



Deployment of Artificial Intelligence for Implementation of Public administration Programme in Nigerian Universities

Sani Kasimu¹, Ibrahim Idris², Shafiu Yahya³

¹ Department of Public Administration, Faculty of Management, Federal University, Wukari, Nigeria.

^{2,3} National Institute for Legislative and Democratic Studies, Abuja

Corresponding Author: Sani Kasimu, sanikasimu@fuwukari.edu.ng

ARTICLE INFO

Keywords: Academic Programme, Artificial Intelligence, Public Administration, Universities

Received : 8, January

Revised : 14, February

Accepted: 26, Maret

©2024 Sharma, Silwal, Giri, Pokharel, Dhal, Pandey, Shresta (s): This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This paper assessed the effectiveness of artificial intelligence in the implementation of public administration programme in the universities. Secondary data were used in the paper. The data were collected from print and online publications. The paper established that deployment of artificial in the universities has aided effective implementation of public administration programme in the universities. Specifically, the study maintained that artificial intelligence has aided effective implementation of teaching, research, community services and academic services in the universities in Nigeria. Based on this, the paper recommends that universities administrators should sustain the full deployment of artificial intelligences in the universities administration and in the implementation of academic programme. Universities administrators should ensure more investment in the infrastructure facilities of artificial intelligence in all the universities across the country.

INTRODUCTION

Public administration is one of the academic programme offered in the Nigerian universities. The public administration programme is designed to produce manpower for public and private institutions in the country. To produce personnel that is competent to manage complex relations in the ever changing bureaucracy and growing business environment. The Philosophy and Mission Statement underlying the programmes is to produce graduates imbued with the ability to understand and make contribution to the development of Nigeria and the global Community. This is to be achieved by equipping them with a broad foundation in the general field of public administration as well as specialized knowledge in a particular discipline there in; prepare them to meet the human resources needs of a developing society and develop in them entrepreneurial knowledge, a sense of public responsibility and a spirit of self reliance (NUC, 2007).

The major objectives of Degree programmes in Administration, Management and Management Technology are to: provide basic knowledge and skills needed for the understanding and analysis of problems related to the management and administration of industrial, commercial, public and other human organizations; equip students with knowledge and skills of decision making; especially the analytical skills needed for recognising, defining and solving problems; and to develop in students, leadership and interpersonal relations skills in management and to develop in students entrepreneurial skills and competencies to adequately prepare them to be innovative in job creation (NUC, 2007). Specifically, the objectives of public administration programme is to train public administrators.

The realization of the objectives of public administration programme in the universities is hinge on the availabilities of technological resources such as digital and artificial intelligence. Artificial intelligence has been described as one of the educational resources supporting transformation of education in all level of education by Akkaya-Kalayci & Yildirim (2020) and Ogunode & Ejike (2023). Alagbe (2023) viewed AI as the ability of a computer or machine to mimic the capabilities of the human mind - learning from examples and experience, recognizing objects, understanding and responding to language, making decisions, solving problems - and combining these and other capabilities to perform functions a human might perform, such as greeting a hotel guest or driving a car. Artificial intelligence (AI), according to Copeland (2023) is the ability of a digital computer or computer controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. Ogunode & Ukozor (2023) defined AI as programs designed with human-like intelligence and structured in the forms of computers, robots, or other machines to aid in the provision of any kind of

service or tasks to improve the social economic and political development of the society. Artificial Intelligence is an application or program constructed to carry out tasks with human-like intelligence. They also viewed Artificial Intelligence as collections systems, packages and applications designed into digital computers or computer-controlled robots to carry out assignments and tasks with human-like intelligence. Frankenfield (2023) defined Artificial intelligence (AI) as simulation of human intelligence by software-coded heuristics. Artificial Intelligence is a branch of science producing and studying the machines aimed at the stimulation of human intelligence processes.

Artificial intelligence globally have been acknowledged as a technology resources that have help in the transformation of the educational system. Artificial intelligence is been deployed in the universities to assist in the implementation and teaching and learning. It is important to examine the effectiveness of artificial intelligence in the implementation of public administration programme in the Nigerian universities. Based on this, this study is assess the effectiveness of artificial intelligence in the implementation of public administration programme.

PURPOSE OF THE STUDY

To assess the effectiveness of artificial intelligence in the implementation of public administration programme. The specific objectives includes;

1. To find out the effect of artificial intelligence in the implementation of teaching programme of public administration in the universities;
2. To find out the effect of artificial intelligence in the implementation of research programme of public administration in the universities
3. To find out the effect of artificial intelligence in the implementation of community service programme of public administration in the universities
4. To find out the effect of artificial intelligence on the implementation of academic service for the programme of public administration in the universities

RESEARCH QUESTIONS

The following request questions were formulated to guide the study;

1. What is the effect of artificial intelligence in the implementation of teaching programme of public administration in the universities?;
2. What is the effect of artificial intelligence in the implementation of research programme of public administration in the universities?
3. What is the effect of artificial intelligence in the implementation of community service programme of public administration in the universities?
4. What is the effect of artificial intelligence on the implementation of academic service for the programme of public administration in the Universities.

DATA ANALYSIS

Secondary data on artificial intelligence deployment in the universities were collected from different sources and were presented below and reviewed based on the sub-topics.

Effect of artificial intelligence in the implementation of teaching programme of public administration in the universities

Teaching programme is one of the cardinal programme of the universities. It is use to implement academic programme such as public administration. Teaching programme deals with the practical implementation of academic curriculum in the tertiary institutions. Academic staff are the instrument for the implementation of teaching programme. Artificial intelligence is one of the tools available for the implementation of teaching programme in the universities. Artificial intelligence has aided implementation of public administration programme in the universities. Studies by Ogunode, Agbade, & Bassey (2023) affirmed that artificial intelligence aid effective implementation of teaching programme in the higher institutions. Westagilelabs (2022) and Igbokwe, Chan, & Tsi (2023) maintained that deployment of artificial intelligence in the tertiary institutions has helped academic staff to lesson presentation, classroom management, grading of students examinations and preparation of lecture note. Xiaolin Xia & Li Xiaojun (2022); Ogunode Edinoh, & Chinedu, (2023) and Bordia (2023) attested to the fact that artificial intelligence is very impactful in the universities system because it has assisted in the implementation of academic programme (public administration) in the tertiary institutions. From the above it can be infer that artificial intelligence is very effective in the implementation of public administration programme in the universities. Ogunode and Gregory (2023c) opined that AI Aid effective school management, lesson presentation, improve learning engagement, assist in conduct of examination, aid online teaching and learning, aid effective classroom management, aid fast marking and result preparation and aid school security. On enhanced personalized learning of public administration students, Borbajo, Malbas, & Dacanay (2023) observed that AI integration facilitated personalized learning experiences by tailoring instruction to individual student abilities and preferences. Intelligent algorithms analyzed student data and provided adaptive feedback, suggesting targeted learning materials and activities. This personalized approach allowed students to learn at their own pace and focus on areas where they needed additional support. In lecture hall management by lecturers, Borbajo, et al (2023) and Singh, Nahar & Kumar (2021) maintained that the integration of AI technologies in the classroom was found to enhance student engagement and motivation. AI-based educational tools, such as adaptive learning platforms and intelligent tutoring systems, provide personalized and interactive learning experiences. These technologies adapt to individual student needs, pacing, and learning styles, fostering greater student engagement and intrinsic motivation. Students showed increased interest and active participation in their learning process, leading to improved learning outcomes.

Effect of artificial intelligence in the implementation of research programme of public administration in the universities

Research programme is one of the programme in the university system. Research programme is integrated into all academic programme in the universities such as public administration. Researches in public administration is both conducted by academic staff, researchers and students of public administration in both first degree, master and PhD level. Research in public administration programme is used to assess the quality of public administration as an academic programme. Research is very useful for academic staff and students. For the academic staff, it is used for promotion and for the students of public administration is use for graduation (Ogunode, & Ade (2023).. Artificial intelligence is aiding the implementation of research in public administration in the universities. Artificial intelligence can be used to write projects, thesis and dissertation for public administration students. Academic staff in the department of publication are using artificial intelligence to guide students to data analysis and data computation. Plitnichenko (2020) and Ogunode, Okolie, & Chinedu (2023) in Khedkar (2023) opined that researchers can use AI tools for writing a research grant, a book, or even academic journal articles. Some AI-powered tools can help researchers to edit their articles and use grammatically correct English. Analyzing data from the experiments conducted is an important aspect of research. AI-powered data analysis tools can help researchers analyze data more efficiently and make the process free of any bias. Researchers can save hundreds of hours by using AI tools that can read complex papers and summarize them. Researchers can also make use of AI tools for citing literature and keeping their sources organized. AI-powered research tools for reading, annotating, and note-taking can make the process of acquiring knowledge considerably more efficient. Such tools can provide the user excerpts from the literature source, with the most relevant information highlighted, and help one decide whether an article is worth reading. This can help the user quickly locate relevant information in research articles, determine which paragraphs to read in-depth and compile notes on the subject. To use such an AI-powered tool most effectively for research, the users should critically assess the output without accepting it as „the truth“ and read the original text instead of simply relying on AI-generated summaries. To use AI tools effectively for creating experimental design models, researchers must design models that take a wide range of variables and parameters into account. By inputting specific criteria into such models, researchers can generate optimal designs that maximize their study effectiveness.

Effect of artificial intelligence in the implementation of community service programme of public administration in the universities

Community service is the third programme of the universities and community service programme is integrated into the academic programme and activities of academic staff of public administration in the universities (Ogunode, Iyabode, & Olatunde-Aiyedun, (2022).. Academic staff in the department of public administration are expected to carry out community service programme. Ogunode & Ukozor (2023); Peters & Besley (2020) and Zarrouqi, Riyad and Falta,

Amira (2020) asserted that AI helped lecturers to implement community services. Good (2023) acknowledged that AI technology has numerous beneficial applications for humanity, such as crime prevention, identification, and case-solving. However, he also noted that the potential for misuse of this technology is a cause for concern, leading to ethical grey areas. Werner stressed the importance of responsible use of AI technology, as it can impact the optimization of outcomes, be it for good, bad, or neutral purposes. Ultimately, it is how we choose to use this technology that will determine its impact on society. AI has the potential to be viewed from various perspectives, ranging from enhancing affordable healthcare, and education, and promoting gender equity, to developing high-tech solutions such as autonomous driving in smart cities. The possibilities are endless, and we can channel our efforts towards tackling global challenges. AI can significantly improve the efficiency and accuracy of processes and decision-making, leading to enhanced quality of life and sustainable development. The United Nations Sustainable Development Goals (SDGs) serve as a driving force towards achieving a more sustainable future for all by 2030. Consisting of 17 Goals and 167 targets, the SDGs provide a blueprint for a better world that was agreed upon by 193 countries. The SDGs are envisioned to act as a compass that guides us towards a future with a higher quality of life and sustainable development on Earth. The role of AI in achieving the SDGs was explored by the scientific journal Nature three years ago and it was found that AI has the potential to positively impact 135 targets across all the goals, while also inhibiting 59 targets. Despite this, the positive use cases of AI in advancing the SDGs outweigh the negative. With its ability to analyze vast amounts of data, identify patterns, and provide accurate predictions, AI can play a vital role in helping to achieve the SDGs. AI can help improve access to education, healthcare, and clean water, and can also aid in the fight against climate change, poverty, and hunger. However, it is crucial to ensure that AI is developed and used ethically and responsibly, to avoid any unintended negative consequences. By harnessing the power of AI, we can accelerate our progress towards a sustainable future for all (AI for Good, 2023).

Effect of artificial intelligence in the implementation of academic service

The implementation of public administration programme require a lot of academic service. These service that aid implementation of the programme can be administration or management. Every academic programme implementation in the universities needs administration. Artificial intelligence is one of the academic resources needed for the effective implementation of academic services in the universities. Anisova, (2023) AI can be employed in tertiary institutions to improve data management in the system. In education, the concept of Big Data refers to large volumes of structured and unstructured data generated within the educational ecosystem, including student information, academic records, assessments, social interactions, and more. Big Data in education encompasses the collection, analysis, and interpretation of vast amounts of data to derive meaningful insights and patterns that inform educational practices and policies. It involves leveraging technology and advanced analytic techniques to make

sense of the diverse data points generated across various educational systems and platforms. Big Data in education is characterized by its immense volume, variety, velocity, and veracity. It encompasses diverse types of structured and unstructured data from various sources, including learning management systems and online platforms. The velocity of data generation requires real-time processing for timely interventions and personalized support. Ensuring data veracity is crucial to maintaining accuracy and integrity when working with educational data. With the increasing digitization of educational processes, enormous amounts of data are generated, including student performance metrics, learning activities, assessments, and more.

DISCUSSION OF FINDINGS

The result obtained from the data analyzed indicated that artificial intelligence is very effective in the implementation of public administration programme of teaching, research, community services and academic services. This result is in line with the finding of Ogunode, Idoko & ThankGod (2024); Ogunode & Olowonefa (2023); AFSA. (2022); Singh,& Singh, (2021) and Smith, (2021) AI that discovered that artificial intelligence has aided implementation of academic programme, students programme and research programme of tertiary institutions in Nigeria.

CONCLUSION AND RECOMMENDATIONS

This paper assessed the effectiveness of artificial intelligence in the implementation of public administration programme in the universities. The paper established that deployment of artificial in the universities has aided effective implementation of public administration programme in the universities. Specifically, the study maintained that artificial intelligence has aided effective implementation of teaching, research, community services and academic services in the universities in Nigeria.

Based on this, the paper recommends that universities administrators should sustain the full deployment of artificial intelligences in the universities administration and in the implementation of academic programme. Universities administrators should ensure more investment in the infrastructure facilities of artificial intelligence in all the universities across the country.

References

AFSA. (2022). Artificial intelligence and education. Retrieved June 22, 2023 from <https://www.theschoolleader.org/news/artificial-intelligence-and-education>

AI for Good. (2023). How using AI can benefit society? Retrieved June 22, 2023, from <https://aiforgood.itu.int/how-using-ai-can-benefitsociety/#:~:text=AI%20can%20help%20improve%20access,avoid%20any%20unintended%20negative%20consequences.>

Akkaya-Kalayci, T., & Yildirim, S. (2020). Ethics of artificial intelligence in education: A literature review. *Journal of Educational Technology and Society*, 23(3), 84-99.

Alagbe, J., Awodele, O., & Ayorinde, I. (2021). Is Nigeria ready for artificial intelligence in schools? Retrieved June 22, 2023, from <https://punchng.com/is-nigeria-ready-for-artificial-intelligence-in-schools/>

Alemu, S. K. (2018). The meaning, idea and history of university/higher education in Africa: A brief literature review. *Forum for International Research in Education*, 4(3), 210-227.

Anisova, D. (2023). Leveraging AI in education: exploring big data and related applications. Retrieved June 22, 2023, from <https://svitla.com/blog/leveraging-ai-in-education-exploring-big-data-and-related-applications>

Assie-Lumumba, N. (2005). *Higher education in Africa: crises, reforms and transformation*. Senegal: Council for the Development of Social Science Research in Africa (CODSERIA).

Borbajo, N. M., Malbas, M. H., & Dacanay, L. R. (2023). Reforming education: the global impact of integrating artificial intelligence in the classroom environment. *American Journal of Language, Literacy and Learning in STEM Education*, 1 (05), 16-27.

Bordia, D. (2023). How is AI used in education and academics? Retrieved June 22, 2023 from <https://blog.teachmint.com/how-is-ai-used-in-education-academics>

Copeland, B.J (2022). Artificial Intelligence. <https://www.britannica.com/technology/artificialintelligence>

Chan, C. K. Y., & Tsi, L. H. (2023). *The AI revolution in education: Will AI replace or assist teachers in higher education?* arXiv preprint arXiv:2305.01185.

Frankenfield, J, (2023). Artificial Intelligence: What It Is and How It Is Used <https://www.investopedia.com/terms/a/artificial-intelligence-ai.asp>

Igbokwe, I. C. (2023). Application of artificial intelligence (AI) in educational management. *International Journal of Scientific and Research Publications*, 13(3).300-307

Khedkar, S. (2023). *Using AI-powered tools effectively for academic research*. Retrieved June 22, 2023, from <https://www.editage.com/insights/using-ai-powered-tools-effectively-for-academic>

research#:~:text=Researchers%20can%20use%20AI%20tools,an%20important%20aspect t%20of%20research

Muñoz,

Ogunode, N. J., & Ade, T. I. (2023). Research programme in public universities in Nigeria. *Best Journal of Innovation in Science, Research and Development*, 2(3), 1-13.

Ogunode, N. J., Agbade, O. P., & Bassey, U. O. (2023). Barriers to Effective Usage of Artificial Intelligence in Tertiary Institution in North-Central, Nigeria. *Web of Semantics: Journal of Interdisciplinary Science*, 1(1), 38-43.

<http://web.semanticjournals.org/index.php/wos/article/view/13>

Ogunode, N. J., Gregory, D. M. (2023c). Artificial Intelligence (AI) in Educational Administration. *International Journal on Orange Technologies*, 5(10), 7-16.

<https://journals.researchparks.org/index.php/IJOT/article/view/483>

Ogunode, N. J., Okolie, K. E., & Chinedu, R. (2023). Artificial intelligence and tertiary education management. *Electronic Research Journal of Social Sciences and Humanities*, 5(4), 18-31.

Ogunode, N., J. & Ejike, C., N. (2023). Artificial Intelligence and Curriculum Implementation of Post-Basic Education and Career Development (PBECD) in Nigeria. *Journal of Innova,on in Educa,on and Social Research*, 1 (4),50-56

Ogunode, N. J., & Ukozor, C. U. (2023). Curriculum revolution in higher education: the mighty role of artificial intelligence. Retrieved June 22, 2023, from

<https://ijins.umsida.ac.id/index.php/ijins/article/view/971/1183>

Ogunode, N., J. Idoko G. & ThankGod , P. (2024). Artificial Intelligence and Implementation of Educational Administration and Planning Programme in Nigerian Tertiary Institutions. *International Journal of Academic Integrity and Curriculum Development* ,1 (1), 41-47

Ogunode N., J. & Olowonefa J., A. (2023). AI Education in Nigerian Schools. *International Journal of Human Computing Studies*, 5(10),47-55

Ogunode, N. J., Iyabode, A. E., & Olatunde-Aiyedun, T. G. (2022). Community service programme of Nigerian public tertiary institutions: problems and the way forward. *Spanish Journal of Innovation and Integrity*, 5, 1-9.

Peters, M. A., & Besley, T. (2020). AI, ethics and education: The governance of AI and the place of ethics in an age of intelligent machines. *Education Sciences*, 10(11), 313.

Plitnichenko, L (2020). 5 Main roles of artificial intelligence in education.
<https://elearningindustry.com/5-main-roles-artificial-intelligence-in-education>

Singh, S., & Jain, P. (2022). Applications of Artificial Intelligence for the development of sustainable agriculture. In: Kumar, P., Tomar, R. S., Bhat, J. A., Dobriyal, M., Rani, M. (eds) *Agro- biodiversity and Agri-ecosystem Management*. Springer.
https://doi.org/10.1007/978-981-19-0928-3_16

Singh, P., Nahar, A., & Kumar, S. (2021). Personalized learning with artificial intelligence: A systematic review of recent research. *Computers & Education*, 157, 104011.

Singh, V., & Singh, A. (2021). Role of artificial intelligence in educational management. *Journal of Education and Practice*, 12(12), 78-85.

Smith, J. (2021). Applications of AI in Educational Management. *International Journal of Educational Technology in Higher Education*, 18(1), 1-17. <https://doi.org/10.1186/s41239-021-0027>

Westagilelabs (2022).How Artificial Intelligence (AI) is transforming education: 8 cutting-edge applications.
<https://www.westagilelabs.com/blog/8-applications-of-artificial-intelligence-in-education/>

Xiaolin Xia & Li Xiaojun (2022). Artificial Intelligence for Higher Education Development and Teaching Skills. *Wireless Communications and Mobile Computing*, 1-10

Zarrouqi, Riyad and Falta, Amira (2020), The Role of Artificial Intelligence in Improving the Quality of Higher Education, *Arab Journal of Specific Education*, Volume 4, Issue 12, pp. 1-11.