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GENERATIVE TECHNOLOGY AND PEDAGOGICAL VALUE OF BUSINESS EDUCATION LECTURERS AS CORRELATE OF THEIR PRODUCTIVITY IN PUBLIC UNIVERSITIES IN SOUTH EAST, NIGERIA

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Abstract
This study investigated generative technology and pedagogical values of business education lecturers as correlate of their productivity in public universities in South-East Nigeria. Two research questions and two null hypotheses guided the study. The correlational research design was adopted for the study. The population comprised 128 business education lecturers from public universities offering business education programme in the zone. The census sampling technique was adopted. Three structured questionnaires titled Generative Technology Questionnaire (GTQ), Pedagogical Values Questionnaire (PVQ), and Business Educators' Productivity Questionnaire (BEPQ) were used for data collection. The instruments contained 10, 10, and 15 items respectively. Face and content validity of the instruments were established by three experts, while Cronbach Alpha reliability coefficients of 0.84, 0.86, and 0.88 were obtained for GTQ, PVQ, and BEPQ respectively. Of the 128 copies of the questionnaires administered, 119 copies representing 93% were retrieved and used for data analysis. Pearson Product Moment Correlation (PPMC) was used to answer the research questions and test the null hypotheses at 0.05 level of significance using SPSS version 26. Findings revealed that there was a high positive and significant relationship between generative technology and the productivity of Business Education lecturers in public universities in South-East Nigeria. The findings also revealed a high positive and significant relationship between pedagogical values and the productivity of Business Education lecturers in the study area. The study concluded that generative technology and pedagogical values have high positive and significant relationships with the productivity of Business Education lecturers in public universities in South-East Nigeria. It was recommended, among others, that Business Education departments should formally integrate generative AI technologies into teaching and research activities, while Business Education development programmes should emphasize pedagogical value formation to enhance lecturers' productivity.

Keywords: Generative Technology, Pedagogical Values, Productivity, Business Education Lecturers, Public Universities.

Introduction

Universities globally are widely recognized as pivotal institutions for knowledge production, innovation, and societal transformation. They function not only as centers for academic learning but also as catalysts for technological advancement and sustainable economic development. In developing countries such as Nigeria, universities play an especially significant role in human capital development by producing skilled graduates who are expected to contribute meaningfully to national growth and global competitiveness. In agreement, the Federal Republic of Nigeria (FRN, 2013) stated that university education is in intended to develop intellectual capacity, instill values, and equip learners with skills for self-reliance and national development. These goals are achieved through structured academic programmes designed to foster creativity, critical thinking, and professional competence.

Among these programmes, business education occupies a strategic position. Business education is a skill-oriented discipline designed to equip learners with knowledge, attitudes, and competencies required for employment and self-employment in business-related fields. Ikeanyionwu and Nzegwu (2024) also defined business education as skill-based training that prepares individuals for productive engagement in paid or self-employment. Ikeanyionwu and Nzegwu emphasized that business education promotes entrepreneurial development by equipping students with competencies in financial management, marketing, accounting, and business law. At the university level, Ogunode, et-al (2022) further explained that business education aims to produce competent teachers, business professionals, and entrepreneurs capable of contributing to national economic development.

Closely linked to these expectations is the concept of productivity, which serves as a key indicator of institutional and individual effectiveness. Productivity generally refers to the efficient transformation of inputs into outputs within a defined period. Anyaehie, et-al (2025) described productivity as the rate at which individuals or organizations achieve predetermined goals. In educational contexts, productivity reflects lecturers' efficiency in delivering teaching, conducting research, engaging in curriculum development, and contributing to community service. In this study, business education lecturers' productivity refers to the effectiveness and efficiency with which lecturers perform teaching, research, mentoring, curriculum development, and community engagement tasks measured through student outcomes, instructional quality, and professional output.

However, achieving high productivity among lecturers could depend on several interacting factors, among which technological competence and value orientation have recently gained scholarly attention. In particular, the emergence of Artificial Intelligence (AI) and generative technologies has significantly reshaped teaching and learning processes in

higher education. AI refers to systems capable of performing tasks that typically require human intelligence such as reasoning, learning, and decision-making (McKinsey Global Institute, 2020). Similarly, Roppertz (2020) defined AI as systems that demonstrate behaviours commonly attributed to human intelligence. The objective of modern AI systems, particularly learning systems, is to empower machines, robots and software applications to autonomously process information and make decisions akin to human cognitive processes. Within this broad field, generative AI (GenAI) represents a more advanced subset capable of producing new content such as text, images, and code based on learned patterns from data.

Generative technology includes tools such as ChatGPT, Claude for Education, Microsoft 365 AI, and Google NotebookLM, which are increasingly being integrated into educational practice. These tools automate administrative tasks, support content creation, enhance feedback mechanisms, and improve instructional delivery efficiency (Slagg, 2023). Empirical studies by Ali et al. (2021) and Chiu (2024) confirmed that generative AI enhances personalized learning, improves content generation, and increases lecturers' instructional effectiveness. Similarly, Ismail et al. (2023) found that AI-supported systems improve assessment practices through automation and real-time feedback. Furthermore, Karakose et al. (2023) observed that AI tools strengthen knowledge construction and promote dynamic learning environments. Collectively, these studies suggest that generative technology has a strong potential to improve lecturers' productivity by reducing workload and enhancing instructional quality. Despite these benefits, the adoption of generative technology in Nigerian universities remains relatively low. Studies have shown that many lecturers lack adequate training, institutional support, and access to functional digital infrastructure required for effective AI integration (Ezeabii et al., 2020). Ukeh and Anih (2024) further reported low awareness of AI tools among lecturers. Consequently, Ogwu et al. (2023) linked poor lecturer productivity to inadequate use of modern technologies, suggesting that limited AI adoption may significantly constrain academic efficiency and innovation in Nigerian universities.

In addition to technological factors, value orientation has been identified as a crucial determinant of lecturers' behaviour and productivity. Value orientation refers to the system of beliefs, principles, and attitudes that guide individuals' decisions and professional actions (Schwartz, 2021; Rokeach, 2019). It reflects stable cognitive frameworks that shape behaviour, influence workplace conduct, and determine professional effectiveness (Hills, 2022; Kluckhohn & Strodtbeck, 2020). Within higher education, value orientation influences teaching approaches, assessment practices, and lecturers' commitment to academic responsibilities. A particularly important dimension is pedagogical value orientation, which refers to the instructional beliefs and principles that guide teaching practices. It encompasses learner-centeredness, ethical teaching, innovation, professionalism, and commitment to student development. Palahicky et al. (2017), strong pedagogical values

promote innovative teaching strategies, improved student outcomes, and enhanced lecturer productivity. Similarly, Bello and Yusuf (2021) found a significant positive relationship between pedagogical values and lecturers' job productivity, while Onwuka and Onwuachuachu (2022) reported a strong correlation between pedagogical values and job effectiveness in Nigerian universities. Chukwu and Nwankwo (2021) and Tunde-Olaitan and Adekunle (2023) also affirmed that value-based instructional approaches enhance staff performance and academic productivity.

However, empirical evidence also reveals concerning trends in pedagogical value orientation among lecturers in Nigeria. Njoku (2022) observed a decline in academic integrity and professional commitment, while Ajadi (2024) reported persistent reliance on teacher-centered methods that limit student engagement, creativity, and critical thinking. Furthermore, Asiimwe (2025) identified challenges such as inadequate professional development, weak assessment practices, and limited integration of practical learning approaches. These issues are particularly evident in business education, where lecturers often struggle to integrate entrepreneurial and workplace-relevant competencies into instruction (Atah & Alabi, 2025). The situation is further complicated by increasing workload demands placed on lecturers in Nigerian universities. Yahya (2025) noted that business education lecturers often combine teaching, administrative duties, and student supervision under large class conditions, thereby reducing efficiency and productivity. Similarly, Ogunode et al. (2022) reported that excessive workload, staffing shortages, and institutional inefficiencies significantly affect lecturers' output.

In South East Nigeria, these challenges are associated with declining productivity levels, which negatively impact graduate quality and employability (Umo & Okon, 2023). Consequently, the interaction between generative technology and pedagogical value orientation becomes critical in understanding lecturers' productivity. While generative AI has the capacity to enhance efficiency and reduce workload, its effectiveness depends largely on lecturers' values, attitudes, and willingness to adopt innovative practices. Yakubu, Hamza and Aliyu (2022) emphasized that incentives, institutional support, and professional development significantly influence productivity, while inadequate value systems and resistance to change may undermine technological benefits. Against this backdrop, this study posits that generative technology and pedagogical value orientation are key correlate of business education lecturers' productivity in public universities in South East Nigeria.

Statement of the Problem

Business Education is a vital component of university education that equips students with the knowledge, skills, attitudes, and entrepreneurial competencies required for gainful employment, self-reliance, and national development. The achievement of these objectives depends largely on the productivity of business education lecturers, who are responsible for

effective teaching, research, student supervision, curriculum implementation, and community service. Consequently, the productivity of lecturers remains a critical factor in determining the quality of graduates produced by universities. In recent years, the emergence of generative technologies such as ChatGPT, Gemini, Copilot, and other artificial intelligence-powered tools has transformed teaching, learning, research, and administrative practices in higher education. These technologies provide opportunities for lecturers to enhance instructional delivery, develop teaching materials, improve research output, automate routine tasks, and increase overall productivity. Similarly, pedagogical values such as professionalism, commitment, fairness, integrity, and learner-centeredness are essential qualities that influence lecturers' effectiveness and productivity in carrying out their academic responsibilities.

Despite these opportunities, concerns persist regarding the productivity of some business education lecturers in public universities in Nigeria, South-East region in particulars. Field observations by the researchers suggest the existence of challenges such as inadequate utilization of innovative technologies, low research output, ineffective instructional delivery, reduced student engagement, and increasing workload pressures. The researchers are concerned that some business education lecturers may not be effectively adopting generative technologies to improve their teaching and research activities. The researchers are also concerned that declining pedagogical values among some business education lecturers, reflected in poor commitment, weak professional ethics, and inadequate learner-centered practices, may adversely affect their productivity. If these challenges persist, the quality of business education graduates may be compromised, resulting in graduates who lack the technological competencies, entrepreneurial skills, and workplace readiness required in the contemporary labour market.

Although previous studies have examined artificial intelligence, educational technology, pedagogical practices, and lecturers' productivity, there is limited empirical evidence on the relationship between generative technology, pedagogical values, and the productivity of business education lecturers in public universities in South-East Nigeria. It is this gap in knowledge that necessitated this study to specifically examine the (1) relationship generative technology and the productivity of business education lecturers in public universities in South East, Nigeria, (2) relationship pedagogical value of business education lecturers and their productivity in public universities in South East, Nigeria.

Research Questions

The following research questions guided this study;

1. What is the relationship between generative technology adoption and the productivity of business education lecturers in public universities in South East, Nigeria?
2. What is the relationship between pedagogical value of business education lecturers and their productivity in public universities in South East, Nigeria?

Null Hypotheses

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

1. There is no significant relationship between generative technology and the productivity of business education lecturers in public universities in South East, Nigeria.
2. There is no significant relationship between pedagogical value of business education lecturers and their productivity in public universities in South East, Nigeria.

Methods

The correlational research design was used for this study. The study was conducted in South-East Nigeria. The study population consisted of 128 Business Education lecturers from public universities in South-East Nigeria offering Business Education programmes. The universities are Abia State University, Uturu with (9) Business Education lecturers, Alex Ekwueme Federal University, Ndufu-Alike (5), Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus (7), Ebonyi State University, Abakaliki (13), Enugu State University of Science and Technology (ESUT), Enugu (6), Nnamdi Azikiwe University, Awka (28), University of Nigeria, Nsukka (20), Alvan Ikoku Federal University of Education, Owerri (32), and Michael Okpara University of Agriculture, Umudike (8). The population distribution was obtained from the Heads of Department of the respective universities. The sample size for the study consisted of 128 Business Education lecturers in the public universities in South-East Nigeria. The researcher sampled the entire population since it was considered manageable and accessible. Therefore, the census method of sampling was employed for the study.

The instruments for data collection were three structured questionnaires titled "Generative Technology Questionnaire (GTQ), Pedagogical Values Questionnaire (PVQ), and Business Educators' Productivity Questionnaire (BEPQ)." The GTQ contained 10 items, the PVQ contained 10 items, while the BEPQ contained 15 items respectively. The instruments were structured on a 4-point rating scale of Strongly Agree (SA)-4, Agree (A)-3, Disagree (D)-2, and Strongly Disagree (SD)-1. The face and content validation of the instruments were ascertained using three experts, two from the Department of Vocational Education and one from Measurement & Evaluation. To establish the reliability of the instruments, a trial test was conducted. The application of Cronbach Alpha reliability yielded coefficient values of 0.84 for GTQ, 0.86 for PVQ, and 0.88 for BEPQ. The researchers, with the assistance of six research assistants who were lecturers in the public universities, administered copies of the instruments to the respondents. Out of the 128 copies administered, 119 representing 93% were retrieved and found usable. The 119 copies were used for data analysis. The Pearson Product Moment Correlation (PPMC) was used to answer the research questions and test the null hypotheses. For the

research questions, the decision rule was based on the guidelines provided by Price et al. (2017). In testing the null hypotheses, a null hypothesis was rejected if the p-value was less than 0.05 ($p < 0.05$). Conversely, if the p-value was greater than or equal to 0.05 ($p \geq 0.05$), the null hypothesis was not rejected. All analyses were conducted using the Statistical Package for Social Sciences (SPSS), version 26.

Result

Research Question 1: What is the relationship between Generative technology and the productivity of business education lecturers in public universities in South East, Nigeria?

Table 1

Pearson Product Moment Correlation between Generative Technology and Productivity of Business Education Lecturers

(N = 119)

Variable	x̄	SD	r	Remarks
Generative Technology	3.33	0.71		
			0.65**	High Positive Relationship
Productivity of Business Education Lecturers	3.30	0.70		

Table 1 reveals that a high positive relationship exists between generative technology and the productivity of business education lecturers in public universities in South East Nigeria ($r = 0.65$). This indicates that higher levels of generative technology use are associated with higher levels of lecturer productivity.

Research Question 2: What is the relationship between pedagogical value of business education lecturers and their productivity in public universities in South East, Nigeria?

Table 2

Pearson Product Moment Correlation between Pedagogical Value and Productivity of Business Education Lecturers

(N = 119)

Variable	x̄	SD	r	Remarks
Pedagogical Value	3.72	0.71		
			0.81**	Very High Positive Relationship
Productivity of Business Education Lecturers	3.63	0.69		

Table 2 indicates that a very high positive relationship exists between pedagogical value and the productivity of Business Education lecturers ($r = 0.81$). This indicates that higher pedagogical value scores are associated with high levels of lecturer productivity.

Hypothesis 1: There is no significant relationship between Generative technology and the productivity of business education lecturers in public universities in South East, Nigeria.

Table 3

Test of Significant Relationship between Generative Technology and Productivity of Business Education Lecturers
(N = 119)

Variables	N	r	p-value	Decision
Generative Technology & Lecturer Productivity	119	0.65	0.01	Significant

Table 3 indicates that there is a high positive relationship between generative technology and the productivity of business education lecturers (r = 0.65). The p-value is less than the 0.05 level of significance (p< 0.05). Therefore, the null hypothesis is rejected. This implies that generative technology is significantly related to the productivity of business education lecturers in public universities in South East Nigeria.

Hypothesis 2: There is no significant relationship between pedagogical value of business education lecturers and their productivity in public universities in South East, Nigeria.

Table 4

Test of Relationship between Pedagogical Values of Business Education Lecturers and their Productivity

Variables	N	r	p-value	Decision
Pedagogical Values & Lecturer Productivity	119	0.81	0.01	Significant

Table 4 indicates that there is a very high positive relationship between pedagogical values of business education lecturers and the productivity ($r = 0.81$). The p-value is less than the 0.05 level of significance ($p< 0.05$). Therefore, the null hypothesis is rejected. This means that pedagogical values of business education lecturers are significantly related to their productivity in public universities in South East Nigeria.

Discussion of Findings

Findings of the study revealed that there was a high positive relationship between generative technology and the productivity of business education lecturers in public universities in South East Nigeria. The finding of this study aligns strongly with existing literatures on Generative Artificial Intelligence (GenAI) in education. Ali et al. (2021) reported that GenAI enhanced personalized learning, content generation and real-time feedback systems, thereby improving the productivity of lecturers. Chiu (2024) noted that the capabilities of generative technology directly contribute to lecturers' productivity by reducing manual workload and increasing efficiency in instructional delivery. Similarly, Slagg (2023) observed that Generative AI tools support lecturers productivity. The findings of this study also revealed that there was a significant relationship between generative technology and the productivity of business education lecturers in public universities in South-East, Nigeria. This finding concur with that of Ismail et al. (2023) which revealed that generative AI improves lecturers' assessment practices by automating grading and offering real-time feedback. In addition, Karakose

et al. (2023) observed that AI-powered generative tools contribute to lecturers' improved performance and effectiveness. Similarly, Gouia-Zarrad and Gunn (2024) and Korkmaz Guler et al. (2024) showed that AI tools enhance engagement and problem-solving. Beyond university education, Samara and Kotsis (2024) and Su (2024) reported improvements in collaboration, creativity and self-directed learning by integrating generative AI technology.

Findings of this study revealed that there was a high positive relationship between pedagogical values of business education lecturers and their productivity in public universities in South East Nigeria. It also revealed that the relation was significant. This finding is consistent with previous empirical evidence by Bello and Yusuf (2021) which revealed that pedagogical values had a significant positive relationship with lecturers' job productivity. Similarly, Onwuka and Onwuachu (2022) reported that lecturers' pedagogical values were significantly correlated with job effectiveness in Nigerian public universities. Furthermore, Chukwu and Nwankwo (2021) as well as Tunde-Olaitan and Adekunle (2023) also showed that pedagogical value instruction significantly improves staff performance, reinforcing the argument that value-based teaching orientations enhance productivity. In addition, Sulaiman (2022) observed that lecturers' pedagogical beliefs significantly influenced their willingness to adopt and effectively utilize technologies to enhance their productivity.

Conclusion

The study concluded that generative technology and pedagogical values have high positive and significant relationships with the productivity of Business Education lecturers in public universities in South-East Nigeria**.** Therefore, increased adoption of generative technology and adherence to sound pedagogical values can enhance business educators lecturers' productivity.

Recommendations

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

1. Business Education departments in public universities in South-East Nigeria should formally integrate generative AI technologies into teaching and research workflows, as generative technology strongly correlates with the productivity of business education lecturers.University management in public tertiary institutions in South East, Nigeria should organize regular training, workshops, and capacity-building programmes on the effective use of generative AI technology to enhance business education lecturers' digital skills and productivity in teaching, research, and academic service delivery.
2. Business Education development programmes in public universities in South-East Nigeria should emphasize pedagogical value formation, including learner-centered teaching, fairness, instructional innovation,

and reflective practice, because pedagogical values of Business Education lecturers showed a strong relationship with their productivity. University administrators in public universities in South East, Nigeria should establish continuous professional development and mentoring programmes that promote sound pedagogical practices and ethical teaching standards among business education lecturers to improve their overall productivity.

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