TEACHER AND ADMINISTRATOR PERCEPTIONS OF AI INTEGRATION IN EDUCATIONAL MANAGEMENT IN PUBLIC SENIOR SECONDARY SCHOOLS IN RIVERS STATE

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Abstract

This study investigates the integration of artificial intelligence (AI) into educational management in Public Senior Secondary Schools in Rivers State, focusing on the perceptions, benefits, and challenges associated with AI adoption. Grounded in the Technology Acceptance Model (TAM) and Diffusion of Innovations (DOI) theory, the research employs a descriptive research design to explore how AI is perceived by educators and administrators. The study's population comprises 5,833 senior secondary school teachers and principals from 320 secondary schools across the 23 local government areas . A sample size of 400 respondents was determined using the Taro Yamane technique, and data were collected using the Teacher and Administrator Perceptions of AI Integration Scale (TAPAIs). The analysis utilized descriptive statistics, including mean and standard deviation, and independent sample t-test to test hypotheses at a 0.05 alpha level. The findings revealed a generally favorable view of AI, with consensus on its potential to enhance administrative efficiency, personalize learning, and provide data-driven insights. Significant concerns were noted regarding the need for technical training, infrastructure, data security, and transparency in AI decision-making. No significant differences were found in perceptions and benefits between principals and teachers. The study concluded that while AI presents considerable advantages, addressing the identified challenges is crucial for successful integration. Recommendations include providing extensive training for educators, developing supportive government policies, and encouraging teachers to engage in ongoing professional development to maximize the benefits of AI in educational settings.

Keywords: *Teacher, Administrator, Perceptions, AI Integration, Educational Management*

Introduction

Artificial Intelligence (AI) is a groundbreaking technology that mimics human intelligence in robots. From simple algorithms to complex neural networks that learn and adapt, this concept applies to many systems and applications. In 1956, a major Dartmouth College symposium established "artificial intelligence" as a subject of study . Famous figures like John McCarthy and Marvin Minsky led this meeting, which laid the stage for future study (Agrawal, Gans, & Goldfarb, 2018). AI has made significant progress, notably with machine learning and deep learning. Since 2012, deep learning has improved AI systems' ability to recognise images and voices with unprecedented accuracy (He et al., 2015). These technologies have proliferated in healthcare, finance, and transportation, increasing their utilisation. Autonomous automobiles, diagnostic systems, and customised learning environments use AI-driven technology (Baum, 2023).

AI has made progress, yet it raises ethical and societal challenges. AI's use in daily life raises worries about job loss, privacy, and bias in decision-making. Despite its efficiency, AI critics say it might perpetuate inequality if managed poorly (Robillard, 2021). AI systems are hard to hold responsible since their decisionmaking is unclear. This has led to calls for legislative frameworks to ensure ethical AI research and usage (Rogers et al., 2023). Narrow AI, which is designed for specific tasks, and wide AI, which mimics human cognition, have been debated as AI develops. Modern artificial intelligence (AI) systems excel in certain areas but struggle with tasks that need a deeper understanding of context or common sense reasoning (Dreyfus, 1965).

General intelligence is a long-term goal for researchers. Replicating all human thought and conduct is difficult (Domingos, 2018).

The use of artificial intelligence (AI) in education has emerged as a central focus for boosting learning experiences and optimising educational results. AI technologies provide possibilities for customised learning, allowing educators to adapt curriculum to meet the specific requirements of each student. AI has the capability to examine student data and detect learning patterns, allowing for the provision of personalised resources. This contributes to the creation of a more immersive and efficient learning environment (Olatunde-Aiyedun, 2024). This individualised approach not only caters to a variety of learning styles, but also assists in tackling the particular difficulties encountered by pupils, such as those with learning impairments or language hurdles (U.S. Department of Education, 2023). Nevertheless, the use of artificial intelligence in education is not devoid of its obstacles. Data privacy and algorithmic bias are major concerns that educational institutions must address. AI systems have the potential to unintentionally sustain existing inequities if the data used to train them is biassed (U.S. Department of Education, 2023). Furthermore, educators must carefully evaluate the AI tools they use to ensure that these technologies are in line with educational objectives and do not undermine the integrity of the learning process (U.S. Department of Education, 2023). Moreover, the integration of AI in educational environments necessitates a significant allocation of resources towards the training of educators to proficiently use these technologies. Professional development programmes are crucial for providing instructors with the requisite abilities to incorporate AI technologies into their teaching methods (Olatunde-Aiyedun, 2024). As educators get a better understanding of the possibilities of artificial intelligence (AI), they may use these technologies to enhance their teaching methods and increase student involvement.

The introduction of Artificial Intelligence (AI) into educational management has revolutionised studentinstitution relations. Intelligent tutoring systems and learning analytics may enhance teaching and administrative processes, improving educational outcomes and efficiency. AI helps educators simplify monotonous tasks so they may focus on customised teaching, producing a more immersive learning environment (Najafzadeh, 2024). Individualising learning is a major advantage of AI in school management. AI systems can analyse student data to tailor lessons to learning styles and speeds, improving engagement and motivation (Karakose & Tülübaş, 2024). This personalised approach helps satisfy kids' diverse needs and identify at-risk students who may need additional help. AI may also create adaptable learning environments that dynamically adjust to students' performance, ensuring that each student receives the right amount of challenge and support (Chaudhry & Kazim, 2022). AI enhances learning and streamlines school administration. AI systems can automate grading, attendance tracking, and resource distribution, relieving teachers and administrators. High efficiency improves resource allocation and may save institutions money (Li et al., 2019). AI-powered analytics may provide insights into institution functioning, allowing administrators to make informed decisions and improve educational outcomes (García-Peñalvo, 2023).

However, school management with AI has challenges. Data privacy, algorithmic bias, and reduced human engagement in learning are major issues. Overreliance on AI may threaten instructors and lead to impersonalized education (Suharyat & Lusiana, 2023). Educational leaders must carefully handle these challenges to employ AI to improve learning rather than replace it. As schools adopt AI technology, teachers need more training and professional development. Teachers require technical skills and pedagogical knowledge to employ AI tools effectively (Dormann et al., 2016). Educational leaders may ensure that AI in educational administration benefits students and teachers by encouraging innovation and continual education.

The incorporation of artificial intelligence (AI) into educational administration has elicited diverse perspectives among teachers and administrators, showcasing an intricate interplay of optimism, scepticism, and apprehensions over its impact on teaching and learning. Although there is an increasing acknowledgment of the potential of AI to improve educational processes, some educators still have reservations about its deployment due to concerns over job loss, ethical implications, and their own technical proficiency. A significant number of educators have favourable perspectives on artificial intelligence (AI), specifically in terms of its capacity to optimise administrative duties and enhance student academic achievements. Educators think that AI may enhance personalised learning experiences by catering to the specific requirements of individual students, therefore improving the effectiveness of the educational process (Heffernan and Heffernan, 2014; Holmes et al., 2019). A considerable proportion of educators also recognise that AI has the potential to reduce their administrative workload, enabling them to dedicate more attention to improving the quality of education and engaging with students (Qin et al., 2020). Research conducted by Najafzadeh (2024) revealed that 73.3% of instructors expressed agreement with the beneficial impact of AI on the teaching-learning process. This finding indicates a widespread acceptance of AI's ability to enhance educational effectiveness.

Despite these favourable impressions, educators have significant misgivings. There is widespread concern about the transparency of AI systems and the possible change in the duties of teachers. Teachers have concerns that depending on AI might weaken their authority and reduce the human interaction that is often essential in education (Luckin et al., 2016). Furthermore, there is ongoing concern about job security among educators, as they link AI with the potential for automation to take away human functions in the classroom (Panigrahi, 2020). This concern is intensified by a historical backdrop in which media representations of AI often paint technology as a menace rather than a helpful instrument (Roll and Wylie, 2016). The insufficiency of proper instruction and familiarity with artificial intelligence technology is a substantial obstacle to its successful incorporation in educational environments. Several educators express a sense of inadequacy in their ability to effectively use AI tools, resulting in a reluctance to embrace new technology (Gilakjani et al., 2013; Ryu and Han, 2018). There is a growing recognition of the need of professional development programmes that specifically aim to prepare educators with the necessary skills to incorporate AI into their curriculum. These programmes are seen as crucial for promoting a favourable attitude towards AI technology (Hrastinski et al., 2019). Moreover, administrators have a pivotal role in influencing the way educators see AI. Their leadership and vision for incorporating AI into classroom administration have the potential to greatly impact teachers' willingness to use new technologies. By actively including teachers in talks about the potential advantages of AI and addressing their concerns, administrators may create a more receptive atmosphere for integrating AI. By adopting a collaborative approach, educators may alleviate concerns and promote the acceptance of AI as a beneficial tool rather than a rival.

The incorporation of artificial intelligence (AI) into educational management brings up a multitude of apparent advantages, difficulties, and apprehensions. AI has a key benefit in its capacity to improve individualised learning experiences. Artificial intelligence algorithms have the capability to examine student data in order to customise educational material and feedback, effectively catering to individual learning styles and requirements. The use of this individualised method has the potential to enhance academic achievement and foster more involvement from students, since they get prompt and tailored assistance that takes into account their specific situations. Moreover, AI has the capability to optimise administrative activities, enabling educators to dedicate more attention to instruction and reduce their involvement in paperwork. This encompasses the automation of tasks like monitoring attendance and evaluating student performance, leading to a substantial decrease in the burden of instructors and administrative personnel (Biopass, 2024).

Nevertheless, the integration of AI in education is not devoid of its obstacles. An important issue is the need for instructors to possess technological skills. According to Brick and Johansson (2024), a significant obstacle to the successful use of AI tools in educational curriculum is the potential lack of proficiency among instructors in properly incorporating these technologies. Moreover, the financial expenses linked to the implementation of AI solutions might be a barrier for some organisations, especially those with constrained budgets. The financial commitment needed for training, infrastructure, and continuous support might be a

burden on resources, so impeding schools from fully harnessing the potential advantages of AI (Srinivasa, Kurni & Saritha, 2022).

The incorporation of AI in educational settings also gives rise to ethical considerations. It is crucial to effectively handle concerns about privacy, data security, and possible biases in AI algorithms in order to safeguard students and provide fair access to educational resources. AI systems have the potential to unintentionally maintain current inequities if they are not carefully planned and applied (Kuey, 2024). Additionally, an excessive dependence on AI may result in a deterioration of educational material if instructors become too reliant on technology, thus reducing the depth and breadth of learning experiences (Srinivasa, Kurni & Saritha, 2022).

Statement of the Problem

Despite the potential benefits of AI in educational management, there is limited research on the perceptions of educators and administrators in Rivers State. This study seeks to fill this gap by examining their attitudes, concerns, and expectations regarding AI integration.

Objectives of the Study

The objective of the study include:

1. To assess the perceptions of teachers and administrators towards AI integration in educational management in Public Senior Secondary Schools in Rivers State

2. To identify the perceived benefits of AI in educational management.

3. To explore the challenges and concerns associated with AI integration in educational management in Public Senior Secondary Schools in Rivers State.

Research Questions

1. What are the perceptions of teachers and administrators towards AI integration in educational management in Public Senior Secondary Schools in Rivers State?

2. What are the perceived benefits of AI in educational management in Public Senior Secondary Schools in Rivers State?

3. What challenges and concerns do teachers and administrators have regarding AI integration in educational management in Public Senior Secondary Schools in Rivers State?

Hypotheses

HO1: There is no significant difference between the mean ratings of principals and teachers on the perceptions of teachers and administrators towards AI integration in educational management in public senior secondary schools in Rivers State.

HO2: There is no significant difference between the mean ratings of principals and teachers on the perceived benefits of AI in educational management in public senior secondary schools in Rivers State.

HO3: There is no significant difference between the mean ratings of teachers and administrators regarding AI integration in educational management in Public Senior Secondary Schools in Rivers State..

Significance of the Study

The importance of this research resides in its capacity to provide unique perspectives to different stakeholders engaged in the educational sector in Rivers State. The research provides policymakers and educational administrators with a thorough understanding of teachers' and administrators' attitudes and concerns about integrating AI . This understanding can guide the creation of policies and frameworks that address these concerns and maximise the benefits of AI . The research examines the perceived benefits and difficulties of AI for educators, serving as a basis for professional development initiatives that attempt to improve their competence with AI technologies. Moreover, the results may provide valuable guidance to technology developers in designing AI solutions that are customised to meet the distinct requirements and anticipations of the educational community, guaranteeing that these technologies are not only efficient, but also user-friendly. This study ultimately adds to the wider discussion on artificial intelligence (AI) in education . It advocates for a well-rounded strategy that utilises AI's ability to improve learning results, while also ensuring ethical standards are upheld and practical obstacles are addressed.

Literature Review

Introduction to AI in Education

The integration of artificial intelligence (AI) into the education system has brought about a substantial change in approach, with the potential to improve teaching and learning methods via the use of cutting-edge technology. The integration of AI into education has been motivated by the need for customised learning experiences, enhanced evaluation techniques, and heightened efficiency in administrative duties. Studies suggest that AI has the potential to enhance personalised learning by tailoring educational materials to suit the specific requirements of each student, hence fostering improved engagement and comprehension (Pedro et al.). Intelligent tutoring systems use AI algorithms to provide customised feedback and assistance, enabling students to study according to their own speed and learning preferences (Mou et al.). AI technologies have the capability to optimise administrative tasks, alleviating the workload on educators and allowing them to dedicate more attention to instruction. AI may enhance teacher productivity by automating repetitive duties like grading and attendance monitoring, enabling instructors to allocate more time and attention to actively engaging with their students (Rivas et al.). This enhanced efficiency may result in enhanced educational results as instructors can allocate more time to instructional activities and student engagement.

Although there are many advantages, the use of AI in education also presents significant problems and risks. An important concern is the possibility of bias in AI algorithms, which might result in unfair consequences for pupils (U.S. Department of Education). AI systems, when taught using historical data, might unintentionally reinforce existing biases found in that data, which can impact fairness in evaluation and learning opportunities. Hence, it is essential for educational institutions to have strong regulations that guarantee fairness and openness in the use of AI applications (UNESCO). The ethical ramifications of artificial intelligence in education need meticulous deliberation. The use of AI techniques gives rise to concerns about data privacy and the safeguarding of confidential student information. It is crucial for educational leaders to give priority to safeguarding student data and ensuring that AI systems adhere to ethical norms that foster trust and responsibility, as stated by the U.S. Department of Education .

Perceptions of AI in Education

Over recent years, opinions about artificial intelligence (AI) in education have changed dramatically, exhibiting a complex interaction of hope and anxiety among students and teachers equally. Studies show that students in higher education often see artificial intelligence technologies in ambivalent terms. Although many students understand how artificial intelligence might improve their educational experiences, worries about job displacement, privacy, and the moral consequences of AI technology linger. For example, a study on university students found that although there is a respect for AI's ability to simplify educational processes, negative

opinions usually overwhelm positive ones, especially with relation to its consequences for future employment and society roles (Ural Keleş & Aydın, 2021). Students's opinions about artificial intelligence in early school also show a dichotomy. While children value AI's help with studies and practical tasks, they also show concerns about the fast development of AI technologies, which they link with possible job losses and privacy invasions, according to a recent case study including Swedish primary school students (Zhang et al., 2024). This attitude highlights a more general society worry about how artificial intelligence would affect future job situations, especially among younger generations starting to negotiate new technologies in their educational settings.

Views of artificial intelligence in education among educators are as complex. Influenced by media representations and their concern of being replaced by robots, many instructors first saw artificial intelligence as a danger to their field of work. Recent research, however, have shown a change in this viewpoint as teachers come to see how well artificial intelligence might improve instructional and learning environments. Teachers now expect that artificial intelligence will reduce administrative tasks, provide individualised learning opportunities, and accommodate different student requirements (Panigrahi, 2020; Jia et al., 2020). Younger teachers, who are often more tech-savvy and more eager to include AI technologies into their classes, especially show this shift in view (Istenic et al., 2021). The incorporation of artificial intelligence into learning environments begs significant issues on the future responsibilities of instructors and students. Teachers have to negotiate the difficulties of changing their teaching strategies to properly use AI technology as they proliferate. Along with technical instruction, this shift calls for a review of educational philosophies to make sure artificial intelligence enhances rather than replaces conventional teaching approaches (Luckin et al., 2016; Roll & Wylie, 2016). The conversation around artificial intelligence in education often emphasises the requirement of thorough AI literacy for teachers as well as for the students. Fostering a balanced view that welcomes innovation while being alert about ethical issues depends on an awareness of the potential and limitations of artificial intelligence (Zhai et al., 2021). Educational institutions have to give top priority to creating courses addressing these new technologies as artificial intelligence develops, therefore arming students with the tools required to succeed in an AI-driven environment..

Benefits of AI in Educational Management

Artificial intelligence (AI) is improving several facets of teaching and learning strategies, hence revolutionising educational administration. Personalised learning, better administrative efficiency, and more student participation clearly show this change. Supported by current research, below are the advantages of artificial intelligence in educational administration.
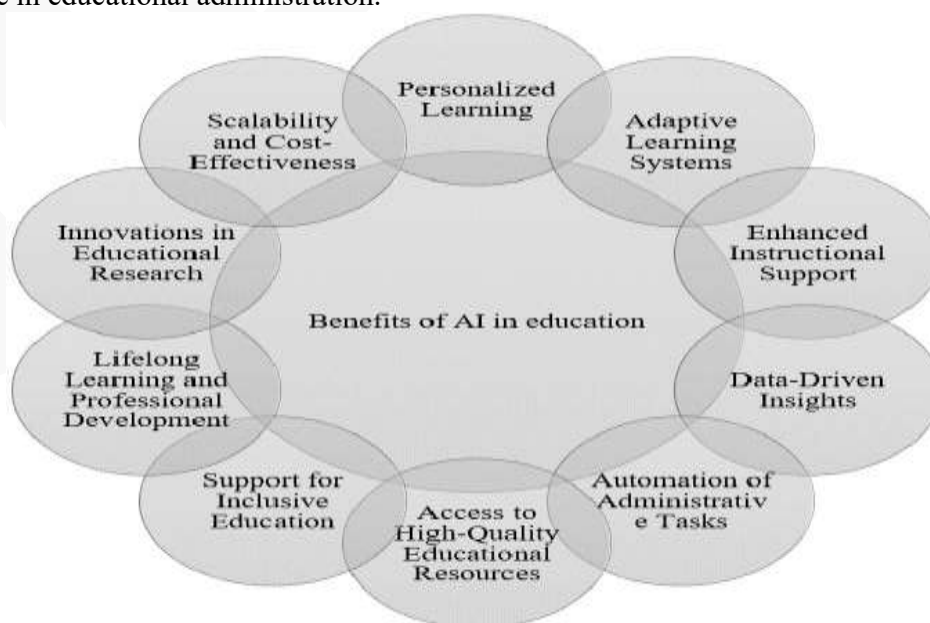

Fig 1: Benefit of AI in Educational Management

Individualised Learning: The capacity of artificial intelligence to personalise learning experiences is among its most important benefits for the field of education. By examining personal student data—including learning styles, skills, and weaknesses—AI systems may customise instructional materials. By letting students study at their own speed, this personalising guarantees that they understand ideas before diving into more difficult content. AI may, for example, suggest certain materials or learning courses depending on past performance of a student, therefore optimising their educational path .

Increased Student Involvement: Chatbots and virtual instructors among other artificial intelligence tools may greatly increase student involvement. These instruments let students ask questions and get responses instantly, therefore enabling quick feedback and help. This immediacy motivates students to participate actively in their education and helps to clear questions. Moreover, by means of gamification and adaptive learning systems, artificial intelligence may provide interactive learning opportunities, therefore enhancing the attractiveness and efficiency of education.

Administrative Effect: Traditionally consuming a lot of teachers' time, AI can automate many administrative chores like grading, scheduling, and resource allocation. Through managing these daily responsibilities, artificial intelligence lets educators and managers concentrate on other important facets of education, like curriculum development and student engagement. This change not only increases efficiency but also improves the general educational experience for teachers and students.

Data-driven decision making: By examining enormous volumes of instructional data, artificial intelligence systems may find patterns and insights that guide decisions. This capacity allows school administrators to monitor student performance over time, evaluate the efficacy of instructional strategies, and more wisely distribute resources. greater strategic planning and greater educational results may follow from data-driven insights.

Supporting Diverse Learning Requirements: Supporting students with different learning needs—including those with impairments or language barriers—can be much aided by artificial intelligence. Customised help from AI-powered solutions may include language translation for non-native speakers or voice recognition for kids with hearing loss. This inclusion guarantees that every student may engage completely in the learning process and has access to high-quality education.

Scalability of Learning Resources: AI helps educational materials to be scalable, thereby enabling institutions to reach a bigger audience without sacrificing quality. Thousands of pupils may be accommodated concurrently by online learning systems driven by artificial intelligence, therefore granting access to top-notch educational resources anywhere. Addressing educational inequalities in underprivileged areas benefits especially from its scalability .

Constant Enhancement of Instruction Strategies: AI may help teachers to always enhance their approaches of instruction. AI can point out areas where pupils struggle by examining student performance data, therefore guiding teachers' course of teaching. This feedback loop guarantees that teaching strategies change depending on real-time data and student demands, therefore promoting a culture of ongoing development.

Challenges and Concerns of AI Integration in Educational Management.
Artificial intelligence (AI) integration into school administration offers a challenging terrain with possibilities as well. Although artificial intelligence has the ability to greatly improve educational methods, its use poses various issues that need to be resolved if we are to guarantee fair and efficient results.

Prospective Directions Presented by AI in Education:
AI technology can personalise learning experiences, increase student involvement, and automate administrative work thereby transforming educational administration. These technologies fit different learning environments

and provide customised instructional opportunities meant to improve academic achievement. AI may, for example, examine student data to reveal learning trends, therefore allowing teachers to modify their curricula (Najafzadeh, 2024). AI may also simplify administrative tasks, therefore freeing teachers from extra labour and enabling them to concentrate more on their teaching. Automated tasks include grading, planning, and resource allocation will help educational institutions be more efficient (Magna Scientia, 2024). Through technologies like virtual and augmented reality, AI-driven tools may also build immersive learning environments, hence augmenting the educational experience (Magna Scientia, 2024).

Problems with AI Integration:
Though the incorporation of artificial intelligence into school administration presents several difficulties, but the expected advantages are few, which include:

Technical Skill Gaps: The absence of technical knowledge among officials and teachers is one of the main difficulties. Many educational institutions might lack staff members with the required knowledge to properly use and control artificial intelligence technology. This skills gap might restrict their possible advantages and impede the effective acceptance of artificial intelligence solutions (Najafzadeh, 2024).

Privacy and Security of Data: As data-driven decision-making becomes more and more important, issues with data security and privacy have taken the stage. Large volumes of delicate information on students are gathered by educational institutions, which beg issues about storage, use, and protection of this data. Data breaches run the danger of revealing personal information, which would have major ethical and legal ramifications (Magna Scientia, 2024).

Equality and Bias: Sometimes artificial intelligence systems unintentionally reinforce prejudices in their training data. Should not be well watched, artificial intelligence systems might promote current educational disparities, resulting in unjust treatment of certain student groups. This issue emphasises the requirement of open and responsible methods in the evolution and use of artificial intelligence technology (Chaudhry & Kazim, 2022).

Ethical Issues: Using artificial intelligence in a classroom has ethical ramifications of great weight. Concerns concerning the fairness of AI-driven evaluations and the possibility for computers to make crucial judgments about students' futures free from human control surface. Reducing these hazards in education requires establishing moral rules and frameworks for the use of artificial intelligence (Magna Scientia, 2024).

Digital Divides and Accessibility: Integration of artificial intelligence might worsen already existing differences in access to learning materials. Underprivileged students' access to AI-driven technologies may be different from that of their more wealthy counterparts, which would worsen the educational disparity. Reducing this digital gap will help to guarantee that every student benefits fairly from developments in artificial intelligence (Magna Scientia, 2024).

Theoretical Framework
The research is based on the Technology Acceptance Model (TAM) and Diffusion of Innovations (DOI) theories, which provide insights into the adoption and perception of new technologies by users.

The Technology Acceptance Model (TAM)
The Technology Acceptance Model (TAM), created by Fred Davis in 1989, is a fundamental theory that elucidates the process by which consumers adopt and use a technology. The Technology Acceptance Model (TAM) suggests that an individual's choice to adopt a new technology is influenced by two main factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU).

Perceived Usefulness (PU) refers to the extent to which an individual feels that using a certain system will improve their work performance. Within the realm of AI integration in educational administration, the concept of PU refers to how instructors and administrators see AI's capacity to boost administrative efficiency, personalise learning experiences, and optimise educational results.

Perceived Ease of Use (PEOU) refers to an individual's perception of the level of effort required to use a certain system. PEOU, or Perceived Ease of Use, is of utmost importance for educators and administrators. It directly relates to their level of comfort and knowledge with AI technology, the user-friendliness of the AI tools, and the accessibility of support and training to aid its utilisation.

The Technology Acceptance Model (TAM) is of great significance in this research as it facilitates the examination and measurement of the attitudes of teachers and administrators towards artificial intelligence (AI) in the context of educational administration. Through the measurement of PU (Perceived Usefulness) and PEOU (Perceived Ease of Use), this research can forecast the probability of AI adoption in educational institutions and pinpoint certain domains that may need interventions to improve the acceptability and utilisation of AI technology.

Diffusion of Innovations (DOI) Theory

The Diffusion of Innovations (DOI) hypothesis, introduced by Everett Rogers in 1962, elucidates the mechanisms, reasons, and pace at which new ideas and technologies disseminate throughout societies. The Department of Innovation (DOI) identifies five crucial elements that impact the adoption of innovative technologies:

Relative Advantage: The extent to which an invention is seen as superior to the notion it replaces. Relative advantage in this research may be evaluated by determining if AI is seen as superior to conventional school management techniques.

Compatibility: The degree to which the innovation aligns with the values, previous experiences, and requirements of prospective users. The research examines the degree to which the integration of AI is compatible with the current educational framework, instructional techniques, and administrative processes in schools in Rivers State.

Complexity: The level at which an invention is seen as being challenging to comprehend and use. This closely corresponds to the Technology Acceptance Model's Perceived Ease of Use (PEOU), which emphasises the perceived level of ease or difficulty that educators and administrators experience while utilising AI technology. **Trialability** refers to the degree to which an idea may be tested or experimented with on a small scale. This research aims to investigate whether schools are provided with the ability to conduct pilot testing of AI tools prior to their full-scale introduction, and how this possibility may impact the rates at which these tools are adopted.

Observability refers to the extent to which the outcomes or effects of an invention may be easily seen or perceived by others. The presence of successful AI deployments in other schools might impact the views and future acceptance of AI in educational administration.

The relevance of DOI to this research lies in its ability to provide a comprehensive framework for comprehending the spread of AI technology in educational environments. It assists in identifying both individual attitudes and the structural and cultural elements that might impact the acceptance and integration of AI in public senior high schools.

Methodology

The research design adopted for this study is a descriptive research design. The population of the study comprised 6,893 individuals, including 5,833 senior secondary school teachers and principals from 320 secondary schools across 23 local government areas in Rivers State. Using the Taro Yamane technique, a sample

size of 400 respondents was determined. Data were collected using a structured questionnaire titled 'Teacher and Administrator Perceptions of AI Integration Scale' (TAPAIs). The instruments were administered by the researcher and two trained research assistance, at the point of retrieval of administered questionnaires, 380 were retrieved and used for the analysis. Descriptive statistics, including mean and standard deviation were employed to answer the research questions, while independent sample t-tests were used to test the null hypotheses at a 0.05 alpha level of significance.5.1 Conclusion.

Presentation of Data
Summary of Demographic Data Distributions

Table 1 Summary of Frequency and Percentage rating on the Gender of the Respondents (n=380) Status

	Frequency	Percent
Principals	125	32.9
Teachers	255	67.1
Total	380	100.0

Table 1 above shows the summary of frequency and percentage rating on the status of the respondents. Based on the responses from the respondents, it can be concluded that the majority of the respondents were teachers which constituted 67.1%.

Data Analysis
Research Question One: What are the perceptions of teachers and administrators towards AI integration in educational management in Public Senior Secondary Schools in Rivers State?

Table 2: Mean and Standard deviation on the perceptions of teachers and administrators towards AI integration in educational management

S/N	Perceptions of teachers and administrators towards AI integration in educational management	Principal Mean	Std.	Teachers Mean	Std.	Mean Set	Remark
1.	AI can handle routine administrative tasks like attendance tracking, grading, and scheduling, freeing up time for teachers and administrators to focus on instructional and strategic activities	3.11	0.90	3.14	0.89	3.13	Agreed
2.	AI can help create personalized learning experiences for students by analyzing their learning styles, strengths, and weaknesses, and providing customized resources and support.	2.73	1.02	2.68	1.06	2.71	Agreed
3.	AI can provide data-driven insights into student performance, attendance patterns, and other critical metrics, aiding in more informed decision-making.	2.92	0.95	2.98	1.01	2.95	Agreed
4.	I fear that AI will replace roles, leading to job insecurity and resistance to adopting AI technologies..	2.89	0.99	3.12	0.86	3.01	Agreed
5.	I am unprepared to use AI tools effectively, due to lack of adequate training and technical support..	2.83	0.90	2.97	0.86	2.90	Agreed
Grand Mean		**2.90**	**0.97**	**2.98**	**1.94**	**2.94**	**Agreed**

According to the statistics shown in Table 2, teachers and administrators in Public Senior Secondary Schools in Rivers State have a generally good perception of integrating AI into educational management. The perspectives are assessed using several statements, and the average results suggest a general agreement on the advantages and difficulties linked to AI. There is a consensus that AI is capable of efficiently managing regular administrative activities (Mean = 3.13), delivering tailored learning experiences (Mean = 2.71), and providing

data-based insights to support well-informed decision-making (Mean = 2.95). Nevertheless, there are also apprehensions over the instability of employment (Mean = 3.01) and a deficiency in readiness caused by inadequate training and technical assistance (Mean = 2.90). The average score of 2.94 indicates a balanced and cautious optimism towards the integration of AI. This score emphasises both the expected benefits and the need of providing sufficient help to tackle the related problems.

Research Question Two: What are the perceived benefits of AI in educational management in Public Senior Secondary Schools in Rivers State?

Table 3: Mean and Standard deviation on the perceived benefits of AI in educational management

S/N	Perceived benefits of AI in educational management	Principals Mean	Std.	Teachers Mean	Std.	Mean Set	Remark
1.	AI systems can automatically track student attendance, reducing the time and effort required by teachers	3.12	0.94	3.03	0.96	3.08	Agreed
2.	AI can manage and organize large volumes of data, making it easier to access and analyze information.	3.32	0.86	3.36	0.93	3.34	Agreed
3.	AI can create personalized learning paths based on individual student needs, learning styles, and progress.	3.00	1.04	3.16	1.00	3.08	Agreed
4.	AI provides administrators with data-driven insights, enabling more informed and effective decisionmaking.	3.09	0.87	3.03	1.01	3.06	Agreed
5.	AI can help optimize the allocation of resources such as staff, classrooms, and materials, ensuring they are used effectively	3.02	1.05	3.15	0.95	3.09	Agreed
	Grand Mean	**3.11**	**0.95**	3.15	0.97	**3.13**	Agreed

Table 3 data clearly demonstrates that both administrators and teachers in Public Senior Secondary Schools in Rivers State see substantial advantages resulting from the use of AI in educational administration. The average ratings demonstrate substantial consensus on many significant advantages. Principals and teachers concur that AI systems have the capability to autonomously monitor student attendance (Mean = 3.08), handle and arrange substantial amounts of data (Mean = 3.34), generate customised learning paths (Mean = 3.08), offer data-based insights to facilitate informed decision-making (Mean = 3.06), and optimise the distribution of resources (Mean = 3.09). The average score of 3.13 indicates a consistent and favourable opinion of the advantages of AI across both groups. These results indicate that educators acknowledge the potential of artificial intelligence (AI) to improve efficiency, customisation, and decision-making in educational administration.

Research Question Three: What challenges and concerns do teachers and administrators have regarding AI integration in educational management in Public Senior Secondary Schools in Rivers State?

Table 6: Mean and Standard deviation on the challenges and concerns teachers and administrators have regarding AI integration AI integration in educational management in Public Senior Secondary Schools

S/N	Challenges and Concerns	Gender Principals Mean	Std.	Teachers Mean	Std.	Mean Set	Remark
1.	Teachers and administrators may lack the technical skills needed to effectively use AI tools, necessitating extensive training and professional development	3.18	0.88	3.28	0.92	3.23	Agreed
2.	Many public schools may lack the necessary technological infrastructure, such as reliable internet access and up-to-date hardware, to support AI integration	2.91	0.97	3.08	0.87	3.00	Agreed
3.	Concerns about the privacy and security of sensitive student data are paramount. There is fear that AI systems might misuse or mishandle this data.	3.11	0.83	2.98	0.94	3.05	Agreed
4.	Lack of transparency in AI decision-making processes can make it difficult to understand how certain conclusions or recommendations are reached	3.14	0.99	2.97	1.01	3.06	Agreed
5.	Determining accountability for decisions made by AI systems can be challenging, raising questions about responsibility and liability	3.05	0.97	2.89	0.86	2.97	Agreed
Grand Mean		**3.08**	**0.93**	**3.04**	**0.92**	**3.06**	**Agreed**

According to the information shown in Table 4, teachers and administrators at Public Senior Secondary Schools in Rivers State have notable difficulties and apprehensions when it comes to using artificial intelligence into educational management. The average ratings demonstrate consensus on several important matters. Teachers and administrators recognise that they do not possess the necessary technical abilities to properly use AI technologies. This requires them to undergo considerable training and professional development (Mean = 3.23). Additionally, there are issues about insufficient technical infrastructure, including the availability of dependable internet connectivity and modern technology (Mean = 3.00). The utmost importance is placed on safeguarding the privacy and security of sensitive student data, since there are concerns over potential abuse or mismanagement (Mean = 3.05). Furthermore, the absence of clarity in AI decision-making procedures (Mean = 3.06) and difficulties in establishing responsibility for AI-powered judgements (Mean = 2.97) are noteworthy problems. The average total score of 3.06 indicates a consistent acknowledgment of these issues and concerns across both groups. These results indicate that while there is acknowledgement of the potential advantages of AI, there are also significant obstacles that must be overcome in order to effectively incorporate it into educational administration.

Ho₁: There is no significant difference between the mean ratings of principals and teachers on the perceptions of teachers and administrators towards AI integration in educational management in public senior secondary schools in Rivers State.

Table 5: Summary of t-test on the difference between the mean ratings of principals and teachers on the perceptions of teachers and administrators towards AI integration in educational management

Status	N	Mean	Std.	Df	t-test	Sig.	Decision
Principals	66	2.90	0.97	378	-0.435	0.664	NS
Teachers	170	2.98	1.94				

Key: NS-Not Significant

The t-test findings shown in Table 5 demonstrated that there is not a statistically significant difference between the average evaluations given by principals and teachers regarding their impressions of AI integration in educational administration in public senior secondary schools in Rivers State. The average rating for administrators is 2.90 with a standard deviation of 0.97, while for instructors it is 2.98 with a standard deviation of 1.94. The null hypothesis (Ho_1) that there is no significant difference in perceptions between principals and teachers is accepted, since the t-value of -0.435 is not statistically significant at the 0.05 level, with a significance level of 0.664. Consequently, both groups have comparable perspectives on the incorporation of AI in school administration.

Ho_2: There is no significant difference between the mean ratings of principals and teachers on the perceived benefits of AI in educational management in public senior secondary schools in Rivers State.

Table 6: Summary of t-test on the difference between the mean ratings of principals and teachers on the perceived benefits of AI in educational management in public senior secondary schools in Rivers State

Status	N	Mean	Std.	Df	t-test	Sig.	Decision
Principals	66	3.11	0.95	378	-0.380	0.704	NS
Teachers	170	3.15	0.97				

Key: NS-Not Significant

The t-test findings shown in Table 6 demonstrated that there is no statistically significant disparity between the average assessments of principals and instructors about the perceived advantages of AI in educational administration in public senior secondary schools in Rivers State. The average rating for administrators is 3.11 with a standard deviation of 0.95, while for instructors it is 3.15 with a standard deviation of 0.97. The null hypothesis, which states that there is no significant difference in perceived advantages between principals and teachers, is accepted based on the t-value of -0.380 and a significance level of 0.704. This significance level is larger than the traditional threshold of 0.05. Both administrators and instructors have similar favourable views about the advantages of incorporating AI into school management.

Ho_3: There is no significant difference between the mean ratings of teachers and administrators regarding AI integration in educational management in Public Senior Secondary Schools in Rivers State.

Table 7: Summary of t-test on the difference between the mean ratings of teachers and administrators regarding AI integration in educational management in Public Senior Secondary Schools in Rivers State.

Status	N	Mean	Std.	Df	t-test	Sig.	Decision
Principals	66	3.08	0.93	378	0.397	0.692	NS
Teachers	170	3.04	0.92				

Key: NS-Not Significant

The t-test findings shown in Table 7 demonstrated that there is no statistically significant difference between the average evaluations of teachers and administrators about the use of artificial intelligence in educational administration within Public Senior Secondary Schools in Rivers State. The average rating for administrators is 3.08 with a standard deviation of 0.93, while for teachers it is 3.04 with a standard deviation of 0.92. The null hypothesis (Ho_3) that there is no significant difference in the mean evaluations of teachers and administrators is accepted, since the t-value of 0.397 is not statistically significant at the 0.05 level, with a

significance level of 0.692. This suggests that both teachers and administrators have similar perspectives about the incorporation of artificial intelligence in school administration.

Discussion of Findings

The results of this research indicate that teachers and administrators at Public Senior Secondary Schools in Rivers State have a generally favourable view on the use of AI in educational management. The evidence indicates that AI is seen as advantageous in automating mundane administrative activities, delivering tailored learning experiences, and giving data-driven insights for decision-making. These opinions are consistent with research conducted by Holmes et al. (2022), which indicates that educators value AI for its ability to expedite administrative tasks and improve instructional assistance. Nevertheless, the worries over the uncertainty of employment and the inadequacy of training are in line with the discoveries made by Selwyn et al. (2020), who emphasised comparable anxieties among educators regarding artificial intelligence.

The research suggests that educators acknowledge the benefits of AI in school management, namely in areas such as monitoring attendance, handling data, tailoring learning courses, and optimising resource distribution. The efficiency and efficacy of AI in educational environments are emphasised by the study conducted by Luckin et al. (2016). The agreement among administrators and instructors about these advantages indicates a mutual acknowledgment of the potential of AI to enhance educational administration, aligning with the favourable results shown in the research conducted by Zawacki-Richter et al. (2019).

The report also examines the obstacles and apprehensions related to the integration of AI, highlighting noteworthy problems such as the need for comprehensive training, insufficient technical infrastructure, worries over data protection, lack of transparency, and difficulties related to responsibility. The difficulties mentioned are well recorded in current scholarly works. Aoun (2017) highlights the need of providing educators with the essential abilities to properly use AI, whilst Heffernan (2021) stress the crucial requirement for strong infrastructure and data security measures. The correspondence of these issues with other research underscores the ubiquitous character of these difficulties in the educational domain.

The research concludes that there is no statistically significant disparity in the perspectives of administrators and instructors about the integration of artificial intelligence (AI), as well as the perceived advantages and problems associated with it. This demonstrates a unified understanding and acknowledgement of the function of AI among many participants in the field of education. The work of writers such as Ferguson et al. (2022) demonstrates a consistent agreement in how people see things. They saw comparable trends in their research on the adoption of educational technology in different educational positions. The agreement among experts indicates that there is opportunity for collaboration in order to tackle the obstacles and maximise the advantages of AI in educational administration.

Conclusion

The research demonstrates a mostly favourable opinion of incorporating AI into educational administration among teachers and administrators in Public Senior Secondary Schools in Rivers State. The results emphasise that AI is highly regarded for its capacity to optimise administrative duties, improve individualised learning, and provide significant insights based on data analysis, which is consistent with previous research on the advantages of AI in education. Although there are favourable views, there are significant concerns surrounding the need for sufficient training, technical infrastructure, and data protection. These issues align with problems identified in previous research. The absence of notable disparities in attitudes between principals and instructors implies a shared perspective about the incorporation of AI. This indicates the possibility of joint endeavours to tackle obstacles and optimise the advantages of AI. In summary, the research highlights the significance of tackling these obstacles in order to fully harness the potential of AI in enhancing educational management..

Recommendations

The study's results suggest the following recommendations for key stakeholders to enhance the integration of AI in school management:

1. Educational administrators must to provide extensive training programmes for teachers and administrators to develop the technical competencies required for proficient use of artificial intelligence. Provide continuous assistance and necessary tools to assist employees in adjusting to artificial intelligence technology.

2. The government should create policies that promote the incorporation of artificial intelligence (AI) in education. These policies should include provisions for financing technological upgrades and providing professional development opportunities. Facilitate equal and fair availability of AI technologies in all educational institutions.

3. Teachers should actively engage in training and professional development opportunities pertaining to AI. Keep yourself updated on the latest advancements in AI technologies and methods to optimise their advantages in educational settings.

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