, the null hypothesis was rejected. Therefore, there was a significant relationship between AI information evaluation skills and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Hypothesis Four

H₀₄: There is no significant relationship between AI ethical awareness and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Table 4 : Test of Hypothesis Four

Variables	N	r	Sig. (2 tailed)	Decision
AI Ethical Awareness and Entrepreneurial Competence	194	.550	.000	Reject H ₀₁

The result indicates a significant positive relationship between AI ethical awareness and entrepreneurial competence, $r(192) = .550$, $p < .001$. Since the significance value of .000 is less than .05, the null hypothesis was rejected. Therefore, there was a significant relationship between AI ethical awareness and entrepreneurial competence among Business Education students in Eket Federal Constituency.

Summary of Findings

Overall, the analysis indicates that all four dimensions of artificial intelligence literacy had significant positive relationships with entrepreneurial competence. Of the four dimensions, AI technical skills had the strongest relationship ($r = .670$), followed by AI knowledge ($r = .610$), AI information evaluation skills ($r = .580$) and AI ethical awareness ($r = .550$).

Certainly, I have retained the same findings, structure and interpretation, but strengthened the discussion with additional recent scholarly evidence. I have also used current sources from 2024–2026 where available. The citations are integrated rather than simply added at the end of paragraphs.

DISCUSSION OF FINDINGS

Discussion of Findings on the Relationship between AI Knowledge and Entrepreneurial Competence

The first finding revealed a significant positive relationship between AI knowledge and entrepreneurial competence among Business Education students in Eket Federal Constituency, with a correlation coefficient of $r = .610$, $p < .001$. This finding indicates that students who possessed greater knowledge and understanding of artificial intelligence tended to demonstrate higher levels of entrepreneurial competence. The finding suggests that understanding the basic concepts, capabilities, applications and limitations of AI may enhance students' ability to identify business opportunities, generate ideas, solve problems, make decisions and engage in entrepreneurial activities. The finding is understandable given the increasing integration of artificial intelligence into contemporary business activities. AI knowledge enables prospective entrepreneurs to understand how emerging technologies can be applied to areas such as market research, customer engagement, business planning, content creation and decision making. A student who understands what AI can and cannot do is more likely to recognise opportunities for using AI to improve business processes and create value. Recent research has established that AI literacy encompasses not only knowledge of AI concepts but also the ability to understand its applications and implications in real world contexts (Zhang et al., 2024). The UNESCO AI Competency Framework for Students similarly emphasises that learners need knowledge and skills that enable them to understand AI, apply AI appropriately and critically engage with its opportunities and limitations (Miao et al., 2024).

The finding also agrees with the emerging emphasis on AI literacy as an important component of contemporary education. AI literacy is increasingly viewed as more than the ability to operate AI applications. It includes understanding AI concepts, recognising its implications and developing the capacity to use AI purposefully and responsibly. A multinational study involving 1,465 university students found that AI literacy is an important competency for students preparing for future professional and working environments and that prior learning experiences with AI are associated with differences in students' AI literacy (Laupichler et al., 2025). Similarly, research among university

students has shown that AI literacy is associated with students' ability to engage meaningfully with AI technologies and that educational experiences can contribute to the development of such literacy (Salhab & Aboushi, 2025). This broader understanding can be particularly relevant to Business Education students because their training is expected to prepare them for both employment and entrepreneurial activities. The relationship observed in the present study is also consistent with evidence from entrepreneurship education. Somià and Vecchiarini (2024) found that the use of ChatGPT in entrepreneurship education could support students' entrepreneurial competencies, particularly in areas such as opportunity spotting, creativity, vision, valuing ideas and ethical and sustainable thinking. In addition, recent Nigerian research on undergraduate students indicates that entrepreneurship education is positively associated with several entrepreneurial competencies, including opportunity recognition, opportunity assessment and creative problem solving (Okolie et al., 2024).

The finding further suggests that Business Education programmes may benefit from incorporating more practical AI related content into entrepreneurship and business courses. When students understand how AI can support business activities, they may be better positioned to transform technological opportunities into entrepreneurial opportunities. The positive correlation obtained in this study therefore reinforces the importance of developing AI knowledge as part of the preparation of future business educators and student entrepreneurs.

Discussion of Findings on the Relationship between AI Technical Skills and Entrepreneurial Competence

The second finding showed a significant positive relationship between AI technical skills and entrepreneurial competence, with $r = .670$, $p < .001$. This was the strongest relationship among the four dimensions of AI literacy examined in the study. The finding implies that Business Education students who possessed stronger practical skills in using AI tools tended to exhibit higher levels of entrepreneurial competence. This finding may be explained by the practical nature of entrepreneurship. Entrepreneurial competence requires individuals to convert knowledge into action. Merely knowing that AI exists may not be sufficient to produce entrepreneurial value unless the individual possesses the technical ability to apply relevant AI tools to real business situations. Students who can effectively use AI applications may be better positioned to conduct market research, generate and refine business ideas, prepare promotional materials, analyse information, communicate with customers and support business decision making. Recent research supports the importance of practical AI competence. A 2025 study on university students found that AI literacy involves multiple dimensions of knowledge and capability rather than simple familiarity with AI tools. The researchers emphasised the importance of developing structured AI literacy among college students in response to the growing technological demands of higher education and future employment (Zhang et al., 2025). Similarly, a longitudinal study of university students found that sustained engagement with generative AI helped students develop practical capabilities such as prompt engineering, personalised AI workflows and more sophisticated approaches to using AI for problem solving (Wang et al., 2025). These findings provide support for the present result because practical engagement with AI may help students move from awareness of AI to meaningful application.

The finding is also consistent with the growing recognition that effective engagement with AI requires practical competencies. The UNESCO framework identifies the application of AI and the development of AI related competencies as important components of students' preparation for an

increasingly AI enabled world (Miao et al., 2024). Similarly, Somià and Vecchiarini (2024) found that guided use of ChatGPT in entrepreneurship education could enhance aspects of students' entrepreneurial competencies. Their findings suggest that AI can support entrepreneurial learning when students are provided with opportunities to apply the technology to authentic business tasks. The relatively stronger correlation between AI technical skills and entrepreneurial competence may therefore suggest that what students can practically do with AI may be particularly important for entrepreneurial development. Business Education students who can move from theoretical knowledge to practical application may have greater capacity to exploit emerging business opportunities. This finding has implications for Business Education curriculum development. Rather than limiting AI education to theoretical discussions, institutions could provide students with practical experiences involving AI assisted business planning, digital marketing, customer analysis, content development and entrepreneurial problem solving. However, the correlational nature of the study means that the finding should not be interpreted to mean that AI technical skills cause entrepreneurial competence. It only indicates that the two variables were positively and significantly associated among the students studied.

Discussion of Findings on the Relationship between AI Information Evaluation Skills and Entrepreneurial Competence

The third finding revealed a significant positive relationship between AI information evaluation skills and entrepreneurial competence, with $r = .580$, $p < .001$. This finding indicates that students who were better able to evaluate the accuracy, reliability, relevance and usefulness of information generated by AI also tended to demonstrate higher entrepreneurial competence. The finding is particularly important because AI systems can produce information that appears convincing but may contain inaccuracies, bias or inappropriate recommendations. Consequently, entrepreneurial users of AI need more than the ability to generate information. They need the capacity to evaluate whether the information is trustworthy and suitable for the particular business decision being considered. For Business Education students, information evaluation skills are important because entrepreneurial decisions often depend on the quality of information available to the decision maker. Students may use AI to obtain information about consumers, markets, competitors, products and business opportunities. If they accept AI generated information without critical evaluation, they may make inappropriate business decisions. Conversely, students who critically evaluate AI outputs are more likely to identify errors, verify important information and make better informed decisions. Recent evidence reinforces this argument. A 2025 study of university students found that students may possess basic familiarity with AI while still requiring stronger competencies in critical evaluation and responsible use of AI generated outputs (Salhab & Aboushi, 2025). Similarly, Wang et al. (2025) found that sustained interaction with generative AI contributed to students' development of critical awareness and their ability to evaluate AI outputs as part of their evolving AI literacy.

The finding is consistent with recent approaches to AI literacy which emphasise critical engagement with AI generated information. UNESCO's AI competency framework places emphasis on students' ability to understand, evaluate and use AI appropriately rather than merely becoming users of AI tools (Miao et al., 2024). A comprehensive framework for AI literacy and competency likewise distinguishes between knowing about AI and being able to apply that knowledge appropriately and beneficially (Zhang et al., 2024). The finding therefore suggests that entrepreneurial competence in the AI era involves an important critical thinking dimension. Business Education students should not be trained merely to ask AI systems questions or generate business content. They should also be

trained to verify AI generated information against credible sources and determine whether such information is appropriate for actual business decisions. The significant positive relationship found in this study supports the integration of information evaluation skills into AI literacy education for prospective entrepreneurs.

Discussion of Findings on the Relationship between AI Ethical Awareness and Entrepreneurial Competence

The fourth finding revealed a significant positive relationship between AI ethical awareness and entrepreneurial competence, with $r = .550$, $p < .001$. This finding indicates that Business Education students with greater awareness of ethical issues surrounding AI also tended to demonstrate higher entrepreneurial competence. AI ethical awareness encompasses an understanding of issues such as privacy, data protection, bias, fairness, transparency, accountability, intellectual property and responsible use of AI. These issues are increasingly relevant to entrepreneurship because businesses are using AI to collect and process information, interact with customers, generate content and support decision making. The finding suggests that entrepreneurial competence should not be understood only in terms of the ability to identify opportunities, innovate or make profits. Responsible entrepreneurship also requires the capacity to recognise the ethical implications of business decisions. Students who understand the ethical dimensions of AI may be more capable of using technology in ways that protect customers, respect intellectual property and avoid discriminatory or deceptive practices. The finding is supported by the increasing emphasis on ethical and human centred AI education. The UNESCO AI Competency Framework specifically includes AI ethics as a core dimension of students' AI competence and stresses the importance of developing learners who can engage with AI responsibly and critically (Miao et al., 2024). Recent research has similarly demonstrated that ethical understanding develops alongside students' practical engagement with generative AI, suggesting that AI literacy should include explicit consideration of ethical boundaries and human agency (Wang et al., 2025). The positive relationship observed in this study is also consistent with the findings of Somià and Vecchiarini (2024), who identified ethical and sustainable thinking as one of the entrepreneurial competencies that could be supported through guided use of ChatGPT in entrepreneurship education. This is important because entrepreneurial competence increasingly involves not simply creating value but creating value in ways that are responsible and sustainable. The finding also suggests that ethical awareness may complement rather than restrict entrepreneurial activity. Students who understand the ethical implications of AI may be better equipped to develop sustainable and trustworthy business practices. In the long term, responsible use of AI may contribute to customer confidence, organisational reputation and sustainable entrepreneurial development.

Taken together, the findings demonstrated that all four dimensions of artificial intelligence literacy examined in the study had significant positive relationships with entrepreneurial competence among Business Education students in Eket Federal Constituency. AI technical skills had the strongest relationship ($r = .670$), followed by AI knowledge ($r = .610$), AI information evaluation skills ($r = .580$) and AI ethical awareness ($r = .550$). The pattern of findings suggests that entrepreneurial competence in the contemporary business environment may increasingly require a combination of knowledge, practical technical ability, critical evaluation and ethical awareness. This aligns with contemporary approaches to AI competency, which view effective AI use as a multidimensional capability rather than simply the ability to operate an AI application (Zhang et al., 2024; Miao et al., 2024). The findings have important implications for Business Education. The traditional objective of

Business Education has been to provide learners with business knowledge and occupational skills. However, the increasing adoption of AI suggests that these competencies need to be complemented by emerging technological competencies. Business Education students may need to learn not only how to operate conventional business technologies but also how to critically and responsibly integrate AI into entrepreneurial activities. Evidence from university students across different countries indicates that AI literacy remains an emerging competency and that students' previous learning experiences and educational exposure to AI can influence their level of literacy (Laupichler et al., 2025).

The findings also reinforce the importance of moving towards practical AI integrated entrepreneurship education. Students could be exposed to activities requiring them to use AI to identify business opportunities, conduct market research, develop business models, analyse customer needs and design marketing strategies, while simultaneously learning to evaluate AI outputs and address ethical concerns. This approach is supported by evidence that guided use of generative AI in entrepreneurship education can contribute to the development of entrepreneurial competencies when AI is used alongside human judgement and experiential learning (Somià & Vecchiarini, 2024). Nevertheless, the results should be interpreted within the limitations of a correlational study. The significant relationships observed do not establish that AI literacy causes entrepreneurial competence. Other factors, such as students' prior technological exposure, socioeconomic background, entrepreneurial education, access to digital resources and personal characteristics, may also contribute to entrepreneurial competence. Recent research on AI literacy likewise cautions against interpreting associations as causal relationships, particularly when studies are based on cross sectional student data (Laupichler et al., 2025). Overall, the study provides empirical support for the view that AI literacy is an important contemporary competency for Business Education students, particularly as they prepare to participate in an increasingly digital and AI driven entrepreneurial environment. The convergence of the present findings with recent international evidence suggests that Business Education programmes should increasingly integrate AI knowledge, practical AI skills, critical evaluation and ethical awareness into entrepreneurship education.

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