



## RELATIONSHIP BETWEEN ARTIFICIAL INTELLIGENCE AND BUSINESS ENTREPRENEURSHIP EDUCATION IN COLLEGES OF EDUCATION IN EDO AND DELTA STATES

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### Abstract

The study examined the relationship between artificial intelligence and business, entrepreneurship education in Colleges of Education in Edo and Delta States. Three (03) research questions and three hypotheses gave credence to the study. A correlational survey was used for the study. The population of the study was 101 business educators were used. The entire population was used as sample. The instrument for data collection was the questionnaire. A modified four-point rating scale of 'Strongly Agreed, Agreed, Disagreed and Strongly Disagreed' was the instrument. 0.82 was the reliability of the instrument using Pearson Product Moment Correlation Coefficient Statistics (PPMCC). Descriptive statistics and inferential statistics were the statistical tools used to answer research questions. The result of the investigation disclosed that there is a meaningful association between decision-making process, effective learning and training, and accessing and organizing knowledge using artificial intelligence. From the investigation, it was recommended that application of artificial intelligence should be encouraged in colleges of education to bring about meaning result in learning, among others.

**Keywords:** Artificial intelligence; Decision-making process; Effective learning and training; Accessing and organizing knowledge

### Introduction

The emergence of Artificial Intelligence (AI) in the 50s has come to help humans in their thinking, self-correction and creativity capabilities and advancement in the ways of doing things and carrying out other assignments that were ordinarily very difficult to achieve. This is the more reason Tamara (2024) defined artificial intelligence as the simulation of human cognitive functions by machines. It includes a wide range of technologies that enable machines to perform tasks traditionally requiring human intelligence, such as reasoning, problem-solving, decision-making, and learning from experience. In a similar vein, Craig (2024) defined Artificial intelligence as the simulation of human intelligence processes by machines, especially computer systems. Examples of AI applications include expert systems, natural language processing (NLP), speech recognition and machine vision.

Scott (2024) stated that Artificial intelligence (AI) technology allows computers and machines to [simulate human intelligence](#) and problem-solving tasks. The ideal characteristic of artificial intelligence is its ability to rationalize and take action to achieve a specific goal. Scott further opined that AI has the following benefits: automation; reduces human error; eliminates repetitive tasks; fast and accurate; infinite availability; and accelerates research and development. Despite the attendant benefits, Scott (2024) identified the following challenges: AI algorithm bias; black box



problem; requires high computing power, complicated AI integration; lack of understanding of implementation strategies; and legal concerns.

Over time, AI systems have improved on the performance of specific tasks, allowing them to adapt to new inputs and make decisions without being explicitly programmed to do so. In essence, artificial intelligence is about teaching machines to think and learn like humans, with the goal of automating work and solving problems more efficiently. In spite of these advantages, Glover opined that AI has the following disadvantages: job displacement; privacy concerns; ethical concerns; and environmental costs.

Craig (2024) further maintained that Artificial Intelligence (AI) is a broad field that encompasses many different disciplines, including computer science, data analytic and statistics, hardware and software engineering, linguistics, neuroscience, and even philosophy and psychology. It is a set of technologies that are based primarily on machine learning and deep learning, used for data analytic, predictions and forecasting, object categorization, natural language processing, recommendations, intelligent data retrieval, and more. It has been [effectively used in business](#) to automate tasks traditionally done by humans, including customer service, lead generation, fraud detection and quality control.

Business appears to be the main stay of any economy throughout the world. This is why Hayes (2019) saw business as an enterprise concerned with activities aimed at improving the lives of people in a given locality. Businesses may be a profit or non-profit depending on the aim of such businesses. From the foregoing business is deemed to be responsible for overall development of a nation's economy be it communist, or democratic governance without which activities of these nations will collapse. This is why Pratt (2024) stated that as organizations increase their use of [artificial intelligence](#) technologies in their operations, they are reaping tangible benefits that are expected to deliver significant financial value. Pratt identified 12 benefits of Artificial intelligence to include: better decision; efficiency and productivity gains; improved speed of business; new capabilities and business model expansion; personalised customer services and experiences; improved services; improved monitoring; better quality and reduction of human error; better talent management; more innovation; increased profitability; industry-specific improvements.

This is why McLaren (2024) stated that Artificial Intelligence (AI) is significantly reshaping business education in schools including colleges of education, offering both opportunities and challenges. AI is enhancing learning experiences through personalized learning, automated tasks, and data-driven insights. However, it also necessitates a rethinking of curriculum design, teaching methods, and the role of educators. Business educators may use AI-powered systems to adapt to individual student learning styles and paces, providing customized learning paths and feedback. This is to enable students to grasp complex concepts at their own speed. AI is also capable of automating administrative tasks like grading, freeing up educators to focus on more personalized student interaction and curriculum development. It is also a tool that can streamline data analysis and reporting, enabling students to quickly identify trends and make informed- decisions.

Business educators may use AI to analyze vast amounts of data, providing students with insights into market trends, consumer behavior, and business performance. This will in turn helps students to develop strong analytical and decision-making skills, crucial for success in today's business environment. AI may be seen as a transformative force in business education, equipping students with the knowledge and skills they need to thrive in an AI-driven world. Business Education is described as the education for and about business. The programme aims at educating and empowering students with valuable skills and abilities that will enable them to be gainfully employed or become self-reliant. The programme also equips its recipients with desirable knowledge, skills, understanding, and attitude which are needed to perform specific functions as



teachers or administrators in the various areas of their specializations (Ezechine, 2024). Business educators are professionally trained teachers who instruct on various business-related subjects in educational institutions. They play a critical role in shaping future business leaders and professionals by delivering high-quality instruction and fostering essential skills (Ezenwafor & Hafsat, 2017).

In a similar vein Xie and Weng (2025) stated that Artificial Intelligence (AI) is transforming entrepreneurship education by offering personalized learning experiences, enhancing entrepreneurial skills, and facilitating venture creation. AI-powered tools and platforms are transforming how students learn about and engage with entrepreneurial concepts, ultimately shaping future entrepreneurs. AI is capable of ensuring that students are equipped with the necessary skills to succeed in the entrepreneurial world. AI can also help students identify and evaluate business opportunities through advanced data analysis and opportunity recognition tools. AI is powerful tool in entrepreneurship education by use of chatbots to facilitate peer-to-peer learning and collaboration, improving knowledge retention and enhancing entrepreneurial understanding. In essence AI is a powerful tool that is capable of reorganising entrepreneurship education by personalizing learning, enhancing skills, and revolutionizing venture creation.

Prasanth, Vadakkan, Surendran, and Thomas (2023) stated that (AI) has revolutionized decision-making processes by providing organizations with advanced analytical capabilities, enabling them to extract valuable insights from vast amounts of data. They stated that the application of AI in businesses may force the sector to rely on quicker, less expensive, and more accurate marketing techniques. By utilizing the AI in marketing strategies, a business owner may increase audience reaction and build a strong online brand that can compete with others. In addition to marketing, it has the capacity to remodel a business with fresh concepts. Additionally, it provides solutions for challenging problems, aiding in the enormous business growth.

In the same vein Tamara (2024) defined artificial intelligence as the simulation of human cognitive functions by machines. It includes a wide range of technologies that enable machines to perform tasks traditionally requiring human intelligence, such as reasoning, problem-solving, decision-making, and learning from experience. Tamara stated that AI has the capabilities in marketing, product development, customer support, human resources, operations, fraud detection and security. In marketing as in competitor analysis, using AI offers detailed insights into competitors' strategies and customer perceptions. By tracking essential metrics such as audience growth, engagement and post volume across various networks, marketers can benchmark their social presence against competitors. This comprehensive analysis, including share of voice, engagement, sentiment and impressions, helps identify key areas where a brand stands out or needs improvement. In another development AI can be applied to entrepreneurship.

Ferreira (2024) defined entrepreneurship as the practice of launching, running, and growing a business venture. It requires a combination of innovation, skills, and clear vision to create products, services, or ideas that meet market demands and offer value to a target audience. In same vein, Bajaj Finance Limited (2024) defined entrepreneurship as the process of creating, launching, and managing a new business, typically a startup company offering a product, process or service. It involves identifying a business opportunity, conducting comprehensive market research, assembling a team and strategizing on financing and marketing. It also involves risk-taking and decision-making aspects. In all of these can artificial intelligence be used to strengthen entrepreneurship? To answer this pertinent question, Kylie and Aishwarya (2024) stated that AI has the potential to significantly enhance productivity, streamline operations, and drive innovation. The researcher further stated that AI has the following benefits on entrepreneurship: Potential to significantly enhance overall performance in complex work tasks across various domains and



showing consistent improvements in efficiency and quality; acts as a leveler, supporting lower performers, though the long-term effects on this dynamic are uncertain; helps identify broad market possibilities and capitalize on diverse products and services, which may be particularly impactful for entrepreneurs with limited economic resources; bridges literacy gaps and enhance skills development, for example, in areas such as marketing, finance, human resources, and logistics; simplifies complex tasks, for example market research, business planning, pricing, inventory management, and social media management.

In a similar vein, Pratt (2024) identified 15 top applications of artificial intelligence in the enterprise to include: AI-enabled innovations, products and services; automating routine cognitive work; leveling up workers; as a creative force; accessing and organizing knowledge; optimization; higher productivity and more efficient operations; more effective learning and training; coach and monitor; decision support, quality control and quality assurance; personalized customer services, experiences and support; safer operations; functional area improvements; and addressing industry-specific needs.

In the area of effective learning and training, Nkechi, Ojo and Eneh (2024) maintained that Artificial intelligence helps in the prediction of learners needs based on the historical data of the learner. Nkechi et al further stated that AI also has the ability to predict the future learning needs of the student. This will help the business educators to be very proactive in addressing the learning challenges. This approach will go a long way to help to fill the gaps in learning and enhances quality education. AI will also help to improve the grading system used in the educational sector. This can be made possible by automating the grading system in multiple choice questions. This will help to reduce to great extent time wastage and stress on the part of the business educators.

AI has the capability to promote global access to quality education by providing global classroom for learners in every part of the world. The gap of communication between learners and teachers could be comfortably filled by the use of artificial intelligence. Real time subtitles in AI may help blind learners with sight, hearing difficulties and those with different languages to understand and assimilate the learning process effectively. Moreover, AI assists learners from all over the world to connect themselves for brainstorming and further interaction thereby increasing knowledge spread among the students. Vanlehn (2011) in an experiment compared the effectiveness of human tutoring and intelligent tutoring system with other tutoring systems, and came to the conclusion that intelligent tutoring system possesses step-based form of interaction while other tutoring systems have answer-based user interfaces. The experiment concluded that the effective size of intelligent tutoring system was as nearly as effective as that of the human tutoring. Hence AI algorithms can be used to customize educational content and learning paths thereby enhancing personalized learning which in turn improves the quality of learning. Artificial intelligence, apart from helping in effective learning and training, it has the capacity to accessing and organizing knowledge.

An AI-powered knowledge base, According to Chamisa (2024), goes beyond the traditional system. Instead of just storing information, it learns and utilizes data analytics to understand your operations. With these data, the powerful platform anticipates needs and proactively provides the right knowledge for the right person at the right time Chamisa identified some key benefits of artificial intelligence powered knowledge bases to include: intelligent information system search and retrieval; enhances data processing; automation of routine tasks; personalises knowledge recommendations; and enhances collaboration and knowledge sharing.

In spite of the attendant benefits of artificial intelligence, can it completely be used without human playing a role? This is the worry of the researchers.

**Purpose of the Study**

The main purpose of the study determined the application of artificial intelligence in business and entrepreneurship, specifically, it determined the relationship between:

1. Artificial intelligence and decision making process
2. Artificial intelligence and effective learning and training in public universities in Edo and Delta State
3. Artificial intelligence and accessing, organising knowledge

**Research Questions**

The following research questions guided the study:

1. What is the relationship between artificial intelligence and decision making process of business educators in colleges of education in Edo and Delta States?
2. What is the relationship between artificial intelligence and learning, training of business educators in colleges of education in Edo and Delta States?
3. What is the relationship between artificial intelligence and accessing, organising of knowledge of business educators in colleges of education in Edo and Delta States?

**Hypotheses**

The following logical suppositions were tested at an alpha level of 0.01

1. There is no significant relationship between artificial intelligence and decision-making process of business educators in colleges of education in Edo and Delta States
2. There is no significant relationship between artificial intelligence and learning, training of business educators in colleges of education in Edo and Delta States.
3. There is no significant relationship between artificial intelligence and accessing, organizing knowledge of business educators in colleges of education in Edo and Delta States

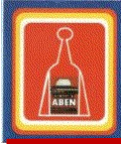
**Methodology**

The study employed correlational survey research design. A correlational survey measures two or more relevant variables and assesses the relationship or among the variables. The design was deemed to be the most suited for this study because the study examined the relationship between the 'independent variables' artificial intelligence and the 'dependent variable', business and entrepreneurship. The population of the study was 101 business educators and sample from the colleges of education in Edo and Delta States. A questionnaire was used titled Artificial Intelligence and Business and Entrepreneurship Questionnaire (AIBEQ). A 4-Point modified Likert scale made up of four response options of 'Strongly Agreed (4), Agreed (3), Disagreed (2), Strongly Disagreed (1)' respectively.

The reliability of the instrument was 0.82 using test re-test method. Twenty business educators were used from the Rivers State College of Education. The first and second administrations were done within an interval of two weeks. Data obtained were analyzed using Person's Product Moment Correlation Coefficient (PPMCC) and reliability coefficient.

The instrument was administered to the respondents in their respective five colleges of education with (05) research assistants. The goal of the study as well as the distribution and collection of the questionnaire were explained to the research assistants. After two weeks the completed copies of the instrument were collected and properly checked to ascertain the level of compliance by respondents. Only 98 copies of the questionnaires were successfully collected from the total number of 101 copies administered, this signified 97% retrieval rate

The research questions were answered by Mean (X) and Standard Deviation (SD, while Pearson Product Moment Coefficient (Pearson's r) was used to test hypotheses to establish the



nature and magnitude of correlation. The hypotheses were tested at alpha level of 0.05. The decision rule for the null hypotheses was based on p-value; if p-value was greater than 0.05, the null hypothesis was accepted and otherwise rejected.

**Results**

**Hypotheses Testing**

**Hypothesis One:** There is no significant relationship between artificial intelligence and decision-making process of business educators

**Table 1: Pearson’s Correlation between artificial intelligence and decision making process**

Variables	N	$\bar{x}$	SD	R	p-value	Decision
Artificial Intelligence	98	3.05	0.67	.317	.000	Significant
Decision-Making Process		3.20	0.51			

Table 1 shows a Pearson r of .317 and a p-value of .000 testing at an alpha of .05. Since the p-value is less than the alpha level, the null hypothesis which states that there is no significant relationship between artificial intelligence and decision making is rejected. Consequently, there is a significant relationship between artificial intelligence and decision making-process in business and entrepreneurship education.

**Hypothesis Two:** There is no significant relationship between artificial intelligence and learning and training

**Table 2: Pearson’s Correlation between Artificial Intelligence and Learning, Training**

Variables	N	$\bar{x}$	SD	R	p-value	Decision
Artificial Intelligence	98	3.22	0.64	.274	.000	Significant
Learning and Training		3.20	0.51			

Table 2 shows a Pearson r of .274 and a p-value of .000, testing at an alpha of .05. Since the p-value is less than the alpha level, the null hypothesis which states that there is no significant relationship between artificial intelligence and learning and training is rejected. Consequently, there is a significant relationship between artificial intelligence and learning, training in business and entrepreneurship education.

**Hypothesis Three: There is no significant relationship between artificial intelligence and accessing, organizing knowledge**

**Table 3: Pearson’s Correlation between artificial intelligence and accessing, organizing knowledge**

Variables	N	$\bar{x}$	SD	r	p-value	Decision
Artificial Intelligence	98	3.26	0.65	.223	.000	Significant
Accessing and Organizing Knowledge		3.20	0.51			

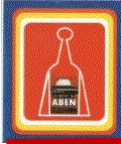


Table 3 shows a Pearson  $r$  of .223 and a  $p$ -value of .000, testing at an alpha of .05. Since the  $p$ -value is less than the alpha level, the null hypothesis which states that there is no significant relationship between artificial intelligence and accessing and organizing knowledge is rejected. Consequently, there is a significant relationship between artificial intelligence and accessing, organizing knowledge

### **Discussion of Findings**

The finding in Table 1 in response to hypothesis 1 shows that there is a significant relationship between artificial intelligence and decision making-process. This finding is in consonance with Tamara (2024) who stated that artificial intelligence has the simulation of human cognitive functions by machines which includes a wide range of technologies that enable machines to perform tasks traditionally requiring human intelligence, such as reasoning, problem-solving, decision-making, and learning from experience. The finding is also in tandem with **Glover (2024) who maintained that** artificial intelligence capable of performing tasks such as making predictions, identifying objects, interpreting speech and generating natural language as well as processing massive amounts of data and looking for patterns to model in their own decision-making. The finding is in agreement with World Economic Forum (2023) which stated that Artificial intelligence plays a crucial role in the decision-making processes of many companies and is increasingly used to inform policy and public sector decisions around the world. The finding is in consonance with The Upwork Team (2024) who opined that advancements in artificial intelligence (AI) can help with the decision making process by evaluating data and variables in complex situations. This enables institutions and organizations to make faster, more well-informed decisions than when humans tackle problems without assistance.

The finding in Table 2 in response to hypothesis 2 reveals that there is a significant relationship between artificial intelligence and learning and training. The finding is in agreement with Boysen-Rotelli (204) who stated that artificial intelligence (AI) has emerged as a transformative force, revolutionizing the way training programs are designed, delivered, and optimized. The finding is in tandem with Baer (2023) who stated that AI is about building a continuous learning culture that enhances employee performance while also up-skilling and reskilling workers to adapt to changing needs. It offers employees engaging, useful development options that is capable of boosting productivity, improving employees' retention and creating a positive company's overall culture.

The finding in Table 3 in response to hypothesis 3 reveals that there is a significant relationship between artificial intelligence and accessing, organizing knowledge. This position is in relationship with Taylor (2024) who opined that Knowledge management has been a cornerstone of organizational success, encompassing the systematic process of capturing, organizing, and utilizing information for informed decision-making. The finding is in agreement with Dumani (2024) who emphasized that AI, with its ability to process and analyze large volumes of data, can revolutionize the way organizations manage their knowledge and memory. From automating the discovery process to enhancing retrieval mechanisms, it can transform these critical aspects of business operations, leading to improved efficiency and effectiveness.

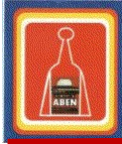
### **Conclusion**

It was concluded that artificial intelligence has the capacity to facilitate decision-making process, influence learning and training, as well as helping to access and orgarnise knowledge.

### **Recommendations**

Based on the findings and conclusion it is recommended that:

1. The use artificial intelligence should be used in decision-making by management and lecturers as vital tool to aid growth and development in the school system.



2. The application of artificial intelligence should be given priority in colleges of education as this will aid learning and training. The students need to learn while the business educators need training to enhance their efficiency.
3. Artificial intelligence should be utilized to access and organize knowledge as knowledge is power to any organizational set up including colleges of education.

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