

Artificial Intelligence as a Dependable Tool for Effective Management of Entrepreneurial Businesses: The Knowledge Needed by Business Education Students in Nigeria

Bridget Agwazie, Ph.D.

Department of Business Education, Faculty of Education, University of Delta, Agbor

Abstract: In the evolving global economy, the integration of Artificial Intelligence (AI) into business practices is reshaping entrepreneurial management. The study assessed the potential of AI as a dependable tool for enhancing the effectiveness, management of entrepreneurial businesses and the knowledge needed by business education students in Nigeria. Needs assessment survey design was adopted to carry out this research. The study was carried out in Nigeria. The targeted population comprised all business education students in Nigeria. Stratified sampling technique was used to select 70 business education students from each of the three states (Akwa Ibom, Cross River and River State) of the country. This gave a total of 210 respondents which made up the sample size used for this research. The instrument used for data collection was a structured questionnaire titled “Artificial Intelligence as a Dependable Tool for Effective Management of Entrepreneurial Businesses Questionnaire (AIDTEMEBQ)”. Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The researcher subjected the data generated for this study to appropriate statistical technique such as percentage analysis to answer research questions. The result of the data analysis revealed that “Driven Decision-Making and Business Strategy” was the most outstanding impact of artificial intelligence on effective management of entrepreneurial business. It also showed that “AI Assisted-Market Research and Business Insights” was the highest strategic way business education students can use AI to improve in entrepreneurial business. The study concluded that artificial Intelligence (AI) is rapidly transforming the management of entrepreneurial businesses by enhancing decision-making, automating operations, and improving overall efficiency. One of the recommendations made was that business education institutions in Nigeria should incorporate AI-related courses into their curricula to equip students with essential knowledge and skills.

Keywords: Artificial Intelligence, Dependable Tool, Effective Management, Entrepreneurial Businesses, Business Education Students and Nigeria.

Introduction

Artificial Intelligence (AI) has emerged as a transformative tool for the effective management of entrepreneurial businesses, offering data-driven insights, automation, and enhanced decision-making. In Nigeria, where entrepreneurship plays a crucial role in economic development, the integration of AI into business management is becoming increasingly vital. AI-powered solutions, such as predictive analytics, intelligent customer service chatbots, and automated financial management, are revolutionizing how entrepreneurs operate. However, for business

education students to maximize these benefits, they must acquire the necessary knowledge and skills to leverage AI effectively in their future business ventures. According to Samson (2024), AI adoption among small and medium-sized enterprises (SMEs) in Nigeria has led to improved efficiency, competitiveness, and innovation, making it a critical area of study for business students.

The rapidly evolving business landscape in Nigeria demands that business education students develop competencies in AI applications to remain relevant and competitive. Understanding AI's role in entrepreneurial business management allows students to optimize decision-making processes, enhance customer engagement, and improve operational efficiency. As highlighted by Adegbuyi et al. (2024), AI-driven business strategies in Nigeria have significantly enhanced productivity by automating routine tasks and enabling more informed strategic planning. By equipping students with AI knowledge, business education programs can foster a new generation of tech-savvy entrepreneurs capable of leveraging AI for sustainable business growth.

Statement of the Problem

Artificial Intelligence (AI) has emerged as a transformative tool that can drive efficiency, improve decision-making, and foster innovation across business processes. From customer service automation and inventory management to predictive analytics and personalized marketing, AI technologies are revolutionizing the way businesses operate. However, despite the growing importance and adoption of AI globally, there remains a significant gap in awareness, understanding, and application of AI tools among young entrepreneurs and business students in Nigeria. Business education students, who represent the future workforce and potential entrepreneurs, must be adequately equipped with the knowledge and skills necessary to integrate AI into business practices. Unfortunately, current educational curricula in many Nigerian institutions do not sufficiently address the role and relevance of AI in entrepreneurship. This knowledge gap creates a barrier for these students, limiting their preparedness to leverage AI as a dependable tool in managing entrepreneurial ventures effectively. This study seeks to investigate the knowledge required by business education students in Nigeria to effectively utilize Artificial Intelligence in the management of entrepreneurial businesses. It aims to identify existing gaps, explore the relevance of AI tools to entrepreneurial success, and propose strategies to integrate AI-focused competencies into business education programs. Addressing this problem is critical to ensuring that Nigerian business graduates are well-positioned to thrive in an increasingly digital and AI-driven economy.

Objectives

1. To find out the impact of artificial intelligence on effective management of entrepreneurial business
2. To identify the strategic ways business education students can use Ai to improve in entrepreneurial business

Research Questions

1. What are the impacts of artificial intelligence on effective management of entrepreneurial business?
2. What are the strategic ways business education students can use Ai to improve in entrepreneurial business?

Concept of Artificial Intelligence

Artificial Intelligence is a broad term that encompasses several types of technology applied to various wings of present-day world business and applies to human resource management as well. AI is immensely used in human resources to drive decisions about hiring, retention, and employee development. According to Bavya, Bashapaka and Redd, (2024) AI is also implied to automate important tasks such as payroll management, rapid creation of new policies, contracts,

job descriptions, interview questions, and so forth. AI is also used to anticipate and plan for outcomes using predictive analytics and machine learning.

The term Artificial Intelligence (AI) refers to the use of technology aided systems that may have human like capacities for problem solving, and also have thinking abilities. Artificial Intelligence (AI) technologies such as machine learning (ML), natural language processing (NLP), and image recognition, are being incorporated into a wide variety of applications. Generally, artificial intelligence (AI) refers to the information technology (IT) capabilities that can perform tasks that possibly require intelligence (Russell & Norvig, 2010). Nowadays, AI technologies, including machine learning (ML), natural language processing (NLP), pattern recognition, and virtual agents, are being embedded in existing information systems and new applications.

Furthermore, AI refers to the development of technological software that can perform tasks typically based on human intelligence that involve capabilities like learning, reasoning, problem-solving, and understanding natural language. Sheikh, Prins & Schrijvers, (2023) defined Artificial Intelligence as a technology that enables machines to imitate various complex human skills. AI is concerned with methods of achieving goals in situations in which the information available has a certain complex character. The methods that have to be used are related to the problem presented by the situation and are similar whether the problem solver is human, a Martian, or a computer program.

Concept of Entrepreneurial Business

Entrepreneurship is a composite skill, the resultant of mix of many qualities and traits. These include imagination, readiness to take risks, ability to bring together and put to use other factors of productions, capital, labor, land, as also intangible factors such as the ability to mobilize scientific and technological advances. (Palanivelu & Manikandan, 2015). An entrepreneur is an economic agent who unites all means of production- land of one, the labor of another and the capital of yet another and thus produces a product. By selling the product in the market he pays rent of land, wages to labor and interest on capital and what remains is his profit. He shifts economic resources out of an area of lower and into an area of higher productivity and greater yield

An entrepreneur searches for change, responds to it and exploits opportunities. Innovation is a specific tool of an entrepreneur hence an effective entrepreneur converts a source into a resource. Entrepreneurship is the process of creating something new and assuming the risks and rewards. Felix and Ezenwakwelu (2024) sees entrepreneurship as the process of creating something different with value by devoting the necessary time and effort assuming the company financial, psychological and social risk and receiving the resulting reward of monetary and personal satisfaction.

Entrepreneurship involves decision making, innovation, implementation, forecasting of the future, independency, and success first and this is how entrepreneurship developed. Entrepreneurship is a discipline with a knowledge base theory. It is an outcome of complex socio-economic, psychological, technological, legal and other factors. It is a dynamic and risky process. It involves a fusion of capital, technology and human talent. Martinez, (2022) defines the entrepreneur as one who makes decisions based on the use of scarce resources

Concept of Business Education

Business education refers to the development and training of individuals in the skills and knowledge necessary for success in the business world. This includes a focus on business strategy, personal development, innovation, and leadership. It aims to prepare individuals to meet the demands of modern business and adapt to changing social circumstances. Business education means many things to many people. Ajoma (2010) viewed Business Education as that education which provides its graduates with training in business skills and economic competencies necessary for them to advance a business career or establish a business enterprise.

Business education is a major component of vocational education. A design field of study for the development of skills, attitudes, appreciation, creativity as well as creation of awareness and competencies in the office work and business world. Business education is a programme of instruction, which consists of office education, which is a vocational education programme for office career workers through initial refresher and upgrading education. Okeke (2024) explained that, business education is a programme that provides learners with information and competencies which are needed by all in managing personal business affairs and in using the services of business.

According to Udoeye and Ndum (2013), Business education has to do with the type of education that gives the individual what he needs to succeed in either a small scale or large scale business. This type of education can be formal or informal. Formal business education in Nigeria historically was not a government initiative but was introduced through the efforts of Nigerian entrepreneurs whose advocacy pushed the government to make it a part of our schools. Business education enables one to know the business to venture on as well as how to make that business succeed. In Nigeria, business education exists in different forms around the country

Business education teaches the students the fundamentals of business, concepts, theories and business processes. This topic is a vital part of general education process and it lays emphasis on skills to be implemented on office and business related occupations. Udoudom et al. (2016) affirms that business education covers all spheres of life activities in any nation, and so, it is important to everybody and every nation. It also prepares students with necessary skills and knowledge to take active parts in entrepreneurial ventures.

Impact of Artificial Intelligence on Effective Management of Entrepreneurial Business

Artificial Intelligence (AI) is revolutionizing the management of entrepreneurial businesses by enhancing efficiency, decision-making, and innovation. Entrepreneurs leveraging AI gain a competitive advantage in various business operations, from customer service to financial management. Below is an extensive analysis of the impact of AI on the effective management of entrepreneurial businesses:

➤ Driven Decision-Making and Business Strategy

AI enhances decision-making by analyzing vast amounts of business data to generate actionable insights. Entrepreneurs often struggle with strategic planning, but AI-powered business intelligence tools help predict market trends and optimize decision-making. Machine learning models identify patterns that may not be obvious to human analysts, thus improving risk assessment and forecasting. According to Talebi et al. (2025), AI-driven decision-making is particularly valuable in uncertain business environments where entrepreneurs need to make quick yet informed choices. AI helps in analyzing data, financial records, and competitor strategies, allowing startups to develop more effective business plans.

➤ AI-Powered Customer Relationship Management (CRM)

Effective customer relationship management is essential for business success. AI-powered CRM systems enhance customer interactions by providing personalized experiences and automating routine tasks. These systems analyze customer behavior and suggest tailored marketing strategies to improve engagement. AI chatbots handle customer inquiries efficiently, reducing wait times and enhancing satisfaction. AI-integrated CRM systems improve customer retention rates and streamline communication between businesses and consumers. These tools allow small business owners to compete with larger corporations by delivering high-quality, automated customer service.

➤ Financial Management and Fraud Detection

Entrepreneurs often struggle with financial management, including budgeting, investment decisions, and fraud detection. AI-powered accounting tools automate financial processes,

reducing human errors and increasing efficiency. AI algorithms detect anomalies in financial transactions, helping businesses identify fraudulent activities early. According to Mer & Virdi (2025), AI-driven financial analytics tools provide real-time insights that help entrepreneurs optimize expenses and maximize profits. These systems also assist in cash flow management, ensuring that businesses maintain liquidity and avoid financial crises. By integrating AI into financial operations, entrepreneurs can make data-driven financial decisions that contribute to business stability.

➤ **Marketing and Consumer Behavior Analysis**

Marketing is a crucial component of entrepreneurial success, and AI has transformed how businesses approach advertising and consumer engagement. AI-powered marketing tools analyze consumer behavior, preferences, and purchasing patterns, allowing businesses to develop targeted advertising campaigns. These tools optimize digital marketing strategies by using predictive analytics and personalized recommendations. AI-driven marketing solutions increase customer conversion rates and improve return on investment (ROI) by targeting the right audience with the right message at the right time. Businesses utilizing AI in their marketing efforts see significant improvements in customer acquisition and brand loyalty.

➤ **Enhancing Productivity and Automation**

Entrepreneurs often face challenges related to time management and resource allocation. AI-driven automation tools help streamline business operations by reducing manual tasks and increasing efficiency. AI-powered virtual assistants schedule meetings, manage emails, and handle repetitive administrative tasks, allowing business owners to focus on strategic growth. By integrating AI into daily operations, businesses can optimize workflow processes and improve overall productivity.

Types of Entrepreneurial Businesses for Business Education Students

Entrepreneurship is a fundamental aspect of business education, providing students with the skills to develop innovative business models and navigate complex markets. There are several types of entrepreneurial businesses, each with unique characteristics and challenges. Below is an extensive discussion of different types of entrepreneurial businesses:

➤ **Small Business Entrepreneurship**

Small business entrepreneurship refers to independently owned and operated businesses that primarily serve local communities. These businesses include retail shops, restaurants, cleaning services, and personal consulting firms. Unlike scalable startups, small businesses focus on sustainability rather than rapid expansion. They usually require lower capital investment and operate with a small workforce, often managed by the owner. According to Gupta (2025), small businesses play a crucial role in job creation and economic development, particularly in emerging markets. Government policies and financial assistance programs significantly influence their success by providing essential resources like low-interest loans and business training.

➤ **Scalable Startups**

Scalable startups are innovative businesses designed for rapid growth and expansion, often relying on technology and investor funding. These companies focus on developing unique products or services that can be easily replicated in multiple markets. Examples include technology startups like Uber, Airbnb, and fintech companies. Unlike small businesses, scalable startups seek venture capital funding to support expansion, research, and development. Scalable startups are highly competitive, requiring entrepreneurs to have strong business models and growth strategies to succeed. Startups that receive early-stage funding from angel investors or venture capitalists have a higher success rate compared to those that rely solely on personal savings.

➤ **Social Entrepreneurship**

Social entrepreneurship involves businesses that prioritize social impact alongside financial sustainability. These businesses aim to solve pressing societal issues such as poverty, education, and healthcare while maintaining profitability. Social enterprises include microfinance institutions, fair-trade companies, and non-profit organizations that generate revenue to support their mission. According to Trelstad&Walske (2025), impact investing has become a key funding source for social entrepreneurs, allowing them to develop sustainable business models that address global challenges. Social entrepreneurship is gaining traction among young business students who are passionate about making a difference in society.

➤ **Online and E-Commerce Entrepreneurship**

E-commerce entrepreneurship is a rapidly growing business model that leverages digital platforms to sell products and services. This category includes online stores, dropshipping businesses, subscription-based models, and service-based platforms such as freelancing websites. Entrepreneurs in this field benefit from global reach, low overhead costs, and flexible business operations. However, they must invest in digital marketing strategies such as search engine optimization (SEO) and social media advertising to attract customers. Velasco-Morente et al. (2025) emphasize that businesses that integrate advanced digital tools such as artificial intelligence and big data analytics perform better in the competitive e-commerce landscape. E-commerce success depends on customer engagement and a seamless online shopping experience.

➤ **Corporate Entrepreneurship (Intrapreneurship)**

Corporate entrepreneurship, also known as intrapreneurship, occurs within established companies where employees develop new business opportunities. It allows businesses to stay competitive by encouraging innovation from within. This type of entrepreneurship often involves research and development (R&D) teams working on new products, services, or business models. Companies like Google and Microsoft have established intrapreneurial programs that allow employees to work on innovative projects. University-industry collaborations play a significant role in fostering corporate entrepreneurship, enabling students to gain real-world experience in developing business solutions. This type of entrepreneurship is essential for large firms looking to maintain a competitive edge in rapidly changing markets.

➤ **Green Entrepreneurship**

Green entrepreneurship focuses on sustainable business practices and environmental conservation. These businesses develop eco-friendly products, renewable energy solutions, and waste management services. Green entrepreneurs often seek to reduce carbon footprints and promote sustainable consumption habits. Companies in this sector benefit from government incentives and growing consumer demand for environmentally responsible products. According to Angulo-Ruiz et al. (2025), green entrepreneurship is an emerging trend in business education, with many universities incorporating sustainability into their curriculum.

AI Curriculum for Business Education Students

As artificial intelligence (AI) continues to reshape industries, business education must evolve to prepare students for the AI-driven economy. AI literacy is now essential for future business leaders, requiring a curriculum that integrates AI concepts, tools, and ethical considerations. Below is an extensive discussion of key components of an AI curriculum for business education students:

➤ **Introduction to AI in Business**

Understanding AI fundamentals is the first step in preparing business students for AI-driven decision-making. This course should cover key AI concepts such as machine learning, neural networks, natural language processing, and automation. Students will learn how AI is transforming industries and driving business efficiencies. AI awareness is crucial for students to

understand its practical business applications and to navigate digital transformation in the corporate world.

➤ **AI-Powered Data Analytics and Business Intelligence**

AI enables businesses to analyze large datasets and extract meaningful insights for decision-making. This course should teach students how to use AI-driven analytics tools like Tableau, Python for data analysis, and predictive modeling. By mastering AI in data analytics, students can optimize business strategies, improve customer experience, and forecast trends. AI-based business intelligence tools are becoming integral to management education, equipping students with the analytical skills necessary for strategic planning.

➤ **AI in Marketing and Consumer Behavior**

AI is revolutionizing marketing by enabling businesses to personalize customer experiences and optimize advertising campaigns. This course will introduce students to AI tools such as chatbots, recommendation engines, and AI-powered content marketing. Students will learn how AI enhances digital marketing strategies and consumer behavior analysis. AI-driven marketing automation can significantly improve customer engagement and business growth.

➤ **AI in Financial Management and Fintech**

Financial technology (FinTech) is reshaping banking, investment, and financial planning. AI-powered algorithms now manage fraud detection, credit scoring, and portfolio management. This course will teach students how AI enhances financial decision-making, reduces risks, and improves efficiency in financial services. AlShami&Czegledi (2025) emphasize that AI literacy in finance is critical for future entrepreneurs and managers in an increasingly digital economy.

➤ **AI Ethics, Governance, and Responsible AI Use**

As AI adoption grows, ethical concerns such as data privacy, algorithmic bias, and automation risks must be addressed. This course will educate students on AI ethics, legal considerations, and responsible AI governance. Topics will include the ethical use of AI in hiring, AI biases in decision-making, and regulatory compliance. According to Gupta & Jaiswal (2025), integrating ethics into AI education is necessary to ensure business leaders make socially responsible decisions.

Strategic Ways Business Education Students can use AI to Improve in Entrepreneurial Business

Artificial Intelligence (AI) is revolutionizing entrepreneurship by providing innovative tools that enhance business efficiency, decision-making, and customer engagement. Business education students can leverage AI to optimize their entrepreneurial ventures in multiple strategic ways. Below are the key methods:

➤ **Market Research and Business Insights**

AI-driven tools help entrepreneurs conduct comprehensive market research, analyzing customer preferences, industry trends, and competitors. Traditional market research methods can be time-consuming and costly, but AI simplifies the process by extracting valuable insights from large datasets. For instance, AI-powered analytics platforms such as Google Analytics and IBM Watson provide predictive insights that assist in decision-making. According to Thottoli, Cruz, & Al Abri (2025), integrating AI in business education significantly enhances students' ability to analyze market dynamics, making them more competitive as entrepreneurs. AI tools help students assess emerging opportunities and identify profitable business models.

➤ **AI-Powered Chatbots for Customer Service**

Entrepreneurs must ensure excellent customer service to build brand loyalty and retain customers. AI-powered chatbots automate customer interactions, providing instant responses and improving service efficiency. These chatbots, integrated with machine learning, can understand

customer inquiries and provide personalized solutions, reducing response time and workload. A study by Gregory & Narang (2024) highlight that AI-driven customer service improves business efficiency by handling high volumes of customer requests without human intervention. Business students can integrate AI chatbots into their startups to enhance customer engagement while minimizing operational costs.

➤ **Personalized Marketing Strategies**

Marketing plays a crucial role in entrepreneurship, and AI is transforming the way businesses interact with customers. AI-driven marketing tools, such as recommendation engines and targeted advertising, help entrepreneurs reach the right audience with personalized content. These tools analyze customer behavior, preferences, and purchase history to create customized marketing campaigns. By leveraging AI-powered tools such as Facebook Ads Manager and Google Ads, business education students can develop data-driven marketing strategies that maximize sales and brand awareness.

➤ **Financial Management and Decision-Making**

Managing finances is one of the biggest challenges for entrepreneurs. AI-powered financial tools assist in budgeting, cash flow analysis, and financial forecasting. Platforms like QuickBooks and Xero use AI to automate bookkeeping, detect fraudulent transactions, and provide financial insights. According to Zi (2024), AI-enhanced financial management tools enable entrepreneurs to make data-driven financial decisions, reducing risks and improving profitability. Business education students can integrate AI-driven financial software into their startups to enhance decision-making and ensure financial sustainability.

➤ **Product Development and Innovation**

Entrepreneurs must continually innovate to stay ahead in competitive markets. AI assists in product development by analyzing customer feedback, predicting trends, and optimizing product features. AI-powered tools, such as design software and machine learning models, help entrepreneurs refine their products based on data-driven insights. Allen, Murrell, & Jones (2025) argue that AI accelerates innovation by enabling entrepreneurs to test multiple prototypes before launching a final product. Business students can use AI-driven prototyping software such as Autodesk and SolidWorks to develop innovative business solutions.

METHODOLOGY

Needs assessment survey design was adopted to carry out this research. The study was carried out in Nigeria. The targeted population comprised all business education students in Nigeria. Stratified sampling technique was used to select 70 business education students from each of the three states (Akwalbom, Cross River and River State) of the country. This gave a total of 210 respondents which made up the sample size used for this research. The instrument used for data collection was a structured questionnaire titled “Artificial Intelligence as a Dependable Tool for Effective Management of Entrepreneurial Businesses Questionnaire (AIDTEMEBQ)”. Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The researcher subjected the data generated for this study to appropriate statistical technique such percentage analysis to answer research questions.

Research Questions 1: The research question sought to find out the impact of artificial intelligence on effective management of entrepreneurial business. To answer the research percentage analysis was performed on the data, (see table 1).

Table 1: Descriptive statistics of the impact of artificial intelligence on effective management of entrepreneurial business.

IMPACTS	FREQUENCY	PERCENTAGE (%)
Driven Decision-Making and Business Strategy	63	30**
AI-Powered Customer Relationship Management (CRM)	46	21.90*
Financial Management and Fraud Detection	41	19.52
Marketing and Consumer Behaviour Analysis	37	17.62
Enhancing Productivity and Automation	23	10.95
TOTAL	210	100%

**** The highest percentage frequency**

*** The least percentage frequency**

SOURCE: Field Survey

The above table 1 presents the percentage analysis of the impact of artificial intelligence on effective management of entrepreneurial business. From the result of the data analysis, it was observed that “Driven Decision-Making and Business Strategy” 63(30%) was rated as the highest impact of artificial intelligence on effective management of entrepreneurial business, while “Enhancing Productivity and Automation” 23(10.95%) was rated the least. The result therefore is in agreement with the research findings of numerous scholars including Talebi et al. (2025), who stated that AI-driven decision-making is particularly valuable in uncertain business environments where entrepreneurs need to make quick yet informed choices. AI helps in analyzing data, financial records, and competitor strategies, allowing startups to develop more effective business plans.

Research Questions 2: The research question sought to find out the strategic ways business education students can use AI to improve in entrepreneurial business. To answer the research percentage analysis was performed on the data, (see table 2).

Table 2: Descriptive statistics of the strategic ways business education students can use AI to improve in entrepreneurial business.

STRATEGIES	FREQUENCY	PERCENTAGE (%)
AI Assisted-Market Research and Business Insights	56	26.67**
AI-Powered Chatbots for Customer Service	43	20.48
Personalized Marketing Strategies	39	18.57
Product Development and Innovation	38	18.09
Financial Management and Decision-Making	34	16.19*
TOTAL	210	100%

**** The highest percentage frequency**

*** The least percentage frequency**

SOURCE: Field Survey

The above table 2 presents the percentage analysis of the strategic ways business education students can use AI to improve in entrepreneurial business. From the result of the data analysis, it was observed that “AI Assisted-Market Research and Business Insights” 56(26.67%) was rated as the highest strategic way business education students can use AI to improve in entrepreneurial

business, while “Financial Management and Decision-Making” 34(16.19%) was rated the least. The result therefore is in agreement with the research findings of numerous scholars including Thottoli, Cruz, & Al Abri (2025), who stated that integrating AI in business education significantly enhances students' ability to analyze market dynamics, making them more competitive as entrepreneurs. AI tools help students assess emerging opportunities and identify profitable business models.

Conclusion

Artificial Intelligence (AI) is rapidly transforming the management of entrepreneurial businesses by enhancing decision-making, automating operations, and improving overall efficiency. In Nigeria, where entrepreneurship is a key driver of economic growth, business education students must develop AI competencies to remain competitive in the evolving digital landscape. AI-powered tools such as predictive analytics, intelligent customer service, and automated financial management are revolutionizing how businesses operate, making AI knowledge essential for future entrepreneurs. The result of the data analysis revealed that “Driven Decision-Making and Business Strategy” is the most outstanding impact of artificial intelligence on effective management of entrepreneurial business. It also showed that “AI Assisted-Market Research and Business Insights” is the highest strategic way business education students can use AI to improve in entrepreneurial business. Understanding AI applications in business management enables students to optimize productivity, reduce risks, and create innovative solutions. As Nigeria continues to embrace digital transformation, integrating AI into business education curricula will equip students with the skills needed to leverage AI for sustainable business success.

Recommendation

1. Business education institutions in Nigeria should incorporate AI-related courses into their curricula to equip students with essential knowledge and skills. Courses on AI-driven data analytics, digital marketing, financial technology, and automation should be introduced to prepare students for the evolving business landscape.
2. Universities and business schools should offer AI training workshops and certification programs to ensure that students gain hands-on experience with AI tools. These programs should cover key areas such as machine learning, AI-driven decision-making, and business process automation.
3. The Nigerian government, along with private organizations, should provide funding, infrastructure, and policy support to encourage AI adoption in entrepreneurial business management. Investment in AI research, technology hubs, and startup incubators can create an enabling environment for business students to explore AI applications.
4. As AI becomes more integrated into business operations, ethical considerations such as data privacy, bias mitigation, and responsible AI usage must be emphasized. Business education programs should include AI ethics training to ensure that students understand the social and legal implications of AI in entrepreneurship.

REFERENCES

1. Adegbuyi A., Noor S., Adegbuyi P. & Adeniyi O. (2024). Role of Demographic Characteristics on Strategicorientation And Business Performance of Smallandmediumscale Enterprises (Smes) In South West Nigeria. *International Journal of Entrepreneurship, Technology and Innovation (IJETI)*, 1(1): 11-28.
2. Ajoma, C. U (2010): Strategies for re-Branding business education for better performance and Higher productivity in Nigeria. A paper presented at the 8th Annual National Conference of the Nigerian Association of Vocational and Technical Educators (NAVTEd), at college of Education, Oju, Benue State, 7th - 10th July, 2010

3. Allen S., Murrell A., Jones R. & Misisic L. (2025). A crossroads between greener pastures and local loyalty: Scott Baker's decision on the future location of 5 Generation Bakers. *The CASE Journal*.<https://doi.org/10.1108/TCJ-12-2024-0348>
4. AlShami H. & Czegledi A. (2024). Navigating Complexity in Teaching with Cases: Systems Thinking and Concurrent Engineering Approaches. Available at: <file:///C:/Users/CBRS%20Dell/Downloads/129486-navigating-complexity-in-teaching-with-cases-systems-thinking-and-concurrent-engineering-approaches.pdf>
5. Angulo-Ruiz F., Dana L. & Henry E. (2025). How are Indigenous businesses shaping sustainable futures? *Canadian Journal of Administrative Sciences*. https://www.anzam.org/wp-content/uploads/2025/02/CJAS-Special-Issue_V9.pdf
6. Bavya N., Bashapaka B. And Redd, G. S. (2024) An Empirical Study on the Role of Artificial Intelligence in Human Capital Management. *International Research Journal on Advanced Engineering and Management* [https://goldncloudpublications.comhttps://doi.org/10.47392/IRJAEM.2024.00352\(3\)223](https://goldncloudpublications.comhttps://doi.org/10.47392/IRJAEM.2024.00352(3)223).
7. Felix O and Ezenwakwelu, C. A. (2024) Empirical Analysis of Entrepreneurial Development and Implication for Nigerian Economic Growth. *European Journal of Business and Management*. 6(30)110.
8. Gregory R. & Narang S. (2024). AI for learning unleashed: Pioneering generative AI in education at the University of Miami. *Journal of Information Technology Teaching Cases*. <https://doi.org/10.1177/20438869241266258>
9. Gupta S. & Jaiswal R. (2025). A deep learning-based hybrid PLS-SEM-ANN approach for predicting factors improving AI-driven decision-making proficiency for future leaders. Available at: <https://www.emerald.com/insight/content/doi/10.1108/jieb-05-2024-0058/full/html>
10. Gupta V. (2025). Factors influencing librarian adoptions of ChatGPT technology for entrepreneurial support. *Library Hi Tech*. ISSN: 0737-8831.
11. Martinez, A. M. (2022) Empirical Entrepreneurship: Success Factor for New Companies. *International Journal of Research Publication and Reviews*. 3(10)132
12. Mer A. & Viridi A. (2025). The Influence of Artificial Intelligence on Personal and Corporate Finance: A Comprehensive Literature Review with Prospects for Future Research. Available at: <https://www.emerald.com/insight/content/doi/10.1108/978-1-83753-750-120251014/full/html>
13. Mfon, T. U., Uke, A. F., & Edo, D. U. (2016). Business Education Skills: A Necessity for Self-Reliance in Nigeria. *Journal of Education*, 9 (2) 100-107. .
14. Okeke, A. U. (2024) BUSINESS EDUCATION AND THE CHALLENGES OF EMPLOYABILITY IN THE 21ST CENTURY. Available at: <https://www.globalacademicgroup.com/journals/knowledge%20review/Okeke.pdf>
15. Palanivelu, V. R. and Manikandan, D. (2015) CONCEPT OF ENTREPRENEURSHIP. *COGNITIVE DISCOURSES International Multidisciplinary Journal*. 3(3)10
16. Russell, S., & Norvig, P. (2010). Artificial Intelligence: A Modern Approach (Third Edit). Prentice Hall. Doi, 10, B978-012161964.
17. Samson A. (2024). Effect of Artificial Intelligence and Big Data on Entrepreneurial Decision Making Of Small and Medium Enterprises in Lagos, Nigeria. *Bayero Journal of African Entrepreneurship Studies*, 6(1).

18. Sheikh, H., Prins, C., Schrijvers, E. (2023). Artificial Intelligence: Definition and Background. In: Mission AI. Research for Policy. Springer, Cham. https://doi.org/10.1007/978-3-031-21448-6_2
19. Talebi K., Ghasemi Z., Nobari N. & Seraj M. (2025). Artificial Intelligence Adoption by Digital Startups in Decision-Making within Uncertain Business Environments. *Entrepreneurship - Digital Transformation, Education, Opportunities and Challenges*. DOI: 10.5772/intechopen.1007080
20. Thottoli M., Cruz M. & Al Abri S. (2025). The incubation revolution: transforming entrepreneurial education with artificial intelligence. *Asia Pacific Journal of Innovation and Entrepreneurship*, 19(1): 2-23.
21. Trelstad B. & Walske J. (2025). An introduction to impact investing. Available at: <https://www.elgaronline.com/edcollchap/book/9781803922713/book-part-9781803922713-8.xml>
22. Udoeye, N. R. and Ndum, V. E. (2013). Reinvigorating Business Teacher Education towards Self-Reliance in Nigeria. *Journal of Educational and Social Research* 3(9)119-126.
23. Velasco-Morente F., Berbegal-Zaragoza V. & Srivastava S. (2025). Efficiency of information and communication technology adoption by entrepreneurs. *Management Decision*. <https://doi.org/10.1108/MD-01-2024-014>
24. Zi Y. (2024). Research on the Impact and Application Strategies of Artificial Intelligence Technology in College Student Education Management. pp. 108-111, doi: 10.1109/LTDH64262.2024.00030.