



LEVERAGING ARTIFICIAL INTELLIGENCE TO ENHANCE ENTREPRENEURIAL SKILLS AMONG BUSINESS EDUCATION STUDENTS FOR SUSTAINABLE POVERTY ALLEVIATION

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Abstract

The integration of Artificial Intelligence (AI) into business education has profoundly reshaped how entrepreneurial skills are developed, particularly among students in developing nations. This study examined the impact of AI on enhancing entrepreneurial competencies, specifically technology proficiency and decision-making ability, among Business Education students as a strategy for sustainable poverty alleviation. Guided by two research questions and two null hypotheses, the study employed a descriptive survey design targeting 1,200 students, from which a representative sample of 120 (10%) was selected. Data were collected using a validated instrument titled Leveraging Artificial Intelligence to Enhance Entrepreneurial Skills Among Business Education Students for Sustainable Poverty Alleviation Questionnaire (LAIEESABESSPAQ), with a Cronbach Alpha reliability coefficient of 0.79. Analytical tools, including mean, standard deviation, and t-tests (at the 0.05 significance level), were applied. Results indicated that students in Niger State had limited proficiency in using AI tools, though no significant gender disparity in skill acquisition was observed. Key challenges included insufficient access to AI technologies and minimal exposure. The study recommends integrating AI into the curriculum, boosting investment in AI resources, and implementing educator training programs to equip students with essential 21st-century skills for navigating an evolving business landscape and combating poverty.

Keywords: Artificial Intelligence, Business Education, Entrepreneurial Skills, Sustainable Poverty Alleviation

Introduction

In recent years, the integration of Artificial Intelligence (AI) into educational frameworks has revolutionized the way students acquire and develop skills, particularly in the field of entrepreneurship. AI technologies offer innovative tools and resources that enhance learning experiences, providing students with the ability to engage in real-time data analysis, simulations, and interactive learning environments. This is particularly significant for business education students, who require a diverse set of entrepreneurial skills to succeed in today's dynamic economic landscape.

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are designed to think, learn, and perform tasks typically requiring human intervention (Russell & Norvig, 2020). AI encompasses a variety of subfields including machine learning, natural language processing, robotics, and computer vision. Artificial Intelligence (AI) is transforming multiple sectors



by automating processes, enhancing decision-making, and fostering innovation. In the field of education, particularly business education, AI has the potential to be a powerful tool for cultivating entrepreneurial skills, which are essential for sustainable poverty alleviation (Brynjolfsson & McAfee, 2017). By integrating AI into business education, students can be equipped with the skills needed to identify opportunities, innovate, and create sustainable ventures that can alleviate poverty at both local and national levels (Luckin et al., 2016).

Poverty is a persistent and multifaceted challenge that continues to affect millions of people worldwide. It is not just a lack of income, but rather a deprivation of basic human needs, such as access to education, healthcare, and essential services (World Bank, 2020). Understanding the various dimensions of poverty is crucial for developing effective strategies to address this global issue. Poverty alleviation refers to the multi-faceted efforts and strategies aimed at reducing the prevalence and severity of poverty within a population (United Nations, 2023). The global understanding of poverty alleviation has continued to evolve, emphasizing a more comprehensive and integrated approach that addresses the complex and interconnected factors contributing to deprivation. Poverty alleviation is a global priority aimed at reducing and ultimately eliminating poverty through policies, programs, and interventions that improve economic opportunities, access to resources, and social welfare. AI has the potential to play a crucial role in poverty alleviation efforts by providing innovative solutions in various sectors. Key Approaches to Poverty Alleviation: Economic Empowerment One of the most effective strategies for poverty alleviation is creating economic opportunities for marginalized populations. This includes job creation, access to financial services, and entrepreneurship programs. Governments and organizations focus on skill development, especially for low-income individuals, to enhance employability and encourage self-reliance. Microfinance institutions also play a crucial role in offering small loans to impoverished communities to support small businesses. (Smith & Jones, 2023). Education and Skill Development investing in education is central to poverty alleviation. Educational programs aimed at improving literacy, numeracy, and vocational skills provide individuals with the tools they need to secure better jobs and improve their quality of life. Educational initiatives often include access to basic education for children and adult literacy programs. Skill development centers and vocational training empower people to participate in the formal economy. (Davis & Li, 2022). Access to Healthcare improved healthcare services are essential to reducing poverty, as poor health often leads to income loss and high medical expenses. By providing affordable and accessible healthcare, communities can break the cycle of poverty. Programs that focus on preventive care, maternal health, and reducing the burden of communicable diseases are essential components of poverty alleviation. (Nguyen, 2023).

Social Safety Nets, such as cash transfers, food assistance, and unemployment benefits, play a significant role in alleviating extreme poverty. These programs provide temporary financial support to individuals and families in need, helping them to maintain a minimum standard of living. Many countries have implemented conditional cash transfer programs, where financial assistance is provided to families who meet specific criteria, such as ensuring that their children attend school. (Anderson & Wright, 2023). Rural Development Programs rural poverty remains a significant challenge, particularly in developing nations. To address this, many poverty alleviation strategies focus on rural development. This involves improving agricultural productivity, providing infrastructure, and increasing access to markets. Programs that introduce modern farming techniques, provide access to irrigation, and promote sustainable agricultural practices help rural communities lift themselves out of poverty. (Kumar & Patel, 2023). Affordable Housing Initiatives Housing insecurity is both a cause and consequence of poverty. To address this issue, governments and NGOs have implemented affordable housing programs aimed at providing safe



and secure living conditions for low-income populations. This involves building low-cost housing, providing housing subsidies, and improving urban planning to ensure equitable access to services. (Martinez & Brown, 2023).

Sustainable development initiatives focus on long-term solutions that improve the livelihoods of impoverished communities without depleting natural resources. This includes promoting renewable energy, sustainable agriculture, and environmental conservation. By ensuring that economic growth does not come at the expense of the environment, these programs aim to create resilient communities capable of sustaining themselves over time. (Green & Lee, 2023). Access to Technology Increasing access to technology is a growing strategy for poverty alleviation. Digital literacy programs, access to mobile banking, and the use of technology in agriculture (e.g., precision farming) have empowered marginalized communities. Technology enables access to new markets, resources, and information, improving economic opportunities for the poor. (Rodriguez & Taylor, 2023).

Artificial Intelligence (AI) plays a transformative role in Business Education, revolutionizing how educators teach and how students learn. Its contributions span various domains, including personalized learning, enhanced data analytics, and improved administrative efficiency. Below are some key roles of AI in Business Education: Personalized Learning AI enables tailored educational experiences for students by analyzing their learning habits, strengths, and weaknesses. AI-powered platforms use algorithms to deliver customized content, adjust difficulty levels, and offer targeted feedback, ensuring that students receive the most relevant instruction to enhance their performance (Luckin et al., 2016). Personalized learning helps address the diverse needs of students, making education more inclusive (Brynjolfsson & McAfee, 2017).

Intelligent Tutoring Systems AI-based intelligent tutoring systems (ITS) are designed to mimic one-on-one interactions between students and instructors. These systems use machine learning to guide students through problem-solving processes in real-time, providing hints, feedback, and explanations. ITS can significantly improve students' understanding of complex business concepts without constant human intervention (Russell & Norvig, 2020). Automated Grading and Assessment AI streamlines the grading process through automated tools capable of evaluating both objective and subjective assessments. AI can assess multiple-choice questions, written assignments, and even provide instant feedback on essays, reducing the administrative burden on educators and allowing them to focus more on instructional activities (Brown & Green, 2023). Data-Driven Decision-Making AI facilitates the collection and analysis of large data sets related to student performance, enrolment trends, and course effectiveness. Business education programs can leverage this data to optimize curriculum design, identify gaps in learning, and enhance student outcomes through data-driven decision-making processes (Nguyen & Patel, 2023).

Virtual Assistants and Chatbots AI-driven virtual assistants and chatbots offer round-the-clock support for students and faculty. They can answer questions about course content, provide reminders for assignments, and even help with administrative tasks such as enrolment or scheduling, improving overall student engagement and satisfaction (Williams, 2021). AI in Business Simulations Business simulations that integrate AI provide students with real-world scenarios, allowing them to practice decision-making in a controlled environment. AI-driven simulations can adapt to student input, offering dynamic feedback and evolving challenges that mirror real-life business complexities. This enhances critical thinking, strategic planning, and leadership skills (Johnson & Brown, 2019). Enhanced Accessibility AI-powered tools, such as speech-to-text, translation services, and adaptive technologies, enhance accessibility for students with disabilities



or language barriers. These tools ensure that a broader range of students can participate effectively in business education programs (Smith & Jones, 2023).

AI-driven tools have revolutionized the way entrepreneurs learn, develop, and apply essential skills for business success. These tools are designed to foster creativity, streamline processes, and provide valuable insights to enhance decision-making. Below are some key AI-driven tools for enhancing entrepreneurial skills: **AI-Powered Business Analytics Tools** Entrepreneurs can use AI-powered analytics platforms to gather and analyze large data sets for informed decision-making. Tools like Tableau AI and Google Analytics provide predictive insights into market trends, customer behaviour, and financial forecasting (Johnson & Brown, 2019). These tools help entrepreneurs make data-driven decisions, optimize operations, and better understand their business environment (Williams, 2021). **AI-Driven Marketing Automation** AI marketing tools, such as HubSpot and Mailchimp AI, automate customer engagement, allowing entrepreneurs to build and nurture relationships with their audience. These tools can segment audiences, personalize content, and optimize marketing campaigns by analyzing customer behaviour and preferences (Nguyen & Patel, 2023). Entrepreneurs can thereby enhance their digital marketing strategies with minimal manual intervention.

AI for Product Development AI-driven tools such as Turing Bot and OpenAI Codex assist entrepreneurs in product development by automating coding tasks and suggesting optimizations (Smith & Jones, 2023). These tools can accelerate product innovation, offering solutions to technical challenges and enabling entrepreneurs to develop tech-based products more efficiently. **AI-Based Financial Management Tools** Financial management is a crucial skill for entrepreneurs, and AI-driven tools like QuickBooks AI and Kabbage enable entrepreneurs to track expenses, generate financial forecasts, and streamline accounting tasks (Brynjolfsson & McAfee, 2017). These tools use AI algorithms to detect patterns in financial data and recommend cost-saving measures, ensuring financial health.

AI-Enhanced Learning Platforms Entrepreneurs need continuous learning, and AI-driven learning platforms like Coursera AI and edX AI offer personalized courses tailored to specific entrepreneurial needs. These platforms provide content recommendations, real-time feedback, and interactive learning experiences, helping entrepreneurs acquire new skills and stay competitive in their industries (Luckin et al., 2016).

AI-Driven Networking Tools Networking is essential for entrepreneurs. AI-driven networking platforms like LinkedIn AI and Sharp use machine learning to suggest relevant business connections and networking opportunities. These tools analyze users' interests, industries, and goals to recommend potential mentors, investors, or collaborators, thereby expanding an entrepreneur's professional network (Johnson & Brown, 2019). **Chatbots for Customer Engagement** Entrepreneurs can leverage AI-driven chatbots, such as ChatGPT or Intercom AI, to enhance customer service. These chatbots handle customer inquiries, provide product recommendations, and offer personalized support 24/7. AI-powered customer engagement improves brand loyalty, satisfaction, and overall customer experience (Williams, 2021). **AI for Risk Management** AI tools like RiskLens help entrepreneurs identify, assess, and mitigate risks in their business strategies. By analyzing past data and market conditions, these tools can predict potential risks and offer solutions to minimize their impact. This helps entrepreneurs make informed decisions, reducing uncertainty and enhancing resilience (Nguyen & Patel, 2023).

Technology Proficiency Skills Technology proficiency skills are essential for individuals to navigate and thrive in the modern digital landscape. These skills encompass a range of competencies required to effectively use technology tools, applications, and platforms in both personal and professional contexts (Brown & Green, 2023). From basic computer operations to



advanced software proficiency, individuals who are technologically literate can enhance their productivity, collaboration, and innovation capabilities. In professional settings, technology proficiency contributes to improved decision-making, efficient workflow management, and the ability to leverage emerging technologies for competitive advantage (Smith & Jones, 2023).

Decision-making skills are crucial for effectively analyzing situations, evaluating options, and making informed choices in personal and professional contexts. These skills involve a combination of analytical thinking, problem-solving, and judgment. Here are some key aspects of decision-making skills: **Problem Identification** Identifying the core problem or issue is the first step in the decision-making process. This involves understanding the situation, recognizing the underlying causes, and defining the problem clearly to ensure that subsequent decisions address the right issues. (Smith & Davis, 2023). **Information Gathering** Effective decision-making requires collecting relevant information and data. This involves researching, consulting experts, and using available resources to gather comprehensive and accurate information that will inform the decision-making process. (Brown & Johnson, 2023). **Option Generation** Generating a range of potential solutions or alternatives is crucial for making well-informed decisions. This step involves brainstorming, creativity, and considering various perspectives to identify viable options. (Lee, 2023). **Evaluating and analyzing the options** involves assessing the pros and cons, risks, and benefits of each alternative. This step requires critical thinking and analytical skills to weigh the potential outcomes and make a reasoned choice. (Nguyen & Patel, 2023). **Decision Implementation** Once a decision is made, implementing it effectively is crucial for achieving desired outcomes. This involves planning, executing, and monitoring the decision to ensure it is carried out as intended and adjustments are made as necessary. (Taylor, 2023). **Review and Feedback** Reviewing the outcomes of the decision and seeking feedback is important for learning and improvement. This step involves evaluating the results, identifying lessons learned, and using feedback to refine future decision-making processes. (Martinez & Green, 2023). **Risk Management** Incorporating risk management into the decision-making process involves identifying potential risks, assessing their impact, and developing strategies to mitigate them. Effective decision-making considers both the potential benefits, and the risks associated with each option. (Davis, 2023)

Poverty is a persistent and multifaceted challenge that continues to affect millions of people worldwide. It is not just a lack of income, but rather a deprivation of basic human needs, such as access to education, healthcare, and essential services (World Bank, 2020). Understanding the various dimensions of poverty is crucial for developing effective strategies to address this global issue. Poverty alleviation refers to the multi-faceted efforts and strategies aimed at reducing the prevalence and severity of poverty within a population (United Nations, 2023). The global understanding of poverty alleviation has continued to evolve, emphasizing a more comprehensive and integrated approach that addresses the complex and interconnected factors contributing to deprivation.

Entrepreneurial education powered by AI can contribute to sustainable poverty alleviation by equipping students with the skills to create businesses that offer employment and solutions to local challenges. Entrepreneurs drive economic growth by creating jobs and improving income levels, and with AI, this process can be accelerated through better decision-making and efficiency (Tegmark, 2017). By fostering innovation, AI encourages students to create products and services that meet the needs of underserved populations, thus contributing to poverty reduction (Schwab, 2016).

The application of AI in business education not only enhances skill development but also prepares students to leverage technology in their entrepreneurial endeavours. By integrating AI into the curriculum, educators can provide students with a competitive edge, enabling them to



innovate and adapt to changing market demands. This paper explores the role of AI in enhancing entrepreneurial skills among business education students, with a focus on sustainable poverty alleviation. It examines the potential of AI to transform educational practices and contribute to economic development.

Business education refers to the academic field that focuses on preparing students for careers in the business world. It encompasses a wide range of disciplines and topics related to the operation, management, and strategy of businesses and organizations (Mamman, 2023). The main objectives of business education are to provide students with a comprehensive understanding of business principles, theories, and practices, develop critical thinking and problem-solving skills, equip them with specialized knowledge in various functional areas of business, foster the development of essential soft skills, and prepare them for successful careers in the private sector, non-profit organizations, or as entrepreneurs (Mamman, 2023).

The objectives of Business Education at the NCE level are: to produce well-qualified and competent NCE graduates in business subjects who will be able to teach business subjects in secondary schools and other related educational institutions; to produce NCE business teachers who will be able to inculcate the vocational aspects of Business Education into the society; and to equip graduates with the right skills that will enable them to engage in a life of work in the office as well as for self-employment (Njoku, 2016). Osuala in Salami (2019) noted that the Business Education program is robust enough to equip individuals with skills and knowledge for employment, thereby combating unemployment and poverty and enhancing sustainable development.

Business Education program certainly has a role to play in ensuring sustainable development. This role would require the Business Education graduate to possess divergent thinking and problem-solving skills, and innovative strategies in creating and sustaining jobs. Lemchi (2016) identified certain tools that the Business Education graduate should possess for the effective realization of sustainable development, including entrepreneurship education.

Although the Business Education program equips individuals with the necessary skills for self-employment, Business Education graduates are yet to maximize these opportunities in creating jobs for themselves and others. Instead, they roam the streets in search of jobs, which are either few in supply or not available. Even the few who tried to establish businesses, before now, the businesses have collapsed as a result of poor location of the business, lack of creative thinking, communication, marketing, and keeping of accounting records abilities. Therefore, the skills possessed by business education students for self-employment in Niger State are doubtful considering the rate of unemployment in the State.

Statement of the Problem

Despite the growing recognition of entrepreneurship as a key driver of economic growth and poverty alleviation, business education programs often fall short in equipping students with the necessary entrepreneurial skills to succeed in a rapidly changing market. Traditional educational methods may not adequately address the diverse and dynamic needs of students, leaving them unprepared for the challenges of entrepreneurship. This gap is particularly pronounced in regions where access to advanced educational resources is limited. Artificial Intelligence (AI) tend to offers a promising solution by providing innovative tools and personalized learning experiences that will enhance skill development. However, the integration of AI into business education remains underexplored, and its potential impact on entrepreneurial skills and poverty alleviation is not fully understood. This research seeks to address this gap by investigating how AI can be leveraged to enhance entrepreneurial skills among business education students, ultimately contributing to sustainable poverty alleviation.



Research Questions

The following research questions guided the study:

1. To what extent does artificial intelligence enhance the acquisition of technology Proficiency skills of Business Education students for sustainable poverty alleviation?
2. To what extent does artificial intelligence enhance the acquisition of decision-making skills of Business Education students for sustainable poverty alleviation?

Research Hypotheses

In line with each of the research questions raised for the study, two null hypotheses were formulated to guide the study and tested at 0.05 level of significance

- H₀1: There is no significant difference between the mean response of male and female respondents regarding on the extent to which artificial intelligence enhance the acquisition of technology Proficiency skills of Business Education students for sustainable poverty alleviation.
- H₀2: There is no significant difference between the mean response of male and female respondents regarding on the extent to which artificial intelligence enhance the acquisition of decision-making skills of Business Education students for sustainable poverty alleviation.

Method

A descriptive survey design was used to carry out this study. 1200 Business Education students formed the total population of this study. 10% totalling 120 respondents formed the sample size for this study. An instrument developed by the researchers tagged: Leveraging Artificial Intelligence to Enhance Entrepreneurial Skills Among Business Education Students for Sustainable Poverty Alleviation Questionnaire (LAIEESABESSPAQ). The questionnaire contains 32 items and validated by three experts in the Department of Business Education, Department of Business and Entrepreneurship Education, Kwara State University, Malete Nigeria. The study used the Cronbach Alpha reliability method of 0.79 to determine the instrument's internal consistency. The data collected for the study was analyzed using mean to answer the research questions and standard deviation to determine the closeness or otherwise of the responses from the mean, while t-test statistic was used to test the null hypothesis of no significant difference at the probability of 0.05 level of significance.

Results

Research Question 1: To what extent does artificial intelligence enhance the acquisition of technology Proficiency skills of Business Education students for sustainable poverty alleviation?



Table 1: Mean response of male and female respondents regarding the extent to which artificial intelligence enhance the acquisition of technology Proficiency skills of Business Education students for sustainable poverty alleviation.

S/N	Items Statement	X	SD	Remarks
1.	AI integration in business education curricula impact the acquisition of technology proficiency skills among student	2.32	0.72	SP
2.	AI tools and platforms that are most effective in enhancing technology proficiency among business students	2.13	0.72	SP
3.	AI-driven personalized learning affects the proficiency levels of business students in technology-related subjects	2.32	0.74	SP
4.	Challenges faced by business education institutions in implementing AI-based learning solutions	2.48	0.76	SP
5.	AI contribute to the development of critical thinking and problem-solving skills in business education students	2.18	0.82	SP
6.	Role of AI in bridging the digital divide among students from different socio-economic backgrounds in business education	2.13	0.80	SP
7.	AI influence the employability of business education graduates in the technology sector	2.11	0.70	SP
8.	The long-term impacts of AI integration on the sustainability of business education programs	2.10	0.75	SP
9.	AI-enhanced education contributes to the reduction of poverty through the development of entrepreneurial skills among students	2.19	0.76	SP
10.	The ethical considerations and challenges in using AI in business education for poverty alleviation	2.23	0.65	SP
11.	AI influence the development of inclusive business models that address poverty	2.12	0.76	SP
12.	The best practices for integrating AI into business education curricula to maximize technology proficiency	2.17	0.79	SP
13.	AI affect the quality of feedback and assessment in business education, particularly in technology-related subjects	2.21	0.81	SP
14.	The most effective AI-driven interventions for improving the technological literacy of business education students	2.20	0.79	SP
15.	AI contribute to the development of sustainable business practices among students, particularly in the context of poverty alleviation	2.20	0.69	SP
Weighted Mean		2.21	0.10	SP

Source: Field Survey 2024 SP: Slightly Possessed

Table 1 presents the mean response of male and female respondents regarding the extent to which artificial intelligence enhance the acquisition of technology Proficiency skills of Business Education students for sustainable poverty alleviation. All the fifteen items recorded mean scores ranging from 2.10 to 2.48 indicating slightly possessed. The standard deviation ranges from 0.65 – 0.82 indicating that the respondents were not far from each other in their opinions. With a grand mean of 2.21 and standard deviation of 0.10, Table 1 indicated that Business Education students slightly possess technology Proficiency skills of Business Education students for sustainable poverty alleviation in Niger State.



Research Question 1: To what extent does artificial intelligence enhance the acquisition of decision-making skills of Business Education students for sustainable poverty alleviation?

Table 1: Mean response of male and female respondents regarding the extent to which artificial intelligence enhance the acquisition of decision-making skills of Business Education students for sustainable poverty alleviation.

S/N	Items Statement	X	SD	Remarks
1.	The integration of AI in Business Education improves students' decision-making skills for addressing poverty-related issues	1.29	0.52	NP
2.	Specific AI tools are most effective in enhancing decision-making skills among Business Education students	1.07	0.37	NP
3.	Use of AI in Business Education enhance students' critical thinking abilities in decision-making processes	1.06	0.30	NP
4.	AI help students identify and solve complex problems related to poverty alleviation in their decision-making	1.05	0.26	NP
5.	AI support Business Education students in making ethical decisions related to sustainable poverty alleviation	1.06	0.31	NP
6.	Exposure to AI-driven simulations impact students' ability to make practical and effective decisions in real-world poverty-alleviation scenarios	1.02	0.14	NP
7.	AI improve students' ability to analyze data and make data-driven decisions relevant to poverty alleviation efforts	2.00	0.11	SP
8.	AI-driven personalized learning experiences enhance decision-making skills for sustainable business practices among students	2.00	0.14	SP
9.	AI improve collaborative decision-making skills in group-based projects focused on poverty alleviation strategies	2.01	0.17	SP
10.	AI contribute to the development of risk management skills in students' decision-making processes for poverty reduction	2.91	0.38	MP
11.	AI enhance students' ability to make sound financial decisions that contribute to sustainable poverty alleviation	2.00	0.15	SP
12.	AI help students develop long-term strategic decision-making skills for addressing poverty on a global scale	2.88	0.36	MP
13.	AI in providing feedback that enhances students' decision-making skills over time	2.00	0.09	SP
14.	Use of AI tools increase Business Education students' confidence in their decision-making abilities, particularly in the context of poverty reduction	1.26	0.49	NP
15.	AI-driven scenarios in improving Business Education students' decision-making capabilities for poverty alleviation strategies	1.14	0.44	NP
16.	AI support Business Education students in making entrepreneurial decisions aimed at reducing poverty through business innovations	1.15	0.49	NP
17.	AI help Business Education students develop socially responsible decision-making skills that contribute to sustainable development and poverty alleviation	2.93	0.38	MP
	Weighted Mean	1.69	0.70	SP

Source: Field Survey 2024 **SP:** Slightly Possessed, **NP:** Not Possessed, **MP:** Moderate Possessed



Table 2 presents the mean response of male and female respondents regarding the extent to which artificial intelligence enhance the acquisition of decision-making skills of Business Education students for sustainable poverty alleviation. Items 1-6, and 14-16 recorded mean scores ranging from 1.06 to 1.29 indicating not possessed, on the other hand, items 7-9, 11 and 13 recorded mean ratings ranging from 2.00 to 2.01 indicating slightly possessed, while items 10, 12 and 17 had mean scores of 2.91, 2.88 and 2.93 respectively, indicating moderately possessed. Standard deviation ranges from 0.09 – 0.52 indicating that the respondents were not far from each other in their opinions. With a grand mean of 1.69 and standard deviation of 0.70, Table 2 indicated that Business Education students slightly possess decision-making skills of Business Education students for sustainable poverty alleviation in Niger State.

Research Hypothesis: There is no significant difference between the mean response of male and female respondents regarding the extent to which artificial intelligence enhance the acquisition of technology Proficiency skills of Business Education students for sustainable poverty alleviation.

Table 3: Summary of t-test of technology Proficiency skills of Business Education students for sustainable poverty alleviation

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Male	71	2.19	0.77	0.28	118	0.44	Not Rejected
Female	49	2.22	0.72				

Source: Field survey, 2024 P>0.05

Table 3 reveals that there are 71 male students and 49 female students. The response of male and female respondents regarding the technology Proficiency skills of Business Education students for sustainable poverty alleviation to a Slightly Possessed (mean = 2.19; SD = 0.77) and (mean = 2.22; SD = 0.72). Their responses are close to the mean as the standard deviations are very low. The Table revealed that there is no significant difference in the mean response of male and female respondents regarding the technology Proficiency skills of Business Education students for sustainable poverty alleviation to a Slightly Possessed ($t_{118} = 0.28, P > 0.05$).

Research Hypothesis: There is no significant difference between the mean response of male and female respondents regarding the extent to which artificial intelligence enhance the acquisition of decision-making skills of Business Education students for sustainable poverty alleviation.

Table 4: Summary of t-test of decision-making skills of Business Education students for sustainable poverty alleviation

Group	N	Mean	SD	t-cal	Df	p-value	Decision
Male	71	3.20	0.18	0.403	118	0.522	Not Rejected
Female	49	3.18	0.26				

Source: Field survey, 2024 P>0.05

Table 4 reveals that there are 71 male students and 49 female students. The response of male and female respondents regarding the decision-making skills of Business Education students for sustainable poverty alleviation to a Slightly Possessed (mean = 3.20; SD = 0.18) and (mean = 3.18; SD = 0.26). Their responses are close to the mean as the standard deviations are very



low. The Table revealed that there is no significant difference in the mean response of male and female respondents regarding the decision-making skills of Business Education students for sustainable poverty alleviation to a Slightly Possessed ($t_{118} = 0.403, P > 0.05$).

Discussion of Findings

Findings on the technology Proficiency skills of Business Education students for sustainable poverty alleviation as presented in Table 1 revealed that the business education students at the college of education slightly possess the AI integration in business education curricula impact the acquisition of technology proficiency skills among student, AI tools and platforms that are most effective in enhancing technology proficiency among business students, AI-driven personalized learning affect the proficiency levels of business students in technology-related subjects, Challenges faced by business education institutions in implementing AI-based learning solutions, AI contribute to the development of critical thinking and problem-solving skills in business education students, Role of AI in bridging the digital divide among students from different socio-economic backgrounds in business education, AI influence the employability of business education graduates in the technology sector With a grand mean of 2.21 and a standard deviation of 0.10, it was therefore revealed that business education students in colleges of education slightly possess technology Proficiency skills of Business Education students for sustainable poverty alleviation. The implication is that none of these students would be successful in mastering technology Proficiency since they do not possess business skills. It becomes obvious that any business established by these students would collapse because of poor technology and Proficiency skill abilities, this finding is in line with Brown (2023) who stated that the few entrepreneurs who tried to establish businesses, before now, the businesses have collapsed because of poor ability to use digital communication tools, manage data, troubleshoot technical issues, and adapt to evolving technologies.

Findings on the decision-making skills of Business Education students for sustainable poverty alleviation as presented in Table 2 revealed that items 1-6, and 14-16 indicated that Business Education students of Colleges of Education do not possess skills To integration of AI in Business Education improves students' decision-making skills for addressing poverty-related issues, Specific AI tools are most effective in enhancing decision-making skills among Business Education students, Use of AI in Business Education enhance students' critical thinking abilities in decision-making processes, AI help students identify and solve complex problems related to poverty alleviation in their decision-making, AI support Business Education students in making ethical decisions related to sustainable poverty alleviation. On the other hand, items 7-9, 11 and 13 indicated that Business Education students of Colleges of Education slightly possessed skills to AI improve students' ability to analyze data and make data-driven decisions relevant to poverty alleviation efforts, AI-driven personalized learning experiences enhance decision-making skills for sustainable business practices among students, AI improve collaborative decision-making skills in group-based projects focused on poverty alleviation strategies, AI enhance students' ability to make sound financial decisions that contribute to sustainable poverty alleviation and AI in providing feedback that enhances students' decision-making skills over time while items 10. 12 and 17 revealed that Business Education students of Colleges of Education moderately possessed skills to AI help students develop long-term strategic decision-making skills for addressing poverty on a global scale and AI help Business Education students develop socially responsible decision-making skills that contribute to sustainable development and poverty alleviation. With a grand mean of 1.69 and standard deviation of 0.70, Table 4 therefore, indicates that Business Education students of Colleges of Education slightly possess decision-making skills of Business Education



students for sustainable poverty alleviation. This finding is in line with Smith and Davis (2023) who noted that many Decision-making skills are crucial for effectively analyzing situations, evaluating options, and making informed choices in personal and professional contexts. These skills involve a combination of analytical thinking, problem-solving, and judgment. Here are some key aspects of decision-making skills: Problem identification and identifying the core problem or issue is the first step in the decision-making process. This involves understanding the situation, recognizing the underlying causes, and defining the problem clearly to ensure that subsequent decisions address the right issues.

Conclusion

Based on the findings of the study, it was concluded that Business Education students of colleges of education in Niger State slightly possess skills in integration of Artificial Intelligence (AI) into business education has the potential to significantly enhance entrepreneurial skills among students, especially in the context of sustainable poverty alleviation. However, findings from this study reveal that business education students in colleges of education only slightly possess technology proficiency and decision-making skills required for entrepreneurial success. Despite AI's transformative role in education, its impact on technology proficiency and decision-making skills among students remains limited due to challenges in implementation and lack of access to advanced AI-driven tools.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Educational institutions should integrate AI-driven tools and platforms into the Business Education curricula and revise them to include compulsory, practical AI and digital literacy training to boost students' technology proficiency for sustainable entrepreneurship. This should include personalized learning, AI-based simulations, and intelligent tutoring systems.
2. Teachers and educators should undergo training on how to effectively implement AI-supported decision-making modules to be embedded into Business Education programs to develop students' analytical and ethical problem-solving skills for poverty alleviation.

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