INNOVATIVE TEACHING IN BUSINESS EDUCATION: EXPLORING LECTURERS' PERCEPTIONS AND ADOPTION OF AI-POWERED TECHNOLOGIESIN SOUTH-EAST NIGERIAN UNIVERSITIES

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Abstract

This study determined Business Education Lecturers' perceptions and adoption of AI-powered teaching technologies for instructional practices in South-East, Nigerian universities. Two research questions and one null hypothesis guided the study. The study adopted survey research design. The population of the study consisted of 128 Business Education Lecturers in public universities in South-East, Nigeria offering Business Education programme, and census sampling method was employed. There was no sapling were studied without sampling. A-16 item structured questionnaire titled Innovative Teaching in Business Education Programme: Lecturers' Perceptions and Adoption of AI-Powered Technologies for Instructional Practices Questionnaire (ITBEP-LPAAITIPQ) were used for data collection. The face validity of the instrument was ascertained by three expert judgments from the field of business education and measurement and evaluation. The reliability of the instrument calculated using Cronbach alpha formula yielded correlation coefficients of .81 and .84 for clusters B1 and B2 respectively with an overall reliability coefficient of .83 obtained. The researcher, with the help of five research assistants, administered copies of the questionnaire to the respondents. Mean, standard deviation and t-test were used for data analysis. Findings of the study revealed that that Business Education Lecturers ***had positive perception towards*** *the adoption of AI-powered technologies for instructional practices, Business Education lecturers* ***disagree that they adopt majority of AI-powered technology for*** *instructional practices. The study also found that ownership of university was a significant factor on respondents' adoption of* ***AI-powered technologies for*** *instructional practices. The research concluded that while Business Education lecturers in South-East Nigerian universities* ***hold positive perceptions*** *toward adoption of AI technologies, their* ***actual adoption for instructional practices remains low. It was recommended that*** *Federal and State government and university management in South-East, Nigeria should sponsor regular workshops and training for Business Education Lecturers to improve their competence and confidence in adopting AI technologies for instructional purposes.*

Keywords*: Innovative Teaching, Business Education, AI-powered Technologies, Perceptions*

Introduction

Universities are recognized as education establishment and research which award degrees in a range of fields. Universities are the third tiers of education which admits students after secondary education. They usually award undergraduate and graduate degrees, diplomas and certifications. Through teaching, innovation and community involvement, universities frequently play a critical role in societal development, perform research in a variety of subjects, and contribute to the creation and distribution of knowledge. According to the Federal Republic of Nigeria (FRN) (2014), Nigerian universities seek to improve Nigerian society by equipping youths with employability skills for gainful employment or self-employment. To achieve this objective, universities offer specialized programme of study such as Business Education programme.

Business Education as an aspect of vocational education equips its students or recipients with relevant skills needed in the world of work. Business Education is concerned with exposing its recipients to the external and internal foundations and functioning of the workplace (Ndubuisi et al., 2022). It is a work focused, skilled-based, result-oriented and technology-based educational programme (Ogwunte et

al., 2025). Students who studied Business Education programme are more prepared to handle the uncertainty in business world. It seeks to equip students with tools they need to enter and participate in economic development in an efficient manner. Oguejiofor (2020) stated that if Business Education is packaged and provided effectively, its value resides in its capacity to train students for certain jobs, technical relevance, international competitiveness and economic success. If Business Education is to produce positive results, it courses ought to be taught effectively by adopting innovative teaching practices.

Innovative teaching is the deliberate and proactive implementation of novel pedagogical strategies in the classroom to improve learning outcomes, student engagement and the development of 21st-century skills. It prioritizes student-centered active learning over conventional learning, teacher-centered methods such as lectures and rote memorization (Strobel Education, 2023). Innovative teaching places a strong emphasis on problem-solving, collaborative learning, active learning, technological adoption, student-centered focus, and personalization. It creates interactive learning experiences using digital technologies, virtual reality, and online platforms. It also encourages collaborative projects, pushes students to apply their knowledge to real-world situations, and accommodates different learning preferences. This method is essential to Business Education because it equips students with technical, soft, and practical skills they need to succeed in the modern workplace.

Innovative teaching in Business Education has necessitated the adoption of emerging technologies such as artificial intelligence (AI) by business educators for instructional practices AI is the simulation of human intelligence processes by machines, especially computer systems and therefore it is a set of computational techniques inspired by the way humans use their nervous system and their body to feel, learn and act (Harkut & Kasat, 2019). AI adoption is important in the field of human endeavours, but of recent it is more important in the field of education, especially in the universities. Adoption is the decision to make full use of an innovation as the best course of action available. It represents the point at which an individual or organization decides to embrace a new idea, product, or technology and integrate it into their routine practices (Rogers in Vagnani & Volpe 2017). The mandate of Business Education in Nigerian universities transcends the traditional function of preserving heritage, identity and education. It is rather required to keep pace with AI technological development through the creation of new methods of teaching and learning.

AI technologies in Business Education includes computer vision, prediction systems, data mining, intelligent learning systems, learning analytics, facial recognition systems, voice recognition systems, virtual laboratories, augmented reality and so on (Elhajjar et al., 2021; Surugiu et al., 2024). To improve students' learning experiences, Business Education courses are being taught using AI. Azar (2022) asserted that AI can evaluate student performance, customize resources to meet the needs of everyone give prompt feedback, and create scenarios from the actual world. Additionally, AI facilitates the analysis of massive sets of data, which helps students comprehend intricate business trends. In agreement, Chaudhary (2017) opined that AI also automates data entry and grading, freeing up teachers to engage in more interactive instructional activities. AI is being integrated into education instruction across the globe to enhance content mastery. AI-powered technologies such as audiopens, canvas magicwrite, curipod, eduaide, quizizz, Socratics, and Alexa are part of the adoption of AI-powered technologies in business education course delivery, (Rutherford et al., 2020). This improves instructional design, expedites procedures, and raises student outcomes. Wong et al. (2021) submitted that AI equips students with creativity, critical thinking, and innovation skills they will need in digital society and in future employment.

Despite the benefit of AI in education (Business Education inclusive), Nigeria faces challenges like power supply, insufficient skills, accessibility, funding, and professional development which affect its adoption by educators (Ogwunte et al., 2025). Similarly, Oluwafemi and Adetunmb (2022) noted that some lecturers are hesitant to adopt AI because they fear being replaced by computers and potentially losing their employment as a result. Valverde et al. (2017) observed with regret that lecturers in Nigerian universities place an excessive amount of emphasis on textbooks and standardized curriculum. In a similar vein, Chen and Lin (2023) (2021) believed that adopting AI for instructional practices presents major difficulties for lecturers.

Perception is a subjective psychological process in which sensory information is organized and interpreted to build a coherent worldview impacted by one's background, prior experiences, beliefs, values, and expectations (Yamin et al., 2022). Perception involves the cognitive process by which individuals interpret and make sense of sensory information received from the environment (Augustina, 2023). It plays a fundamental role on how individual perceived and interact with the world around them, influencing their thoughts, beliefs and behaviours. It involves both bottom-up processing, where sensory information is processed and integrated into high level cognitive structures. To this study, perception refers to how Business Educators see, receive and interact with AI-powered technologies to enhance their instructional practices in universities.

Consequently, ownership of universities could play a significant role in the adoption of AI-powered technologies for instructional practices by Business Education lecturers Federal universities and State universities are the two different types of university ownership. Federal universities are those owned by federal government and state universities owned and financed mainly by the state government. Federal and state universities may adopt AI-powered technologies differently in Business Education programme probably because of differences in funding, ICT infrastructure and resource availability, Business Education lecturers at federal universities may be more supportive of AI technology adoption than their counterparts at state-owned universities. The federal government frequently provides federal universities with more direct funding, which may result in higher investments in ICT infrastructure and training programmes compared to state owned universities. **In support,** Onwuagboke and Singh **(2016)** found that **lecturers in federal universities** had better access to ICT resources, including AI-supported tools, compared to those in state universities**.** It is against this backdrop that this study was carried out to determine Business Education lecturers' perceptions and adoption of AI-powered teaching technologies for instructional practices in South-East, Nigerian universities.

Statement of the Problem

The advancement of AI-powered technologies has introduced innovative teaching tools that have the potential to transform instructional practices in universities. AI-powered teaching technologies like intelligent tutoring systems, adaptive learning platforms, AI-assisted assessment tools, and content creation applications like ChatGPT and Grammarly offer flexible, data-driven, and personalized learning experiences that can significantly enhance teaching efficiency and active involvement of students. In Business Education, which prepares students for the technologically evolving labour market, the adoption of AI in instructional practices is no longer optional but necessary for relevance and competitiveness. Despite this global trend, there is growing concern that many Business Education Lecturers in Nigerian universities, particularly in the South-East region, are not fully adopting these AI technologies to enhance their instructional practices. Cursory observations and anecdotal reports suggest that while Business Education lecturers may be aware of or even positively disposed toward AI, their actual adoption of AI technologies remains limited or selective. The reasons for this gap may include lack of digital literacy, inadequate training, poor infrastructure, resistance to change, or institutional barriers such as limited access to AI technologies and policy constraints.

The problem of this study is that failure of Business Education lecturers to adopt AI-powered technologies for their instructional practices could lead to producing half-baked graduates who lack the necessary skills required for global competition. It could also mean that the objective of establishing Business Education programme in Nigerian universities especially South-East region is defeated and government funding of Business Education programme in universities in the region is waste. However, a research gap exists in understanding both the perceptions and behavioural tendencies of Business Education lecturers toward AI-powered technologies. Specifically, this study investigated

Research Questions

The following research questions guided the study;

1. What are the perceptions of Business Education lecturers in South-East Nigerian universities regarding the adoption of AI-powered technologies for instructional practices in South-East Nigerian universities?
2. What AI-powered technologies are adopted by Business Education lecturers for instructional practices in South-East Nigerian universities?

Research Hypotheses

The following null hypotheses were tested at 0.05 level of significance;

H_o1: Business Education lecturers do not significantly differ in their mean ratings on the adoption of AI-powered technologies for instructional practices in South-East Nigerian universities based on ownership of universities (federal/state).

Methods

This study adopted survey research design. The population of this study consisted of 128 Business Education lecturers in public universities in Southeast, Nigeria offering business education programme. In all, there are four Federal Universities with 93 Business Education lecturers and four State universities with 35 Business Education lecturers. (Source: Academic Planning Unit of these universities as at 16th July, 2025). There was no sampling since the population was manageable and accessible to the researcher. A self-developed questionnaire titled "Innovative Teaching in Business Education Programme: Lecturers' Perceptions and Adoption of AI-Powered Technologies for Instructional Practices Questionnaire (ITBEP-LPAAITIPQ). The instrument contained two sections: A and B. Section A is structured to elicit demographic information from the respondents such as ownership of university while section B contained 16 items in two clusters; B1 to B2 covering the two research questions. The instrument was structured on a four-point rating scale of: Strongly Agree (SA) – 4, Agree (A) - 3, Disagree (D) – 2 and Strongly Disagree (SD) – 1. The face validity of the instrument was determined by three expert's judgments, two experts were from Business Education and one expert from Measurement and Evaluation all from Nnamdi Azikiwe University, Awka, Anambra State.

The reliability of the instrument was established through pilot-testing, and data collected were analyzed using Cronbach alpha formula which yielded reliability coefficients of .81 and .84 for clusters B1 to B2 with an overall reliability coefficient of 0.83 obtained. The researcher, with the help of five research assistants, administered copies of the questionnaire to the respondents in their offices. The research assistants were adequately briefed on modalities of administration and retrieval of the questionnaire. On the spot method was adopted but Business Education lecturers who could not complete their questionnaire instantly were revisited on a later agreed date for retrieval. This method facilitated a high response rate as 121 out of 128 copies of the questionnaires distributed were correctly filled in and returned giving a 95% return rate. The mean and standard deviation were utilized to answer the research question and determine the homogeneity of mean perceptions of respondents. The decision rule was based on a benchmark of 2.50, which was considered agreed while anything less than 2.50 was considered disagreed. An independent t-test at 0.05 level of significance was employed to test the null hypotheses. A null hypothesis was rejected where the p-value is less than the significant level; otherwise, the null hypothesis was accepted.

Results

Table 1: *Respondents' Mean Perceptions and Standard Deviation on the Adoption of AI-powered Technologiesfor Instructional Practices*

S/N	Perceptions on Adoption of AI-powered Technologies for Instructional Practices	$\bar{X}$	SD	Remarks
1	I believe AI technology has the potential to improve students' learning outcomes in Business Education	3.56	.73	Agree
2	AI-based tools make instructional delivery more effective and engaging	3.52	.70	Agree

3	The integration of AI in teaching aligns with the current demands of 21st-century Business Education programme	3.68	.68	Agree
4	I am confident in my ability to use AI tools effectively for teaching purposes.	2.46	.81	Disagree
5	The use of AI technologies in teaching Business Education is essential for future workforce preparation	3.43	.76	Agree
6	AI-assisted platforms such as ChatGPT/AI tutors can enhance personalized learning experiences for students	3.70	.72	Agree
	Average Mean	**3.39**		**Agree**

Table 1 shows that out of the 6 AI-powered technologies listed for instructional practices, Business Education lecturers agree that they adopt items 1, 2, 3, 5 and 6 with mean scores of 3.56, 3.52, 3.68, 3.43 and 3.70 respectively. Business Education lecturers disagree that they adopt item 4 for instructional practices with mean score of 2.46. The **average mean score is 3.39,** which is **above the 2.50 benchmark**, indicating that on the whole, Business Education lecturers **agree** with the adoption of AI-powered technologies for instructional practices. This means a **positive perception** toward the relevance and usefulness of AI technologies in instructional practices in South-East Nigerian universities. Item by item analysis shows that Business Education lecturers rated five items agree with mean scores ranging from 3.43 to 3.70 while the remaining one item is rated disagree with mean score of 2.46. The standard deviation scores are within the same range indicating that the respondents have relatively similar opinion itemized AI-powered technologies for instructional practices.

Table 2: *Respondents' Mean Ratings and Standard Deviationon the Adoption of AI-powered Technologies for Instructional Practices*

S/N	Adoption of AI-powered Technologies	$\bar{X}$	SD	Remarks
7	I use AI-powered AI quiz generators to evaluate students' work	2.16	.80	Disagree
8	I incorporate ChatGPT/Grammarly in my instructional delivery	3.42	.76	Agree
9	I adopt AI-driven feedback systems to provide personalized feedback to students	1.68	.68	Disagree
10	I use Turnitin/Copyleaks AI to monitor students' academic integrity.	2.26	.74	Disagree
11	I employ Century Tech/Squirrel AI to personalize instruction for students	2.43	.76	Disagree
12	I use chatbots in my course delivery.	2.70	.82	Agree
13	I recommend Quillbot/Grammarly to enhance students' report writing skills	2.51	.75	Agree
14	I use AI-powered video or voice transcription tools such as Otter.ai to support lecture delivery	1.46	.70	Disagree
15	I integrate intelligent tutoring systems that provide real-time guidance to students.	2.01	.76	Disagree
16	I use AI- classroom management tools to organize my teaching activities	2.47	.81	Disagree
	Average Mean	**2.31**		**Disagree**

Table 2 indicates that the **average mean score of 2.31** is **below the benchmark of 2.50,** indicating that **Business Education lecturers generally do not adopt majority of AI-powered technologies for** instructional practices in South-East, Nigerian universities. Item by item analysis shows

that Business Education lecturers agree that they adopt AI-powered technologies listed on items 8, 12 and 13 with mean scores of 3.42, 2.70 and 2.51 respectively. The respondents disagree on the remaining seven items (items 7, 9, 10,11, 14, 15 and 16) with mean scores of 2.16, 1.68, 2.26, 2.43, 1.46, 2.01 and 2.47. The standard deviation scores are within the same range indicating that the respondents have relatively similar opinion itemized AI-powered technologies for instructional practices.

Table 3: *Independent t-test Analysis of Significance Difference in the Mean Ratings between Business Education lecturers on Adoption of AI-powered technologies for Instructional Practices based on ownership of university*

Group	N	$\bar{X}$	SD	df	t-value	P-value	Decision
Federal University	872	.65	.71	119	2.82	.01	Significant
State University	342	.30	.68				

Table 3 shows t-value of 2.82 with a degree of freedom of 119, and p-value of .01 which is less than .05 alpha level. Since the**p-value (.01) <.05, the null hypothesis is therefore rejected**. This means that Business Education lecturers significantly differ in their mean ratings on the adoption of AI-powered technologies for instructional practices in South-East Nigerian universities based on ownership of universities (federal/state).

Discussion

Findings of the study revealed that Business Education lecturers **generally agree** with the adoption of AI-powered technologies for instructional practices in South-East Nigerian universities. This means a **positive perception** toward the relevance and usefulness of AI technologies in instructional practices in South-East Nigerian universities. This finding could be due to increase in awareness among Business Education lecturers regarding the importance of AI technologies in enhancing teaching and learning. In agreement, Ogwunte et al. (2025) reported that Business Education lecturers had positive perception of AI in instructional delivery. Similarly, Luckin et al. (2016) found that majority of lecturers in Nigerian tertiary institutions recognize the importance of AI technologies in enhancing their professional practices. Caroll and Conboy (2020) opined that lecturer had positive view of AI adoption in improving students' learning outcomes and educational experiences. Ogwunte (2023) on the other hand deduced that AI-powered technologies enhance effective delivery of instructions in higher institutions. In contrast, Odey et al. (2025) found that Business Education lecturers had a negative perception towards the adoption of AI in instructional delivery. Asogwa (2024) attributed this negative perception to lack of awareness and understanding of AI, inadequate training and support, infrastructure and resource constraints, concerns about job displacement and bias, and limited access to AI-related resources

Finding of the study revealed that **Business Education lecturers disagree that they adopt majority of AI-powered technologies for** instructional practices in South-East Nigerian universities. This finding aligns with that of Unegbu et al. (2024) which found that the level of adoption of AI-enhanced teaching technologies was low. Paul-Mgbeafulike et al. (2025) reported that Business Education lecturers faced challenges in adopting AI-driven Augmented Reality in instructional delivery. In addition, Ohobu et al. (2025) disclosed that VR simulations of business environments were less frequently adopted by Business Education lecturers in teaching practices. Oluwafemi and Adetunmb (2022) earlier found that most Nigerian lecturers were hesitant to adopted AI technologies in instructional practices due to fear of being replaced by computers and potentially losing their employment as a result. Valverde et al. (2017) argued that lecturers find it challenging to incorporate AI into their teaching practice because they are not trained in technology and already have teaching responsibilities. Findings of the study also revealed that Business Education lecturers significantly differ in their mean ratings on the adoption of AI-powered technologies for instructional practices in South-East Nigerian universities based on ownership of universities (federal/state). This difference may be attributed to **better infrastructure, access to training and funding in federal universities compared to state universities.**

In support, Onwuagboke and Singh **(2016)** found that **lecturers in federal universities** had better access to ICT resources, including AI-supported tools, compared to those in state universities.

Conclusion

Based on the findings of the study, the researcher concludes that while Business Education lecturers in South-East Nigerian universities **hold positive perceptions** toward the adoption of AI-powered technologies, their **actual adoption for instructional practices remains low**, particularly for most AI technologies.

Recommendations

Based on the findings of the study, the following recommendations are made;

1. Administrators of university and government agencies in Nigeria should provide accessible AI-powered instructional tools, adequate funding, infrastructure, and clear policies to support the effective and ethical integration of AI technologies into Business Education programmes. This will enable business education lecturers to effectively adopt these tools for instructional practices.
2. Federal and State governments and university management in South-East, Nigeria should sponsor regular workshops and training for Business Education lecturers to improve their competence and confidence in adopting AI technologies for instructional purposes.

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