### POTENTIALS OF ARTIFICIAL INTEL LIGENCE IN ENHANCING TH E QUALITY OF BUSINESS EDUCATION PROGRAMME IN TERTIARY INSTITUTIONS IN ANAMBRA STATE

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#### Abstract

This paper examined the potentials of artificial intelligence in enhancing the quality of business education programme in tertiary institutions in Anambra State. The study was carried in four public tertiary institutions offering business education Anambra State. One research question guided the study Descriptive survey design method was used. The population of the study comprised 113 lecturers teaching business education in the four public tertiary institutions in Anambra State, Nigeria. Census technique was used. Questionnaire was use as instrument for data collection. 20 business education lecture's from Delta State were used to test the consistency of the items in the instrument Pilot test was carried out using Cronbach Alpha reliability coefficient which yielded 0.86 showing that instrument was reliable. The data collected was analyzed using the mean and standard deviation. The finding of the study revealed that machine learning would enhance the quality of business education programme in tertiary institutions in Anambra State to a high extent. The researchers recommended among others that administrators of business education programmes in tertiary institutions should collaborate with technological firms that specialized in the development and modeling of educational artificial intelligence technology for the design of machine learning programmes in order to facilitate effective teaching and learning of business education programme.

**Keywords**: Artificial Intelligence, Quality, Business Education, Tertiary Institution.

### Introduction

Education is the process of learning information, skills, values and attitudes through formal and non-formal ways. It is a lifetime adventure that begins in childhood and continues throughout one's life. Education is the

transmission of knowledge, ideas and experiences from one generation to the next, allowing people to develop their intellectual, physical, social and emotional potential. It includes both academic comprehension of topics and practical application of information in real-life situations. Education seeks to teach factual knowledge, ideas, principles and concepts from a variety of disciplines, including mathematics, physics, history and literature. It emphasises on the development of a wide range of abilities, including cognitive (critical thinking, problem-solving), communication (reading, writing, speaking), technical (computer literacy, occupational skills) and social-emotional (teamwork, empathy). Education is critical in influencing people's values, attitudes and ethical beliefs. Its mission is to promote principles like honesty, respect, tolerance, empathy and responsible citizenship (World Bank, 2021). Education in Nigeria is divided into three levels: basic education, post-basic education and tertiary education. Tertiary education is the highest level of education in the country among these levels. The tertiary level of education is the focus of this study.

Tertiary institutions, often known as higher education institutions, are educational institutions that provide education beyond the secondary level. Individuals who have finished their secondary school can attend these institutions, which provide advanced academic and Business programmes, research possibilities and professional training. Tertiary institutions include a variety of educational institutions such as universities, colleges of education, polytechnics, mono-technics and specialised institutes. They provide variety of degree programmes, diplomas, certifications and other specialised courses in a variety of fields. The major goal of tertiary institutions is to give students advanced information, skills and

certifications required for their chosen disciplines or professions (British Council, 2022). These colleges of education and universities emphasize indepth academic study, practical training and research to prepare students for jobs, professional progress and higher-level academic pursuits. Business education programme is one of the academic programmes in tertiary institutions in Nigeria.

Business education is the process of learning and acquiring knowledge skills and abilities related to the various aspects of business management and entrepreneurship. It is the integral part of the vocation and technical education that prepares students for entry into and advancement in jobs within business (Oguejiofor & Iyoha 2023). It involves the study of business concepts, theories, and practices and their application in real-world settings. Business education refers to a programme of instruction that offers various skills in accounting, marketing and Office Technology and Management (OTM). Major topics include: office practice, Book keeping, business mathematics, business communication, secretarial duties, word processing and advertising (Utoware, et al 2018). Jargons (2021) see business education as the study of business principles, concepts and practices with the aim of providing students with the knowledge and skills required to succeed

in the business world. Some scholars have questioned the quality of business education programmes in Nigeria given the rising rate of unemployment in Nigeria in general and Anambra State in particular (Jonathan & Kolawole, 2020).

Ouality refers to adhering to a standard and in this context, the standard is the degree of perfection or sufficiency intended to achieve the anticipated improvements in productivity, competitive position and cost. As a measure of something's perfection in relation to other things, quality might be defined as standards (Ezeofor et al., 2020). The excellence or efficacy of teaching or instruction that can lead to student learning and satisfaction is referred to as high-quality teaching or instruction. The discourse of quality in business education should start with the quality of business educators who are supposed to implement the school programme (Oguejiofor & Ezenwanne Effective Business education ensures that students gain the 2020). information, skills and competencies necessary for their particular area of responsibility. To record and acknowledge successful teaching, it is necessary to create rigorous assessments and establish teaching standards (Audu, 2022). To ensure effective Business education programmes in our schools and to realise the goal of skill acquisition and manpower development in our society, quality assurance is a crucial instrument. Sadly business education programme in tertiary institutions seems to be struggling to attain quality in its output as reflected in the failure of its graduates to adapt in the evolving labour market (Ogundipe, 2021). This might be as a result of failure of the instructors to embrace artificial intelligence technologies during teaching.

Artificial intelligence is not a new phenomenon. Much of the theory that drives AI was created as far back as seventy years ago by computer scientists like Turing (1950). AI has been applied for some time now in areas such as banking and Science Technology, Engineering and Mathematics (STEM) professions (Shiohira, 2021). Access, speed and availability have all altered substantially over the last decade. AI offers such versatility because AI itself is versatile. As noted by Calo (2017), there is no universal consensus concerning the standard definition of AI and what it constitutes. AI refers to a variety of techniques that vary in complexity and share a common outcome: the imitation of human cognition or decision-making (Shiohira, 2021). Artificial Intelligence (AI) is a system that has been built to interact with the environment in ways that humans consider human and intelligent (Attwel et al, 2020). Artificial intelligence (AI) is a significant innovation in the rapidly developing field of modern internet technology, as noted by Lufeng (2018). Artificial intelligence (AI) is the development of computer systems and algorithms that can accomplish activities that normally require human intelligence. It involves the modelling of human cognitive processes such as learning, thinking, problem solving, perception and decision-making. AI strives to construct intelligent computers that can imitate or outperform human skills in particular fields. Oguejiofor et al (2025) noted that current iterations of AI are largely industry-driven, created with the utmost goals of

enabling new businesses and improving on the efficiency of existing fields. AI applications may be found in a variety of fields, including healthcare, banking, transportation, entertainment and customer service. AI technologies include virtual assistants (e.g., Siri and Alexa), recommendation systems, driverless cars, picture recognition systems and medical diagnosis systems. In the 21st century, there has been continuous research and exploration of internet information technology, resulting in various forms of internet-based applications which artificial intelligence is inclusive appearing in our daily lives.

The use of AI is experiencing exponential growth worldwide and is increasingly integrated into various aspects of our lives. For instance, AI scientists are utilizing advancements in machine learning, computer modelling and probability statistics to enhance financial decision-making processes. They are also leveraging decision theory and neuroscience to improve medical diagnostics, as highlighted by Attwel et al. (2020). Tuomi (2018) stated that will one of the primary roles of the modern education system is to develop competencies that will enable individuals to participate in the economic sphere of life. Education, from this perspective, is a crucial driver of economic productivity and competitiveness, with educational policies using machine learning.

Machine learning is a popular field of artificial intelligence that focuses on allowing computers to learn from data and improve their performance over time without being explicitly programmed. Machine learning is an area of artificial intelligence that focuses on building algorithms and models that allow computers to learn from data and make predictions or perform actions without being explicitly programmed. Machine Learning is an application of AI that allows computers to learn and improve from experience without being explicitly programmed (Reed, 2018). In the context of business education programmes in tertiary institutions, machine learning offers a variety of applications that can improve teaching and learning processes, personalise education and provide insights into student performance in business education programme (Organisation for Economic Co-operation and Development (OECD), 2021). One prominent application of machine learning which could be applied in the

business education programme in tertiary institutions is personalized learning. By analyzing individual student data, such as their learning preferences, strengths and weaknesses, machine learning algorithms can adapt instructional content and delivery methods to suit each student's unique needs (Jagwani, 2019).

### Statement of the Problem

Business education programme in tertiary institutions Anambra State in particular and Nigeria in general is expected to prepare its recipients for the world of work. That is to say that Business education programme is expected to be pacesetters in introducing innovations and creativity.

However, despite advancement in technology resulting in the development of emerging technologies like artificial intelligence, the business education programme in tertiary institutions in Anambra State appear to have failed in taking advantage of artificial intelligence.

This failure to incorporate AI technologies into business education programmes in tertiary institutions has contributed to the alarming rate of unemployment among graduates in Anambra State. The training received by these graduates has been overshadowed by the rapid advancements in technology championed by AI. As a result, many graduates are ill-prepared to meet the demands of the modern job market, where AI and automation are increasingly prominent. The researchers are worried that the consequences of this situation are severe and directly impact Anambra State. The high unemployment rate among Business education graduates contributes to a sense of frustration and hopelessness. It fosters an environment in which individuals, particularly young people, may turn to illicit activities as a means of survival. The link between unemployment and crime is well-documented and the lack of technological advancement in business education exacerbates this issue. To address these challenges, urgent action is required. It is against this background that the researchers sought investigated the potentialities of artificial intelligence in enhancing the quality of business education programme in tertiary institutions in Anambra State.

### **Research Questions**

This research question guided the study:

1. To what extent would machine learning enhance the quality of business education programme in tertiary institutions in Anambra State?

### Method

The study was carried in four public tertiary institutions in Anambra State, Nigeria. Descriptive research design method was used. The population of the study comprised 113 lecturers in the Department of Vocational Education (Business Education) from four public tertiary institutions in Anambra State, Nigeria. The instrument for data collection was a structured questionnaire title "Questionnaire on the Influence of Artificial Intelligence on the Quality of Business Education Programme (QIAIQVEP)". The instrument was structured on a four point rating scale of Very High Extent (VHE) = 4points, High Extent (HE) = 3points, Low Extent (LE) = 2points and Very Low Extent (VLE) = 1point. The instrument was validated by two experts from Business Education and one expert from Measurement and Evaluation unit in the department of educational foundations, all in the Faculty of Education, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus. The application of Cronbach Alpha reliability yielded coefficient values of 0.86. Mean, standard deviation and t-test were used to analyze data for the study.

### **Research Question 1**

To what extent would machine learning enhance the quality of business education programme in tertiary institutions in Anambra State? **Table 1** 

Respondents Mean Ratings on the Extent Machine Learning would enhance the Quality of Business Education Programme in Tertiary Institutions in Another State

montations in Analista State					
S/N	Item Statements	Ν	Mean	SD	Remarks
1.	Machine learning algorithms can analyze business	113	3.68	.86	Very High Extent
	education students' performance				
2.	Help business educators identify students who	113	3.12.	1.02	High Extent
	may be at risk of dropping out or struggling				
	academically				
3	Machine learning algorithms can analyze learning	113	3.52	.97	Very High Extent
	styles of business education students				
4	Machine learning can analyze labor market trends	113	3.45	1.08	High Extent
	to inform curriculum development in business				
_	education programme		2.20	00	
5	It can automate the assessment of business	113	3.20	.80	High Extent
-	education student assignments.	112	2.15	05	
7	Assists business i educators programmes in tertiary	115	3.15	.85	High Extent
	Mashina learning algorithms can be used to greate	112	2 20	1.04	High Extent
	intelligent tytering systems that adopt to students'	115	3.30	1.04	High Extent
	programs				
8	Machine learning can provide tools for making	113	3 20	92	High Extent
0	education more accessible to a diverse range of	115	5.20	.72	ingn Extent
	business education students				
9	business educators can use the data insights	113	3.07	.83	High Extent
	provided by machine learning to provide timely				5
	interventions for students' academic issues				
10	business educators can use the data insights	113	2.87	.79	High Extent
	provided by machine learning to provide timely				
	interventions for students behavioural issues				
	Mean of Means		3.26		High Extent

Data in Table 1 revealed the extent machine learning would enhance the quality of business education programme in tertiary institutions in Anambra State. Findings indicated that items 1 and 3 with mean ratings of 3.68 and 3.52 will influence the quality of business education programme in tertiary institutions to a very high extent. They also rated items 2, 4, 5, 6, 7, 8, 9 and 10 with mean ratings ranging between 2.87 and 3.45 to a high extent. The standard deviation scores ranging between .79 and 1.08 indicated that the respondents' opinions were related. The mean of means of 3.26 indicated that machine learning would enhance the quality of vocational education programme in tertiary institutions in Anambra State to a high extent.

#### **Discussion of finding**

Finding of the study are discussed as follow:

# Potentials of Machine Learning in Enhancing the Quality of Business Education in Tertiary Institutions

The finding of the study revealed that machine learning would enhance the quality of business education programme in tertiary institutions in Anambra State to a high extent. This finding revealed the critical role the integration of machine learning would play in improving the quality of teaching and learning of business education programmes in tertiary institutions. This is in agreement with Celik et al (2022) who reported that AI like machine learning offers teachers several opportunities for improved planning (such as, defining students' needs and familiarizing teachers with such needs), implementation (such as, receiving immediate feedback and teacher intervention) and assessment (through automated essay scoring) of their teaching. Hussein eta al. (2022) revealed that AI provides students with practical or experiential learning experiences, particularly when used together with other technologies, such as virtual reality, 3-D, gaming and simulation, thereby improving the students' learning experiences.

### Conclusion

Based on the findings of the study the researchers concluded that artificial intelligence would improve the quality of business education in tertiary institutions in Anambra State to high extent if lectures will jubiously utilize the them during teaching. It is therefore imperative that stakeholders in the business education programme should come up with measures for promoting the integration of AI technologies in the business education programme in tertiary institutions in Anambra State.

#### Recommendations

Based on the finding, the researcher proffered the following recommendations:

- 1. Administrators of business education programmes in tertiary institutions should collaborate with firms that specialized in the development and modeling of educational artificial intelligence technology like machine learning for the design of machine learning programme so as for facilitate effective teaching and learning of business education programmes.
- 2. Administrators of business education programmes in tertiary institutions should organize training programmes that will improve the capacity of business education lecturers for smooth integration of computer vision in business education programmes.

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