

ARTIFICIAL INTELLIGENCE AND EFFECTIVE SCHOOL MANAGEMENT IN NIGERIA

By

Dr Ogbuoka Oby Modest

Department of Education Management, Faculty of Education

Coalcity University, Enugu

obymessages@gmail.com || 08038806518

Dr Florence Nchelem Cyrus

Department of Office and Information Management

Faculty of Administration and Management Sciences

floxysmart123@gmail.com || 08032357953

Okere Rowland Chinedum

Department of Computer Science, Federal Polytechnic Nekede

chiagbanwejune12@gmail.com || 09065254569

Emmanuel Chika Obizue PhD, FMIMPS, FIAPS

Department of Banking and Finance, Faculty of Management Sciences,

Imo State University Owerri, Imo state

dremmanuelobizue@gmail.com || +2348068099918

ORCID: 0009-0002-9119-1668

Abstract

Artificial intelligence is one of the trending tool that have profound impact on the effectiveness of school management in Nigerian education sector. This study is a descriptive survey research design that examined the application of Artificial Intelligence in the management of tertiary institutions in Nigeria. This study was carried out in six selected universities in the six geographical zones of Nigeria. Two research objectives, two research questions and a single hypothesis were respectively formulated to guide this study. A four-point rating scale titled "Artificial Intelligence and School Management in Nigeria" (AISMN) was structured for the

collection of necessary data required for this study. The questionnaire was validated by expert judgement of three academic authorities; each from the department of computer science, educational administration and educational measurement and evaluation respectively. The reliability index was 0.84 using the Person Product Correlation coefficient formula (r). The study adopted the mean and standard deviation in answering the research questions while the single hypothesis was tested by the z-test statistical tool at 0.05 level of significance. The findings revealed that the adoption of AI in school management will result to effective curriculum development, improved management efficiency, data-driven decision making, resource optimization, enhanced faculty productivity, enhanced security and safety, streamlined communication and optimized administrative processes in tertiary institutions in Nigeria. The study therefore came to the conclusion that is very important to begin to use of Artificial Intelligence (AI) in Nigerian tertiary institution since it has the potential to make school management processes efficient. The study recommended that the leadership of the tertiary institutions should prioritise the application of artificial intelligence in their operation through strategic planning, infrastructure development, and capacity building to ensure effective AI adoption and mitigate its negative consequences and also that the government should sufficiently fund the adoption and application of artificial intelligence in formal education activities in Nigeria and also ensure continuous training of staff so as to maximize the benefits therefrom.

Keywords: Artificial Intelligence, School Management, Education, Tertiary

Introduction

School management is the whole process of overseeing the affairs and operations of the school system with a view of the set goals of the institution and ensuring they are realized by the best application of available resources over a period of time. Generally, managers of educational institutions deal on the systematic organization, arrangement, integration, evaluation and co-ordination of both materials and human resources in effective and efficient ways to realize the general educational objectives. Obizue & Obizue (2021) averred that school management is the function of the leadership of an institution that involves the determination of the corporate policy, planning, organizing, directing, coordinating,

controlling and evaluating performance against the stated objectives of the institution with the targeted purpose of goal attainment. Ogbonnaya (2003) and Mohammed, Ogunode, & Yahaya (2021) defined school management as the utilization of institutional resources to actualize the institutional objectives. Generally, management or administration is the application of organization's human and material resources to realize the organizational goals within a set time. Administration in its totality is a process which entails the utilization of human, financial and material resources in maximizing the realization of goals and objectives. In the same vein, Nwiyi (2018) viewed educational administration is concerned with integrating the appropriate

human and material resources that are made available and made effective for achieving the purposes of a program of an educational institution.

Effective school management ensures that the various aspects of the educational institutions are implemented as planned and one major expectation is to ensure that all teaching and non-teaching staff are well supervised to do their works effectively. In generality, Ogunode & Gregory (2025) posited that school administration covers the following; school planning, organizing, controlling, coordinating and evaluating performance, decision making, curriculum development and planning, school plant management, students activities, teachers' programme, human capacity development, school-community relationship, academic calendar planning, extra-curriculum programme, school discipline programme, school sport, school examination and school security. They further posited that these should be done in effective ways using administrative structures to implement school programme and realize the school objectives whereby posts are created and assigned for the optimal performance of the school.

The education sector in Nigeria has been challenged by various factors that have limited its effectiveness and relevance in the 21st century thereby making it to be at a crossroad. Some of these challenges are operational inefficiency, curriculum defects, inadequate infrastructure, insufficient funding, corruption, poor resource allocation, shortage of qualified and experienced staff,

examination malpractices and there is this public outcry for quality education. The successive administrations of this country have made frantic efforts and huge investment to standardize the education system towards achieving the set goal but there is still much to be done. Amidst this situation, there lies an obvious opportunity that brings the much desired transformation of the formal education in Nigeria from its present state to a better stage and this can be driven by the integration of Artificial Intelligence-powered solution tools into the sector.

Artificial intelligence has the potentials to bring every expected change in the Nigeria's formal education and revolutionise it by helping the sector to conquer all traditional limitations and barriers with the adaptive, efficient and inclusive school management experience that AI provides.

The advent of artificial Intelligence is an emerging and trending digital technology that has brought about transformation and revolution in various sector of the global economy and the management of the Nigerian education sector cannot be exempted. According to Obiakor and Emenike (2025), in this era of technological advancement, the integration of AI into educational frameworks has become a pivotal strategy in transforming teaching and learning processes leading to overall advancement in the school management strides. By adopting AI in the Nigerian education sector, there will be general efficiency in the sector given the evidences of data-driven decision making in curriculum

development, institutional administration, personalized learning, innovative and competitive pedagogies, automated grading with accuracy and other visible change outcomes.

Artificial intelligence is a prevailing tool for driving change management in Nigeria's formal education sector with the goal of transitioning staff and school operations from a current state to a desired future state. The integration of AI in Nigeria formal education system demands effective strategies to drive school management which are capable of addressing concerns around job placement, equitable access thus providing institutions' personnel with opportunities to engage in necessary trainings and skill-support schemes to enable them to effectively integrate and apply the AI-powered tools.

School management is a systematic approach to transitioning individuals, teams, systems and organisations from their current state to a desired future state. It is a strategic practice of identifying, planning and implementing different areas of changes and taking appropriate actions to sustain them towards the achievement of general and/or specific goals of an organization. Obizue and Obizue (2018) stated that effective school management strategies help systems to navigate complex transitions and achieve desired organizational restructuring goals and one way to appropriate this, is by providing transparent and timely information to enable employees engage in the change process with the leadership demonstrating committed visible support. Despite the benefits of effective school management there are still

numerous challenges facing formal education in Nigeria. The major challenges to school management in Nigerian formal education system lie on the fact that people see change as a hard endeavor and always seek to resist it especially when it lacks effective communication, funding and other resources like infrastructure and expertise.

Recently, the Nigerian tertiary education sector has experienced visible growth given the high rate of students' intake into the various fields of study with its attending challenges of overcrowding, poor infrastructures, insufficient number of academic and non-academic staff and unavailability of other resources coupled with inability and inconveniences of giving personal attention to the teeming school population. By this situation, the sector is likely to benefit from the revolutionary and transformative potentials of artificial intelligence in change management in the overall administrative processes, curriculum development and implementation. In the words of Ibrahim (2019), the adoption of AI in tertiary institutions in Nigeria are facing numerous challenges including inadequate infrastructure, limited resources, and poor funding and these challenges have to some extent, hindered the ability of the education sector to provide high-quality education owing to level of inefficiency in the curriculum development process and poor administrative strategies. This less-developed and uncompetitive education system has led to the present decline in the academic standards and graduate employability level experienced in the

country today. For this reason, the efficacy of AI-powered tools is inevitable. In recent years, Nigeria as a country has sort for solutions to the challenges inherent in her education sector hence the sector has begun to explore innovative solutions to address these challenges including the adoption of Artificial Intelligence (Udekamna & Nwafor, 2022). Obizue & Obizue (2018) observed that the schools in Nigeria are increasingly exploring and leveraging the potentials of AI to enhance their curriculum development and general administrative processes hence the system will gradually improve in efficiency, accuracy, decision-making and quality. The integration of AI has revolutionized the way curricula are designed, delivered and managed ultimately improving the quality of education and students' experiences and outcome have been impressive. This is confirmed by the assertion of Adebisi (2013) that AI has the potential to transform the education sector by improving teaching, learning and administrative processes and bring the much desired achievement of the goals of education at all levels. It is widely posited that AI is still an emerging technology in Nigeria and holds a great future for her education system. Despite the potential benefits of AI, its adoption in Nigerian tertiary institutions is still in its infancy stage (Campela, 2016). Olatunde and Abioye (2019) acknowledged that the integration of Artificial Intelligence (AI) in tertiary institutions in Nigeria is a relatively new phenomenon and its impact on teaching, learning, and administrative processes is not yet fully understood. This notwithstanding, several institutions have begun to explore AI-

powered solutions, including online learning platforms, student information systems, and learning management systems.

The Nigerian education system is still using poorly developed with outdated curricula that do not align with industry needs and technological advancement which is evidenced by inefficient administrative processes and limited access to quality education in Nigeria. These are some of the public outcries that necessitated this investigation as it is expected to contribute to the implementation of effective strategies for leveraging AI in school management toward enhancing the quality and standard of Nigeria formal education. Udekamna and Nwafor (2022) confirmed that there is evidence of growing body of research on AI adoption in education yet there is still so much need for more research on the specific effects, challenges and opportunities facing Nigerian tertiary institutions because there is scarcity of studies addressing these specific area.

Objectives of the Study

This broad aim of this study is to address this research gap by investigating the Impact of AI on the effectiveness of school management in Nigeria. This study seeks to pursue the following specific objective.

1. To identify the various areas that AI-powered tools will be applied for effective school management in Nigeria.
2. To ascertain the impact of applying the AI-powered tools on the effectiveness of school management in Nigeria

Research Questions

Based on the specific objectives, the following research questions were formulated in this study;

1. What are the various areas that AI-powered tools will be applied for effective school management in Nigeria?
2. In what ways will the application of AI-powered tools impact on the effectiveness of school management in Nigeria?

Research Hypothesis

A single null hypothesis was postulated in this study and it stated thus;

H₀: There is no significant difference in the mean ratings of academic and non-academic staff of selected universities on the application of AI-powered tools for effective school management in Nigeria.

Conceptual Dialectics

Artificial intelligence (AI)

Artificial intelligence is field of computer science that focuses on developing intelligent machines that can perform like human being. Artificial intelligence is simulation of human intelligence in machines that are programmed to think and learn like humans. In other words, AI is defined as the development of computer software that can perform human like tasks with the potential to effectively transforming organizational activities and tertiary institutions are not exceptions.

According to Ezekoka and Uzozie (2019) AI machines possess human traits and exhibit human-like qualities through a broad range of intelligent machines. The major benefit of AI

machines is that they improve efficiency and productivity in a wide range of tasks.

According to AFSA (2022), Artificial Intelligence refers to the development of computer systems capable of performing tasks that typically require human intelligence. These tasks include learning, reasoning, problem solving, perception and natural language understanding. Artificial Intelligence technologies encompass various techniques and approaches, such as machine learning, deep learning, natural language processing, computer vision and robotics. These technologies enable computers to analyze vast amounts of data, recognize patterns, make predictions and automate complex processes.

Obizue and Obizue (2018) averred that Artificial Intelligence is the development and advancement of computer systems to perform certain tasks that characteristically require human intelligence such as learning, problem-solving, reasoning, language perception and understanding. They further emphasized that AI is digital or technological resource with the potentials to revolutionise organizational operations transform various industries like education, finance, health, manufacturing, transport, communication, oil and gas by improving their level of management efficiency, accuracy, decision making and overall productivity and performance.

Akpan and Nwozuzu (2019) and Udekamna and Nwafor (2022) opined that AI is the convergence of human ingenuity and technological innovation where machines are designed to mimic human cognitive abilities such as learning, reasoning and problem solving. American technology giant International Business Machines Corporation

defined Artificial Intelligence as referring to any human-like intelligence exhibited by a computer, robot, or other machines. Artificial intelligence (A.I), defined as intelligence exhibited by machines, has many applications in today's society.

School Management

Akinwumi and Jayeoba (2004) defined school management as the scientific organization of human and material resources and programs available for education and using them systematically and meticulously to achieve educational goals. School administration is the process by which principles, methods and practices of administration are applied in educational institutions to establish, maintain and develop such institutions in line with the goals of the institutions. School administration specifically deal with coordination of all activities and programme in the institutions towards realization of school goals. School administration is the use of school resources for the achievement of school objectives.

Artificial Intelligence-Powered Tools in Various Areas for Effective School Management in Nigeria

This talks about the various department, units and areas where Artificial Intelligence can be applied or adopted to make school management effective in Nigeria.

Imalah & Alagoli (2015), Obizue & Obizue (2018), Alabi (2020) and Udekamna & Nwafor (2022) generally accepted that AI can be adopted in the following areas in Nigerian tertiary institutions for school

management efficiency and enhancement in the quality of education in Nigeria.

Curriculum Development

AI helps in optimizing course materials by developing personalized and adaptive curricular

Students' Assessment

AI is used in assessing students performances, providing feedback and making decisions

Research and Development

AI serves a good aid and support to students, lecturers and scholars in their academic studies and research work by providing insights, analyzing data and identifying patterns

Institution's Management

Most institutions adopt the AI in their general management and administration to ensure effectiveness and efficiency at all levels. This may include teaching and learning programs, human resources and inventory management etc

Science Education

Different institutions integrate AI in their science education programs to prepare them for the demands of the digital age thereby improving students' engagement and learning outcome.

Impact of Artificial Intelligence for Effective School Management in Nigeria

The integration of Artificial Intelligence in school administration is a revolutionised approach to enhance the whole management structure and operations of the school system. According to Ogunode and Gregory (2025), the application of AI can lead to effective data analysis and decision making, effective

school administrative, resource optimization, student support and intervention, streamlined communication and engagement and enhanced security and safety.

Obizue & Obizue (2018) and Ogunode & Gregory (2025) explained the following as the key areas AI could be applied in the school system to ensure effective school management in Nigeria.

Data Analysis and Decision Making

One of the major function of school administrators is to make policies and take decision on school issues. Decision-making involves the process of choosing from alternative course of action. Many issues arising in the educational institutions demand decision-making because there is more than a single option of action. Many alternatives are generated out of which one is taken for implementation. The manager must have an adequate knowledge of alternative actions available on an issue, who should be involved in decision-making and mode of implementation of the decision (Fasasi, 2011). Right decision at appropriate time and place will enhance achievement of organizational goals. As much as possible, subordinates should be allowed to participate in decision-making. Decision taking in the level of administration is very crucial for the development of the school. AI can be used to making effective decision in educational institutions. AI has the capacity to help school administrator makes right decisions. AFSA (2022) noted that AI can assist administrators in analyzing large volumes of data, such as student performance data,

attendance records and resource allocation. AI-powered systems can identify patterns, trends and insights that can inform decision-making processes. Administrators can use this information to develop data-driven strategies for improving student outcomes, allocating resources effectively, and evaluating programs and initiatives.

Effective School Management

The management of tertiary institutions in Nigeria is saddled with the responsibility of ensuring stability and full compliance with the academic calendar and implementation of academic programmes as planned. Administrators are to ensure full supervision and implementation of teaching programme. Administrators are saddled with responsibilities of planning school tables table, teacher's schedules and school calendar. AFSA (2022) observed that AI can automate routine administrative tasks, such as managing student records, generating reports, scheduling and handling routine inquiries. By automating these processes, administrators can save time and allocate their efforts to more strategic and value-added tasks. AI can be used to improve the efficiency of administrative tasks in educational institutions. AI-powered systems can automate routine tasks, such as grading, scheduling, and record-keeping, freeing up educators' time to focus on more impactful work, such as lesson planning and student engagement (Oztok & Zingaro, 2019). Educational institutions have to deal with a lot of administrative tasks, such as scheduling, grading, and record-keeping. AI can automate many of these tasks, freeing up

educators' time to focus on teaching and supporting students.

Resource Optimization

Resources allocation is another fundamental functions of school administrators. Educational resources are divided into two. Human and materials resources. It is the responsibilities of schools administrators to ensure these resources are effectively and efficiently allocated to realize the schools goals and programme. AFSA (2022) asserted that AI can help administrators optimize the allocation of resources, such as staff, classrooms and materials. By analyzing data on student enrollment, class sizes and scheduling, AI systems can suggest efficient resource allocation strategies to optimize learning environments and support student needs.

Student Support and Intervention

It is also the duties of schools administrators to ensure students support services are fully implemented in the schools. AFSA (2022) opined that AI can assist administrators in identifying students who may require additional support or intervention. By analyzing various data points, such as academic performance, attendance and behavior, AI systems can flag students who may be at risk of falling behind or facing challenges. This allows administrators to proactively implement interventions and provide targeted support to improve student outcomes.

Streamlined Communication and Engagement

Communication in school involves passing of information from one staff to another staff or

students, parents. School administrators must ensure free flow of information among all members of his organization. Information on school activities must be relayed at the right time, to the right people and in clear language. Communication could be verbal, written, electronic or any other means. The manager serves as a link between his educational institution and the government, the community and the international bodies (Fasasi, 2011). He should give correct and up to date information about the school. Information emanating from these bodies should be passed to all staff members without delay. The School administrators should communicate and allow free communication in order to guide against rumour, misunderstanding and misrepresentation. AI can aid effective communication in schools between school administrators, teachers, students and parents. AFSA (2022) concluded that AI-powered communication systems can streamline communication between administrators, teachers, students and parents. Chatbots and virtual assistants can handle routine inquiries, provide information and direct individuals to the appropriate resources. This can improve efficiency and accessibility in communication, freeing up administrators' time for more complex interactions and strategic decision making.

Enhanced Security and Safety

One of the responsibilities of school management is to ensure the safety of lives and properties within the school environment. School administrators can deploy AI facilities to enhance school

security. AFSA (2022) maintained that AI can contribute to school security and safety measures. Teaching and learning can only take place in a peaceful, secured and conducive environment. Facial recognition systems and video analytics can help monitor school premises, detect potential security threats, and ensure the safety of students and staff. AI-powered systems can also analyze social media or online platforms to identify potential risks and proactively address them. Artificial intelligence (AI) can help to improve school security. Security cameras in school environment from school gate to classrooms. (AI) security cameras can identify people, suspicious behavior and guns and gather large amounts of information. The images show what people are wearing, how they walk and other physical mannerisms. If the cameras capture an image of someone who is banned from a building, the system can immediately inform school officials if the person returns. Deployment of advanced AI-based gun detection, perimeter protection, and intrusion detection systems. Embracing intelligent school security systems can help to leverage the power of AI and machine learning to detect and report anomalies. Such technologies create a security infrastructure capable of thwarting criminal attempts effectively. AI-powered cameras don't just record threats but analyze the video streams as soon as the footage is captured. If an anomaly is detected, it tracks and reports that in real-time by sending notifications and alerts. Unlike humans, these technologies do not have limitations such as short attention spans, fatigue, and confusion. We shall now delve deeper into some of the common school

security challenges and figure out how AI video analytics can solve them

Methodology

This study is a descriptive survey research design on artificial intelligence and effective school management in Nigeria. The study was carried out in six selected universities, each from the six geographical zones of Nigeria. Using the stratified random sampling technique, one university was selected from the six zones of the country and a total of 600 respondents were selected to represent the population of the staff in the universities. This comprised of 300 academic staff and 300 non-academic staff of the selected universities in the range of 50 academic and 50 non-academic staff, giving a total of 100 staff from each of the six universities selected. The stratified random sampling technique was adopted in the selection to ensure adequate representation of each of the subgroups which include the Lecturers and Administrative staff of all the faculties, ICT staff, Library staff and this was aimed at generating accurate and generalized findings on the impact of leveraging AI for effective school management in Nigeria's education system. The study formulated two specific objectives, two research questions and one hypothesis. The instrument for data collection was a researcher structured four-point Likert scale questionnaire titled; Artificial Intelligence and School Management in Nigeria" (AISMN) which was used to elicit information from the 600 respondents. The questionnaire was organized into three sections serving specific purposes within the context of the research objectives. The first

section was dedicated to collect demographic information about the respondents. Section two comprised ten items designed in two clusters of five question items each to address the two specific objectives in this study. Each of these questions have four-point Likert scale response format of SA for strongly agree, A for Agree, D for Disagree and SD for strongly disagree.

The face and content validity of the questionnaire was carried out by the expert judgement of three academic authorities; each from the departments of computer science, educational administration and educational measurement and evaluation respectively who made inputs there were used to modify the questionnaire before administering to the respondents. To ensure the reliability of the instrument, it was first administered and pre-tested with 50 respondents who were not part of the study

population, 25 respondents each from two purposefully selected private institutions in the zone. The pilot study was aimed at assessing the consistency and stability of the responses. The reliability index was 0.87 using the Person Product Correlation coefficient formula (r). The Cronbach alpha was also adopted to reconfirm the internal consistency of the questionnaire which recorded a correlation coefficient value of 0.89. These two values indicated that the instrument is very reliable for use hence it was administered to the respondents and only 597 respondents completely filled the questionnaire and the data retrieved were used in the analysis. The mean and standard deviation analytical method was used in answering the two research questions while the single hypothesis was tested using the z-test statistical tool at 0.05 level of significance.

Results and Findings

Research Question 1:

What are the various areas that AI-powered tools will be applied for effective school management in Nigeria?

Table 1: Mean and standard deviation on the ratings of academic and non-academic staff of selected Nigerian universities on the various areas that AI-powered tools will be applied for effective school management in Nigeria

SN	ITEMS	X ₁	SD ₁	X ₂	SD ₂	DECISION
1	Institutions' administration	2.80	1.11	2.73	1.00	Agreed
2	Curriculum development	2.78	1.09	2.91	1.17	Agreed
3	Research and development	2.60	0.92	2.64	0.90	Agreed
4	Students' assessment	2.64	0.90	2.67	0.92	Agreed

5	Cleaning supervision	2.44	0.71	2.39	0.68	Disagreed
		2.65	0.95	2.67	0.93	

Table 1 shows the responses of academic and non-academic staff of the selected universities on the various areas the AI-powered tools can be applied to influence the effectiveness of school management in Nigeria. From the data in table 1, items 1 to 4 have weighted mean scores above the criterion mean of 2.5. Given this position, they are adjudged the different areas where AI can be applied to drive effectiveness in school management in Nigeria. Item 5 scored lower than the 2.5 bench mark and was rejected as a way AI can enhance school management in Nigeria. This implies that both the academic and non-academic staff of Nigerian institutions agreed that if AI-powered tools are used in the administration of the institutions, curriculum development, research and development as well as students' assessment, the management of education in Nigeria will become more effective but it may not have effect on cleaning supervision. Based on the grand means for the academic and non-academic staff which stood at 2.65 and 2.67 respectively, it can be judged that the adoption of AI-powered tools will influence the effectiveness of school management operations in the areas listed in table 1.

Research Question 2

In what ways will the application of AI-powered tools impact on the effectiveness of school management in Nigeria?

Table 2: Mean and standard deviation on the ratings of academic and non-academic staff on the impact of AI-powered tools on the effectiveness of school management in Nigeria

SN	ITEMS	X ₁	SD ₁	X ₂	SD ₂	DECISION
6	Enhanced management efficiency	3.10	1.26	2.72	1.00	Agreed
7	Data driven-decision	2.75	1.07	2.73	1.00	Agreed
8	Resource optimization	2.62	0.93	2.65	0.95	Agreed
9	Streamlined communication	2.60	0.92	2.77	1.05	Agreed
10	Enhanced security and safety	2.61	0.92	2.55	0.86	Agreed
		2.74	1.02	2.68	0.97	

Table 2 is an array of the different ways that AI-powered tools will influence the effectiveness of school management in Nigeria. In analyzing research question 2, the weighted mean scores are higher than the criterion score of 2.5. This indicates that the two sets of respondents generally accepted that the items in table 2 are the appropriate ways that the adoption of AI-powered tools will make school management become more effective in Nigeria. This result actually means that

AI-powered tools help school leadership in Nigeria to attain enhanced management efficiency, data-driven decision, resource optimization, streamlined communication as well as enhanced security of students and school plants. This result is further validated by their grand mean values of 2.74 for the academic and 2.68 for the non-academic staff.

Testing of Hypothesis

H₀: There is no significant difference in the mean ratings of academic and non-academic staff of selected universities on the adoption of AI-powered tools for effective school management in Nigeria.

In testing the hypothesis, the average of the grand mean and that of the standard deviation were computed from the respective mean and standard deviation figures in tables 1 and 2 hence applied in table 3 below.

Table 3: Summary of z-test analysis on the mean ratings of academic and non-academic staff on the application of AI-powered tools for effective school management in Nigeria.

Subjects	N=600	Mean	SD	Df	z-cal	z-critical	Decision
Academic Staff	300	2.70	0.99	588	1.17	1.96	Rejected
Non-academic Staff	300	2.68	0.95				

The data on table 2 showed the summaries of the scores, means, standard deviations and the z-test of difference between the mean ratings of academic and non-academic staff on adoption of AI for effective school management in Nigerian universities. The average means scores of the academic and non-academic staff of public tertiary institutions are 2.70 and 2.68 respectively while their standard deviation stood at 0.99 and 0.95. The z-test calculated value is 1.17 while the z-critical value recorded 1.96 using 588 degree of freedom at 0.05 level of significance. Given this result, the z-calculated is greater than the z-critical and this indicates that there is no significant difference between the mean ratings of academic and non-academic staff on the adoption of AI-powered tools to drive effectiveness in the management of school in Nigeria. This give enough credence for the acceptance of the null hypothesis which stated that there is no significant difference in the mean ratings of academic and non-academic staff of public tertiary institutions on the application of AI-powered tools for effective school management in Nigeria and the acceptance of the alternative hypothesis.

Conclusion

This study examined the impact of AI-powered tools on the effectiveness of school management in Nigeria and the findings

revealed that AI can improve management efficiency, communication, security and safety, personalized learning, curriculum development, student engagement,

innovation and optimize administrative processes. The researcher concludes that the integration of Artificial Intelligence (AI) in school management activities has the potential to transform the overall education system in Nigeria and result to better quality and standard of education in the country.

Recommendations

Based on the study findings, the researcher recommended as follows;

1. The government should prioritise the application of AI- powered tools in the education system in Nigeria so as to achieve effective school management and higher standard of education.
2. School managers in Nigeria should develop strategic plans for AI adoption, taking into account their unique needs and challenges and should invest in modern infrastructure, including high-speed

internet connectivity and computer hardware, to support AI adoption.

3. The Nigerian government should provide funding and support for educational institutions to adopt AI and develop AI-powered educational tools and platforms and also develop national policies and guidelines for AI adoption in tertiary institutions.
4. The government should promote AI education and awareness among students, faculty, and staff in tertiary institutions.
5. Institutional leaders should provide training and capacity-building programs for faculty and staff in tertiary institutions to develop the necessary skills to effectively deploy and utilise AI tools.

References

- Adebisi, M. S. (2021). Artificial intelligence in education: A review of the literature. *Journal of Educational Technology Development and Exchange*, 10(2), 266-279.
- AFSA (2022) Artificial Intelligence and Education.
- Akinwumi, F. & Jayeoba, A. O. (2004). Principles and Practice of Educational Management. Ibadan: Bash-Moses Printing Co.
- Akpan, E. E. & Nwozuzu, J. (2019). The Impact of artificial intelligence on tertiary education in Nigeria. *International Journal of Advanced Research in Computer Science*, 12(2), 3191-3204.
- Akubueze, J. O. & Amaefula, M.O. (2017). The benefits and challenges of digital

- education in Nigeria. *Journal of Scientific Perspective* 8(1), 470-483.
- Alabi, O. O. (2020). Artificial intelligence and education: A review of the literature. *International Journal of Emerging Technologies in Learning*, 15(1), 4-15.
- Bakare, G. A. (2019). The impact of artificial intelligence on student engagement in Nigerian universities. *Journal of Educational Technology Systems*, 48(1), 34-45
- Campela, A.M. (2016). Effect of administration of computer education on Nigerian sustainable development. *International Journal of Computer Education and Contemporary Studies*, 16(2), 344-356
- Ezekoka, M.U. & Uzozie, O. (2018). Computer and information technology: Tool for educational development in Nigeria. *Journal of Educational Technology*, 20(1), 237-245
- Fasasi, Y. A. (2011). Managerial Behaviour in Educational Organisations in Nigeria. *International Journal of Academic Research in Business & Social Sciences*. 1(2), 127-136.
- Ibrahim, A. O. (2019). The effect of artificial intelligence on academic performance of Nigerian universities. *International Journal of Science Education*, 14(6), 2242-2255
- Imalah, A. & Alagoli, E.M. (2020). Artificial intelligence and education in Nigeria: review of the outcomes in Nigerian universities. *Journal of Education and Human Development*, 10(1), 2611-2624
- Japhtani, E. S. & Capelo, A. O. (2018). The Role of artificial intelligence in enhancing teaching and learning in Nigerian universities. *Journal of Computer Education*, 6(1), 412-426
- Obizue, E.C. & Obizue, M.N. (2018). Politics of digitalisation of education in Nigeria: Programme accreditation for quality assurance in Nigerian tertiary education. *Journal of African Research Scholars*. 4(2), 211-226
- Ogunode, N.J. & Gregory, D.N. (2025). Artificial intelligence in education administration. *International Journal on Orange Technology*, 7(2), 56-65
- Ogunsola, O. O. (2019). The Role of Artificial intelligence in enhancing student learning. *Journal of Educational Computing Research*, 11(3), 144-132
- Olatunde, O. & Abioye, B.M (2019). Emerging technologies and learning outcome in Nigerian universities: A survey. *Journal of Educational Technology and Society*, 21(2), 321-335
- Udekamna, A. & Nwafor, A. O. (2022). Artificial intelligence in Nigerian education: Challenges and opportunities. *Journal of Educational Computing Research*, 6(2), 1337-139

