ARTIFICIAL INTELLIGENCE IN ENTREPRENEURSHIP EDUCATION: IMPACT ON BUSINESS IDEA GENERATION AND STARTUP READINESS AMONG UNIVERSITY OF CALABAR UNDERGRADUATES

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Abstract

This study assessed the Integrating Artificial Intelligence in Entrepreneurship Education: Impact on Business Idea Generation and Startup Readiness among University of Calabar Undergraduates. The study adopted a descriptive survey research design. The population comprised 122 final-year Business Education students, consisting of 73 males and 49 females. A structured questionnaire titled Integrating Artificial Intelligence into Entrepreneurship Education: Impact on Business Idea Generation and Startup Readiness Questionnaire (IAEEIBIGSRQ) was used to collect data. Data were analyzed using mean, standard deviation, and independent t-test statistics, while hypotheses were tested at the 0.05 level of significance. Findings revealed that AI tools significantly influence students' ability to brainstorm, refine, and evaluate innovative business ideas, thereby enhancing creativity, confidence, and originality in entrepreneurship education. Similarly, AI tools positively impacted students' startup readiness by providing decision-making support, marketing strategies, and managerial knowledge, though their influence on legal and ethical aspects of startups was found to be limited. The results further showed no significant difference between male and female students in their perceptions, indicating that AI's benefits are consistent across gender. The study concludes that AI is a vital enabler of entrepreneurial competencies, equipping undergraduates with the skills required to thrive in a digitally driven business environment. It recommends the integration of AI-driven modules into the entrepreneurship curriculum, training on advanced AI applications, inclusion of legal and ethical considerations, and industry collaborations to strengthen the relevance of entrepreneurship education in Nigeria.

Keywords: Artificial Intelligence, entrepreneurship education, business idea generation, startup readiness and undergraduate students

Introduction

The integration of Artificial Intelligence (AI) into diverse sectors has significantly transformed how individuals and organizations approach problem-solving, decision-making, and innovation. Education has not been left behind in this global revolution. In the field of entrepreneurship education, AI has gained increasing attention due to its potential to enrich learning experiences, foster creativity, and enhance students' entrepreneurial skills. Entrepreneurship education is designed to provide learners with the requisite knowledge, attitudes, and competencies to start and manage businesses successfully, while also cultivating an entrepreneurial mindset that prepares them to adapt to real-world business challenges. Traditionally, entrepreneurship education has been delivered through theoretical instruction on concepts such as business planning, market analysis, and strategy formulation. While these approaches have their merits, they often fail to provide the interactive, data-driven, and adaptive experiences that reflect the dynamic realities of the business environment. With the advent of AI, however, there is a growing

recognition of the need to integrate advanced digital tools that support innovative thinking, facilitate effective planning, and enhance students' readiness to embark on entrepreneurial ventures (Agbogo, Uju, Atah & Idike, 2024).

AI tools including natural language processing systems, machine learning applications, and data analytics platforms offer students opportunities to engage with entrepreneurship education in new and impactful ways. Conversational AI platforms such as ChatGPT, Jasper, and Gemini now assist students in brainstorming innovative ideas, refining business proposals, and producing more coherent entrepreneurial projects. According to Okoro and Balogun (2023), these AI-powered writing assistants not only improve the coherence and quality of students' proposals but also expand their creative horizons by guiding them through structured brainstorming and idea refinement processes. This position is supported by Atah, et al (2023), who stressed that exposure to technology-driven innovations in business education helps undergraduates sharpen their problem-solving capacity and creativity. Similarly, Adekunle and Sodiq (2022) found that AI-driven analytics tools enable students to explore large volumes of market data and consumer trends, equipping them with relevant insights that support the generation of market-aligned business ideas. This shift towards AI-driven ideation represents a crucial advancement in entrepreneurship education, as students are empowered to bridge the gap between creativity and practicality in business development.

AI applications also play an important role in stimulating divergent thinking, which is central to the creation of original and feasible business concepts. Chinonso and Effiong (2021) demonstrated that creative-support platforms such as Writesonic and Ideanote significantly enhance students' capacity for divergent thinking by enabling them to generate novel and viable business concepts beyond the limitations of traditional brainstorming methods. These findings underscore the increasing recognition that AI not only aids in refining ideas but also strengthens students' ability to think innovatively, an essential trait in entrepreneurial practice. Local studies align with this view. For example, Atah and Alabi (2024) emphasized that AI fosters students' ability to translate creativity into entrepreneurial projects by serving as a supportive digital partner in ideation and planning. Likewise, Otu, el at (2024) noted that the use of AI in academic settings broadens students' exposure to contemporary entrepreneurial practices, thereby shaping their innovation capacity in ways that conventional methods alone cannot achieve. Consequently, AI technologies are emerging as vital enablers of creativity and innovation, two cornerstones of entrepreneurship education.

Beyond business idea generation, AI tools are equally important in supporting students' ability to prepare for and manage startup ventures. Startup readiness extends beyond the possession of knowledge; it involves equipping learners with the practical skills, confidence, and resilience required to launch and sustain entrepreneurial activities. AI tools contribute to this readiness in several ways. Lawal and Omisore (2022) reported that predictive analytics and business simulation platforms provide students with opportunities to practice investment pitching, develop strategic decision-making skills, and anticipate operational challenges. Similarly, Akpan and Ibrahim (2021) highlighted the role of AI-based simulators and risk-modeling applications in strengthening students' abilities to conduct competitive analysis, allocate resources efficiently, and mitigate risks. By immersing students in realistic business scenarios, these AI-enhanced tools bridge the gap between theoretical classroom knowledge and the uncertainties of the entrepreneurial environment.

In addition, AI-based business planning applications are instrumental in helping students produce investor-ready business plans. Nwachukwu and Ekpo (2023) demonstrated that applications such as Enloop and LivePlan provide students with structured guidance, real-time feedback, and automated templates that support the development of professional and marketable business documents. Such tools not only enhance the technical quality of business plans but also increase

students' chances of securing mentorship and investment opportunities. Similarly, Atah, et al (2023) reported that integrating digital technologies into entrepreneurship education boosts learners' capacity for documentation and planning, both of which are essential for venture incubation. These developments underscore AI's role in enabling a smoother transition from classroom learning to practical entrepreneurship, highlighting its value in fostering comprehensive startup preparedness.

Scholars have further emphasized that AI can provide mentorship, simulations, and real-time assessments that strengthen students' preparedness for entrepreneurial challenges. For instance, Uju, el al (2024) pointed out that AI-powered educational tools can provide personalized feedback and guidance, adapting to learners' needs and supporting continuous improvement in entrepreneurial skills. Similarly, Ochui, el at (2024) noted that such adaptive technologies are critical for improving learning outcomes in Nigerian universities, especially in fields requiring practical readiness like entrepreneurship. These insights suggest that AI integration goes beyond cognitive support, serving as a tool for mentoring and capacity-building.

Despite these advances, research into the specific influence of AI tools on undergraduateentrepreneurship education remains relatively limited, particularly in the Nigerian context. While previous studies have examined AI's contributions to creativity, data analysis, and startup planning in broader educational settings (Okoro & Balogun, 2023; Adekunle & Sodiq, 2022; Chinonso & Effiong, 2021; Lawal & Omisore, 2022; Akpan & Ibrahim, 2021; Nwachukwu & Ekpo, 2023), few have focused explicitly on how these tools impact students' entrepreneurial idea generation and startup readiness. Local contributions such as those by Akeke, el at (2024) and Alabi & Atah (2025) further underscore the need for empirical research that contextualizes AI adoption within Nigeria's higher education system. This gap is particularly relevant for institutions such as the University of Calabar, where entrepreneurship education is a core aspect of undergraduate training.

Therefore, this study examines the influence of AI tools on business idea generation and startup readiness among undergraduate students at the University of Calabar. By doing so, it aims to provide evidence-based insights that will inform curriculum development, teaching strategies, and the design of AI-based learning tools tailored to entrepreneurship education. The findings of this study are expected to contribute to both theory and practice, highlighting the transformative potential of AI in shaping the future of entrepreneurship training in Nigeria and beyond.

Statement of the Problem

Despite the growing integration of Artificial Intelligence (AI) in various educational contexts, its application within entrepreneurship education in Nigerian universities remains relatively underexplored and underutilized. While AI tools such as ChatGPT, Jasper, Grammarly, and data analytics platforms have demonstrated potential in enhancing learning and creativity, there is limited evidence on how effectively these tools are being leveraged to support the core objectives of entrepreneurship education particularly in business idea generation, business plan development, and startup readiness. In most Nigerian universities, entrepreneurship courses are still taught using traditional, theory-heavy approaches that may not align with the dynamic and innovation-driven nature of today's entrepreneurial landscape. As a result, many undergraduates struggle to translate theoretical knowledge into actionable business concepts or viable startup initiatives. This gap is further exacerbated by limited exposure to digital tools and a lack of structured guidance on how AI technologies can enhance entrepreneurial thinking and execution.
Furthermore, while some students have independently adopted AI tools for academic writing and basic research tasks, there is insufficient understanding of how these tools contribute to more complex entrepreneurial competencies, such as opportunity recognition, value proposition creation, and market readiness. The lack of empirical studies on this subject means that university educators and policymakers lack the data needed to develop AI-integrated curricula

that effectively foster entrepreneurial skills among undergraduates. Therefore, the central problem of this study is the inadequate integration and application of AI tools in entrepreneurship education, which may limit undergraduates' capacity to generate innovative business ideas and achieve readiness for real-world startup ventures. This study seeks to investigate the extent to which AI tools influence business idea generation and startup preparedness among undergraduates, with the goal of providing insights that can inform more effective, technology-enhanced entrepreneurship education practices.

Research Questions

The following research questions guided the study:

1. To what extent do AI tools influence the generation of innovative business ideas among undergraduate students at the University of Calabar?
2. How do AI tools affect the startup readiness of undergraduate students in entrepreneurship education at the University of Calabar?

Research Hypotheses

Two research hypotheses were tested at the 0.05 level of significance:

H_{01}: AI tools have no significant influence on the generation of innovative business ideas among undergraduate students in University of Calabar.

H_{02}: AI tools have no significant impact on the startup readiness of undergraduate students in University of Calabar.

Methods

The study adopted a descriptive research design survey, which was considered appropriate for gathering information from the target respondents on their perceptions and experiences regarding the integration of Artificial Intelligence (AI) into entrepreneurship education. This design was suitable because it allowed the researcher to describe and analyze the current state of AI application in business idea generation and startup readiness among undergraduates. The study was conducted at the University of Calabar in Cross River State, Nigeria, one of the leading federal universities in the South-South region of the country. The institution was chosen because of its emphasis on entrepreneurship education and the presence of final-year students who had been adequately exposed to entrepreneurship-related courses and were therefore in a good position to provide valid and reliable responses.

The population of the study comprised 122 final-year undergraduate students of the Department of Business Education at the University of Calabar. This population consisted of 73 male students and 49 female students. Given that the size of the population was manageable, the entire population was studied using the census sampling technique. This ensured that all the students participated in the study, thereby improving the reliability of the findings and eliminating possible sampling bias.

The instrument for data collection was a researcher-developed questionnaire titled “Integrating Artificial Intelligence into Entrepreneurship Education: Impact on Business Idea Generation and Startup Readiness Questionnaire (IAEEIBIGSRQ).” The questionnaire was divided into three main sections. Section A collected demographic information of the respondents such as gender and academic background. Section B contained items designed to measure the influence of AI tools on innovative business idea generation, while Section C focused on the perceived impact of AI tools on startup readiness and entrepreneurial preparedness. The items were structured on a four-point Likert scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1).

To ensure the validity of the instrument, the draft questionnaire was reviewed by three experts: two in Business Education and the other in Department of Educational Measurement and Evaluation, all at the University of Calabar. Their comments and suggestions were incorporated

into the final version of the questionnaire to enhance clarity, relevance, and coverage of the research objectives. Reliability was determined through a pilot test conducted on 20 final-year business education students from the University of Uyo, who were not part of the study population. The data generated from the pilot test were analyzed using the Cronbach Alpha method, which yielded a reliability coefficient of 0.82. This was considered acceptable and indicated that the instrument was internally consistent and reliable for data collection.

The researchers administered the questionnaire to the students with the help of two trained research assistants. This direct method of administration ensured a high response rate, as clarifications were provided when necessary. A total of 122 questionnaires were distributed and all were retrieved, representing a 100% return rate. The data collected were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics such as mean and standard deviation were used to answer the research questions. A cut-off mean of 2.50 was used as the decision rule, where mean scores of 2.50 and above were considered acceptable while those below were rejected. Inferential statistics, specifically the t-test, were employed to test the null hypotheses at a 0.05 level of significance. This approach enabled the researcher to determine whether there were significant effects of AI tools on innovative business idea generation and startup readiness among the undergraduate students studied.

Findings of the study

Research Question 1

To what extent do AI tools influence the generation of innovative business ideas among undergraduate students in University of Calabar?

Table 1: Mean rating of respondents on the extent to which AI tools influence the generation of innovative business ideas

S/N	Items on AI ability to generate innovative business ideas	N = 122	Mean	SD	Decision
1	AI tools help me brainstorm creative business ideas more easily.	122	3.64	0.84	Accepted
2	I use AI tools to explore unmet needs in the market.	122	3.52	0.91	Accepted
3	AI-generated suggestions improve the quality of my business idea proposals.	122	3.7	0.77	Accepted
4	AI helps me identify trending and innovative business opportunities.	122	3.68	0.82	Accepted
5	AI tools like ChatGPT or Gemini help refine my business ideas.	122	3.74	0.75	Accepted
6	I rely on AI tools to evaluate the feasibility of my business ideas.	122	3.48	0.89	Accepted
7	AI tools encourage me to think more creatively in business contexts.	122	3.61	0.86	Accepted
8	The use of AI tools has increased my confidence in developing original business concepts.	122	3.57	0.83	Accepted
9	I use AI tools to create business plans for my startup ideas.	122	3.44	0.92	Accepted
	Cluster Mean & SD	**122**	**3.6**	**0.84**	**Accepted**

Decision rule: Mean ≥ 2.50 = Accepted; Mean < 2.50 = Not Accepted

The results presented in Table 1 reveal that undergraduate students at the University of Calabar generally agree that AI tools significantly influence their ability to generate innovative

business ideas. The cluster mean of 3.60 with a standard deviation of 0.84 indicates a high and consistent level of agreement among the respondents. Specifically, the highest-rated item was "AI tools like ChatGPT or Gemini help refine my business ideas" (Mean = 3.74, SD = 0.75), showing that students strongly acknowledge the usefulness of conversational AI platforms in refining and shaping their business concepts. This was closely followed by the item "AI-generated suggestions improve the quality of my business idea proposals" (Mean = 3.70, SD = 0.77). These findings suggest that students leverage AI for idea refinement and for enhancing the overall quality of their entrepreneurial projects.

Similarly, items such as "AI helps me identify trending and innovative business opportunities" (Mean = 3.68) and "AI tools help me brainstorm creative business ideas more easily" (Mean = 3.64) reflect the role of AI in stimulating creativity and uncovering new business possibilities. Students also agreed that AI enhances their confidence in developing original business concepts (Mean = 3.57). Although all the items were accepted, the lowest mean score was recorded for the statement "I use AI tools to create business plans for my startup ideas" (Mean = 3.44, SD = 0.92). This indicates that while students are using AI effectively in brainstorming and idea refinement, fewer are applying it directly to structured tasks such as drafting business plans, possibly due to limitations in technical expertise or the complexity of integrating AI outputs into formal business planning documents. Overall, the findings suggest that AI tools are effective enablers of creativity, confidence, and innovative idea generation among students in entrepreneurship education at the University of Calabar. This demonstrates the positive role AI can play in preparing undergraduates for entrepreneurial ventures in the digital age.

Research Question 2

How do AI tools affect the startup readiness of undergraduate students in entrepreneurship education in University of Calabar?

Table 2: Mean rating of respondents on how AI tools affect the startup readiness of undergraduate students in entrepreneurship education

S/N	Impact on readiness to launch and manage startup ventures	N = 122	Mean	SD	Decision
10	AI helps me simulate startup challenges and how to solve them.	122	3.62	0.81	Accepted
11	I feel more prepared to start a business because I can rely on AI for support.	122	3.58	0.86	Accepted
12	AI tools provide me with up-to-date knowledge on how to manage startups.	122	3.71	0.78	Accepted
13	I can use AI to develop marketing strategies for my startup.	122	3.75	0.73	Accepted
14	AI helps me estimate financial projections for my business idea.	122	3.56	0.89	Accepted
15	I feel equipped to use AI tools in making startup business decisions.	122	3.68	0.8	Accepted
16	AI tools have helped me understand the legal and ethical issues in launching a business.	122	3.49	0.91	Accepted
	Cluster Mean & SD	122	**3.63**	**0.83**	Accepted

Decision rule: Mean ≥ 2.50 = Accepted; Mean < 2.50 = Not Accepted

The data in Table 2 indicate that undergraduate students generally agree that AI tools positively impact their readiness to launch and manage startup ventures. The cluster mean of 3.63 with a standard deviation of 0.83 shows a high level of agreement and consistency in students' responses. The highest-rated item was "I can use AI to develop marketing strategies for my startup" (Mean = 3.75, SD = 0.73). This highlights that students strongly acknowledge AI's potential in helping them design effective promotional and customer engagement strategies, a critical aspect of startup survival in competitive markets. Similarly, students agreed that AI tools provide them with up-to-date knowledge on managing startups (Mean = 3.71, SD = 0.78), reflecting the importance of AI-driven insights in decision-making and managerial tasks. Other highly rated items included "I feel equipped to use AI tools in making startup business decisions" (Mean = 3.68) and "AI helps me simulate startup challenges and how to solve them" (Mean = 3.62). These findings indicate that students view AI not just as an informational tool but also as a practical guide for problem-solving and decision-making in real business environments.

Meanwhile, the lowest mean score was recorded for the statement "AI tools have helped me understand the legal and ethical issues in launching a business" (Mean = 3.49, SD = 0.91). Although accepted, this suggests that AI is less frequently used by students to navigate legal and regulatory aspects of entrepreneurship. This may be due to limited availability of AI tools specifically tailored for legal and ethical advisory purposes, or because students rely more on human mentors and institutional resources for such guidance. Overall, the results suggest that AI tools play a vital role in enhancing students' preparedness for entrepreneurship by equipping them with knowledge, practical strategies, and decision-making support. However, there is room for improvement in leveraging AI for legal and ethical considerations in startup management.

Hypotheses Testing

Hypothesis 1

H_{01}: AI tools have no significant influence on the generation of innovative business ideas among undergraduate students in the University of Calabar.

Table 3: Summary of one-sample t-test result on male and female students' responses on the influence of the generation of innovative business ideas among undergraduate students

Group	N	Mean	SD	t-value	df	Test Value	p-value	Decision
Male	73	3.72	0.81	12.05	72	2.5	0.000	Reject H_{01}
Female	49	3.61	0.9	8.32	48			

The data presented in Table 3 revealed that both male (M = 3.72, SD = 0.81) and female (M = 3.61, SD = 0.90) students rated the influence of AI tools on business idea generation significantly higher than the test value of 2.50. The calculated t-values (12.05 for males and 8.32 for females) with corresponding p-values of 0.000 (< 0.05) indicate that the observed differences were statistically significant. This result means that AI tools play an important role in supporting students to brainstorm, refine, and evaluate business ideas. For instance, AI-based applications such as ChatGPT, Gemini, or business simulation tools can provide creative prompts, market insights, and feasibility checks that help undergraduates develop more original and innovative business concepts. The finding suggests that male and female students alike are leveraging AI to improve the quality of their proposals, discover trending opportunities, and explore unmet market needs. Thus, the null hypothesis (H_{01}) was rejected, confirming that AI tools significantly influence innovative business idea generation among undergraduate students.

Hypothesis 2

H_{02}: AI tools have no significant impact on the startup readiness of undergraduate students in the University of Calabar.

Table 4: Summary of one-sample t-test result on male and female students' responses of the impact on the startup readiness of undergraduate students

Group	N	Mean	SD	t-value	df	Test Value	p-value	Decision
Male	73	3.66	0.82	11.92	72			
						2.5	0	Reject H_{02}
Female	49	3.59	0.85	7.98	48			

The data presented in Table 4 showed that both male (M = 3.66, SD = 0.82) and female (M = 3.59, SD = 0.85) students rated the impact of AI tools on startup readiness significantly higher than the test value of 2.50. The calculated t-values (11.92 for males and 7.98 for females) with p-values of 0.000 (< 0.05) confirmed that these differences were statistically significant. This finding demonstrates that AI tools are actively preparing undergraduates to face the realities of launching and managing new ventures. Specifically, students reported that AI enables them to simulate startup challenges, design marketing strategies, estimate financial projections, and understand legal/ethical issues involved in starting a business. Tools such as AI-powered financial planners, digital marketing platforms, and startup simulators provide undergraduates with hands-on learning experiences that mirror real-world business environments.

By improving confidence and equipping students with practical decision-making skills, AI has become a key driver of entrepreneurial readiness among undergraduates. Consequently, the null hypothesis (H_{02}) was rejected, confirming that AI significantly impacts students' preparedness to establish and manage startups. Across both hypotheses, the consistent rejection of the null hypotheses confirms that AI tools are not just supplementary resources but essential components in entrepreneurship education at the University of Calabar. They enhance creativity, foster problem-solving abilities, and improve practical readiness for business startups among undergraduates, regardless of gender.

Discussion of the findings

Examine the influence of AI tools on the ability of undergraduates in University of Calabar to generate innovative business ideas.

The findings of this study indicate that undergraduate students at the University of Calabar perceive Artificial Intelligence (AI) tools as significant enablers of innovative business idea generation. Students reported that AI platforms support them in brainstorming, refining, and shaping creative concepts, while also improving the quality and originality of their entrepreneurial proposals. These results underscore the growing relevance of AI technologies in higher education, particularly in the domain of entrepreneurship, where innovation and problem-solving are critical. A central observation from this study is that conversational AI platforms, such as ChatGPT and Gemini, are especially valued for their capacity to refine students' business ideas and enhance proposal quality. This aligns with the work of Okoro and Balogun (2023), who demonstrated that AI writing assistants not only improve the coherence and structure of students' submissions but also expand their creative horizons by guiding them through systematic brainstorming. The present findings corroborate this position, as undergraduates clearly acknowledged the usefulness of conversational AI tools in strengthening both the depth and clarity of their entrepreneurial concepts. Furthermore, the study revealed that students actively leverage AI to uncover innovative opportunities and identify emerging market trends. This supports the conclusions of Adekunle and Sodiq (2022), who found that AI-driven analytics

platforms allow students to effectively mine consumer data and market insights, thereby producing ideas that are not only innovative but also market-relevant. By validating this perspective, the present study demonstrates that AI technologies serve a dual function for students: stimulating creativity while simultaneously ensuring that their ideas remain aligned with practical business realities.

Additionally, the findings showed that AI encourages confidence and originality among students, fostering divergent thinking that is essential for entrepreneurial success. This is consistent with the earlier study by Chinonso and Effiong (2021), who argued that creative-support tools such as Writesonic and Ideanote enhance students' ability to think broadly and generate ideas with higher feasibility and originality than those conceived through traditional methods. The present research provides evidence that similar outcomes are achieved when students use AI-based brainstorming and ideation tools in entrepreneurship education. However, the study also noted that while students frequently use AI for brainstorming and idea refinement, they are less likely to apply it to structured tasks such as drafting business plans. This finding extends the discussion by suggesting a limitation in students' adoption of AI: although AI is widely used as a creativity and ideation tool, it is not yet fully integrated into the more technical or formal aspects of entrepreneurial preparation. This nuance indicates that while the results strongly align with previous literature on AI's creative and innovative potential, there remains a gap in the extent to which students apply AI outputs to systematic entrepreneurial processes, such as formal planning or financial modeling. In sum, the discussion highlights that the present findings are largely in agreement with prior research, particularly with respect to AI's role in refining ideas, mining market opportunities, and enhancing creativity. The divergence lies in the underutilization of AI for more structured entrepreneurial tasks, suggesting an area for further pedagogical intervention in entrepreneurship education.

Assess the impact of AI tools on undergraduates' readiness to launch and manage startup ventures in University of Calabar.

The findings of this study reveal that undergraduate students at the University of Calabar generally recognize the positive impact of Artificial Intelligence (AI) tools on their readiness to launch and manage startup ventures. Students affirmed that AI enhances their capacity to design marketing strategies, acquire managerial knowledge, simulate business challenges, and make informed decisions. These insights confirm that AI tools are not merely informational aids but also function as practical enablers of entrepreneurial readiness. A key outcome of the study is students' acknowledgment of AI's role in helping them develop effective marketing strategies and customer engagement plans. This resonates with the conclusion of Lawal and Omisore (2022), who noted that predictive analytics and simulation tools foster greater confidence in pitching and strategic decision-making by allowing learners to anticipate and plan for operational challenges. The present findings reinforce this by showing that students see AI as a tool for navigating market competition and developing strategies critical to startup survival. The study further highlighted that students view AI as a source of up-to-date managerial knowledge and a reliable guide in making startup business decisions. This aligns with the work of Akpan and Ibrahim (2021), who emphasized that AI-driven simulators and risk-modeling applications sharpen students' skills in resource allocation, competitive analysis, and risk mitigation. Similarly, students in this study indicated that AI helps them simulate business challenges, echoing the argument that exposure to realistic business scenarios enhances preparedness and resilience in entrepreneurship.

Moreover, students expressed that AI equips them with decision-making capabilities, particularly in strategy formulation and operational planning. This supports the observations of Nwachukwu and Ekpo (2023), who found that business-planning software such as Enloop and LivePlan enables undergraduates to produce investor-ready business plans through real-time feedback and structured guidance. Such tools not only strengthen technical competence but also smooth the pathway to incubation and mentorship opportunities, both of which are vital for startup

development. However, the study also identified a limitation: students were less likely to use AI tools to understand legal and ethical issues related to launching a business. This finding extends the discourse by suggesting that while AI has advanced significantly in areas such as analytics, planning, and marketing, its integration into legal and regulatory guidance remains underdeveloped. It also indicates that students may still rely heavily on institutional resources, mentors, or professional legal advice to navigate compliance issues. Thus, although AI serves as a vital enabler of startup readiness, its role in ethical and legal preparedness appears limited. Overall, the findings affirm the strong agreement between this study and prior literature regarding AI's contribution to entrepreneurial preparedness. The divergence lies in the underutilization of AI for legal and ethical support, pointing to an area where both tool developers and entrepreneurship educators could focus more attention.

Conclusion

This study examined the integration of Artificial Intelligence (AI) into entrepreneurship education, focusing on its impact on business idea generation and startup readiness among undergraduate students at the University of Calabar. The findings demonstrate that AI tools significantly enhance students' capacity to brainstorm, refine, and evaluate innovative business ideas. Students particularly recognized the usefulness of AI-powered platforms such as ChatGPT and Gemini in stimulating creativity, improving idea quality, and boosting confidence in developing original business concepts. Furthermore, the results revealed that AI positively influences students' readiness to launch and manage startup ventures. Students acknowledged the role of AI in providing up-to-date managerial knowledge, simulating business challenges, supporting decision-making, and developing effective marketing strategies. However, AI was found to be less impactful in helping students navigate legal and ethical issues related to startups, suggesting that its integration in this domain remains limited. Overall, the study concludes that AI tools are powerful enablers of entrepreneurial competencies, equipping undergraduates with the creativity, knowledge, and confidence necessary to thrive in a digital business environment. Nevertheless, there is still room to expand AI's application in legal, ethical, and regulatory aspects of entrepreneurship training.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. The University of Calabar and similar institutions should formally integrate AI-driven modules (such as AI for business planning, data analytics, and digital marketing) into entrepreneurship curricula to better prepare students for digital transformation in business.
2. The university should establish AI-supported incubation centers where students can refine their ideas, receive mentorship, and test their startups in simulated business environments before launching into the real market.

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