



APPLICATION OF CHATGPT IN THE ADMINISTRATION OF SECONDARY EDUCATION IN NIGERIA: CONSTRAINTS AND MITIGATION STRATEGIES

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ABSTRACT

Artificial Intelligence (AI) is increasingly transforming education by changing both school administration and classroom instructional practices. Among the various emerging AI tools, ChatGPT has attracted significant attention as a generative application with diverse educational applications. This study examined the application of ChatGPT in secondary education administration in Nigeria through a systematic review of existing literature, focusing on its applications, benefits, constraints, and management strategies for effective utilization. Findings reveal that secondary education remains vital for national development by equipping learners with cognitive, affective, and psychomotor skills necessary for productivity and societal progress. However, the sector faces challenges such as inadequate funding, poor infrastructure, low digital literacy, weak policy implementation, and resistance to technological adoption. ChatGPT offers significant opportunities for improving administrative efficiency, decision-making, communication, student support, and teacher productivity in schools. Despite these benefits, its effective adoption requires infrastructural improvement, capacity building, ethical safeguards, and continuous monitoring. The study concludes that ChatGPT can transform secondary education administration when guided by well-structured and ethical management strategies in Nigeria. The study recommends formulation of AI policies, continuous training of school administrators, improved infrastructure, strengthened cybersecurity measures, and responsible use of ChatGPT to ensure sustainable integration in secondary education administration in Nigeria.

Keywords: ChatGPT; Secondary Education; Administration; Artificial Intelligence; Nigeria

Introduction

In Nigeria, the education system is organized into what is termed primary, secondary and tertiary education levels. Each of this level of education is regarded as a tool for transformation, advancement, the training of skilled manpower essential for economic growth, societal progress and development. It is education that develop the learners cognitive, affective, and psychomotor abilities thus helping them to thrive and contribute positively to their families, communities and nation at large (Iyaji et al., 2024; Anyalebechi et al., 2024; Isong et al., 2025). Secondary education act as a bridge between primary and tertiary education. It serves as the transitional stage between primary and tertiary education and is designed to produce student and equipped them with the requisite knowledge, skills, competence and values needed for higher education, personal development and national progress (Madukwe et al., 2024; Essien et al., 2025). However, without proper management of secondary education, the attainment of its predetermined goals will remain a mirage. Furthermore, efficient management is crucial in addressing challenges of inadequate resources, uneven access, and low learning outcomes



(Obona et al., 2024). Thus, suffice to say that management of secondary education is a vital requirement to ensuring its quality, sustainability and attainment of established goals and objectives. In an era marked by technological change, effective management is crucial for growth and development in every organization and the education sector is no exception. Management and administration are used interchangeably in this study. Administration in the context of this study means the utilization of available school and community resources to achieve set school goals. According to Obona et al. as cited in Ngene et al. (2025), management entails the strategic use of human, material, financial, and time resources to achieve organizational objectives. Secondary schools are expected to nurture students holistically so that during and just before a student leaves secondary school, he or she must have acquired adequate knowledge and skills that will make him or her admissible or employable (Etor et al., 2019). Additionally, developing cognitive, affective, and psychomotor skills can help the post-primary school leavers to be gainfully employed when they leave the secondary schools (Ngene et al., 2025; Etor et al., 2019). All these cannot be possible without effective management of school processes and activities in place.

However, despite the role of secondary education in the overall development of students and society, the sector is confronted with numerous administrative challenges that limit its effectiveness and thus needs urgent attention. Studies shows that these issues include insufficient funding, dilapidated infrastructure, limited investment in human capital, weak policy implementation, low-quality educational outcomes, and declining teacher performance (Obona et al., 2023; Ngene et al., 2025a; Obona et al., 2024; Difoni et al., 2025). Other challenges are poor environment which undermines the sustainability of the secondary education system, lack of employable skills that has led to many Nigerian youths remaining unemployed while others resort to social vices out of frustration (Madukwe et al., 2024; Ngene et al., 2025b). Addressing these challenges is vital but requires the adoption of innovative management approach to ensure the seamless attainment of secondary school goals. ChatGpt, a powerful Artificial Intelligence (AI) tool has the potential to transform the educational management landscape and enhance efficient school secondary school administration.

Consequently, this study examines the application of ChatGPT in the administration of secondary education in Nigeria. Through a systematic review of existing literature, it examines the opportunities and constraints of applying ChatGPT in the administration of secondary education. As AI technologies continue to reshape the education sector, their impact on educational administration remains a vital area for investigation. Therefore, the relevance of this study is its contribution to the existing discourse on ChatGPT in educational management. This will further assist policymakers, school leaders, researches and technology developers seeking to implement AI-based solutions effectively. In addition, the study offers recommendation for ChatGPT adoption in educational administration.

Conceptual of ChatGPT Tool

The evolution and integration of Artificial Intelligence (AI) in education extends from automating routine tasks to providing personalized learning and data-driven decision-making. More so, it offers school administrators help in areas like resource allocation, supervision, and performance evaluation, (Ibrahim et al., 2021; Nwuke & Yellowe, 2025). Its integration into education promises greater efficiency, personalization, and improved outcomes in the 21st century (Ogunleye & Olanrewaju, 2022). Research conceptualizes that AI simulates human cognitive functions and describe it as the creation of intelligent systems capable of performing tasks that typically require human reasoning, decision-making, natural language processing and problem-solving (Halaweh, 2023; Igbokwe, in Iyaji



et al., 2024; Lin, 2024; Russell & Norvig, 2016; Chukwuma et al., 2021). AI-powered platforms can identify individual student needs, track progress, and recommend tailored interventions (Adeoye, 2022).

ChatGPT

There are numerous AI technologies that enhance teaching, learning, and administration. One such powerful technologies applicable to education is ChatGPT. ChatGPT which has become relevant in the field of education is a language processing model was developed by OpenAI on the GPT-3 framework (ChatGPT, 2022). It is an AI tool with large knowledge base, reasoning capabilities, and coherent language generation. This tool unlike its counterparts like Wenxin Yiyan, Tongyi Qianwen, and KIMI, has great influence and impact across various domains (Lin, 2024.) The role of generative AI systems such as ChatGPT in education is both profound and far-reaching (Jain et al. cited in Khan et al., 2023; Patel cited in Cui & Alias, 2023; Liu et al., cited in Khan et al., 2023). Its dynamic evolution demonstrates how AI technologies continue to reshape various domains (Buholayka et al., 2023).

Application of ChatGPT to Administration of Secondary Education

Educational administration is the foundation of an effective school system. It helps school administrators and policymakers to anticipate future educational needs, set objectives, allocate resources, and design strategies to meet the demands of both society and learners (Coombs, as cited in Odim et al., 2025). It plays a crucial role in improving academic achievement, promoting efficient resource use, creating a supportive school climate, and enhancing teacher retention and professional growth (Ngene et al., 2025). Management utilizes both human and material resources to facilitates the attainment of predetermined objectives (Argon, 2021). Fayol, as cited in Yılmaz et al. (2025), emphasized that management represents the sum of these processes, while Taymaz as cited in Yılmaz et al., (2025) categorized them into seven core functions: decision-making, planning, organizing, communication, influence, coordination, and evaluation. ChatGpt now serve as intelligent assistants that support educational administrators in carrying out routine tasks. The tool enhance efficiency in areas such as budgeting, student admissions, course management, procurement, expense tracking, and facility operations.

ChatGPT has modernized management and administrative processes by automating and simplifying once complex administrative tasks. For example, schools can use ChatGPT to model complex data for generating forecasts, thereby supporting long-term planning, reducing waste, and promoting efficiency. This enables school administrators and teachers to focus on strategic goals (Amadi & James, 2025). In doing so, it helps institutions develop adaptive administrative techniques and customized tools for improving management strategies (Amadi & James, 2025). ChatGPT, is a large language model designed to generate humanlike text for tasks including text completion, conversational responses, and language translation (Baidoo-Anu & Owusu, 2023). Moreover, it has the ability to produce human-like text, handle tasks such as conversation, translation, and text completion, and support creative content development (Strzelecki, 2023). According to İşler and Kılıç (2021), it helps to automate repetitive tasks thereby reducing operational costs, improve transparency, and enable managers to concentrate on initiatives that directly enhance teaching and learning.



The Benefits of Applying ChatGPT in Secondary Education Administration

1. Efficient School Administration

School management is primary responsibility of an administrator. Modern administration requires the availability and utilization of modern tools and facilities. Therefore, ChatGpt is one tool that can help an administrator to complete official task seamlessly. When followed, it can also assist school manager to minimize the risk of unnecessary deviations (Yılmaz et al., 2025). As in other organizations, management is essential in educational institutions. It involves making decisions, anticipating challenges and implementing strategies to address them (Kıral & Deliveli, cited in Yılmaz et al., 2025). ChatGPT can enhance this process by synthesizing literature, drafting policy briefs, generating scenario outlines, and summarizing stakeholder inputs. These functions save the manager's time.

Furthermore, AI technologies can analyze large datasets and uncover meaningful insights related to student performance, learning patterns, and teacher effectiveness. Such insights support administrators in making well-informed decisions (Educause, cited in Yılmaz et al., 2025). Beyond this, this AI tool play an important part in admissions and enrollment processes. It can monitor prospective students, facilitate communication with institutions, guide applicants in course selection, and support them throughout enrollment (Sanusi et al., 2022). Efficient administration in secondary education requires rational resource management, enforcement of policies, and the creation of a supportive learning environment (Adaku & Obona, 2024; Nwannunu et al., 2024). ChatGPT contributes to managerial efficiency by automating tasks such as scheduling, record-keeping, financial management, and responding to student requests. This automation allows administrators to focus on long-term planning and strategic decisions (Iyaji et al., 2024; Obona et al., 2024). It further supports institutional management by analyzing data to predict student performance, allocate financial aid fairly, and reduce costs while ensuring transparency (Nemorin et al., 2022).

2. Sound Decision-Making

Decision-making is the backbone of every organizational success. For school managers, sound decision-making requires gathering reliable information and building effective relationships to make informed choices (Koparal & Özalp, cited in Yılmaz et al., 2025). Using ChatGPT can aid decision-making by converting complex data into simple summaries, drafting recommendations, and guiding manager in interpreting the outputs. The AI technique that supports this process is data mining, which identifies patterns and trends within large datasets. It has been widely used in education to classify students, identify success factors, predict graduation outcomes, and provide targeted support for struggling learners (Göker & Tekedere, 2020; Özbay, 2015). Together, these tools enhance data-driven decision make that enhance efficient use of educational resources.

3. Development of Academic Programmes

Academic programmes are fundamental to the attainment of institutional goals. Developing academic programmes involves designing lessons that address the diverse student needs. AI-powered tools can assist in analyzing factors such as student enrollment, teacher expertise, curriculum requirements, scheduling, course planning and creating structured and effective academic programs (Holmes et al., cited in Yılmaz et al., 2025; Kürşat, cited in Yılmaz et al., 2025). This not only reduces administrative challenges but also promote access to courses and improves teacher planning efficiency. Therefore, AI-driven scheduling systems impact organizational structures and improve student outcomes.



4. Communication Management

Communication in this context is the exchange of information within the school system. It links different units and facilitates internal interaction needed for achieving desired behavioral changes among staff and students. Communication is essential for managers to achieve goals and motivate the staff (Draft, 2010). ChatGPT serve as conversational assistants and virtual helpdesks. It manages tasks for managers such as drafting circulars, reminders, meeting notes, and answering frequently asked questions. This tool can improve coordination, save time, and strengthen communication between schools, teachers, parents, and students.

5. Students Support

Artificial Intelligence tools assist in the management of student records such as grades, attendance, and in generating timetables based on available faculty, classroom space, and scheduling needs (Arya, 2024). Specifically, ChatGPT serves as a personalized learning assistant by supporting students in writing assignments, essays, and answering theoretical questions. It promotes independent learning by offering immediate clarification, improving grammar, vocabulary, and language skills, particularly for students with learning difficulties or those from non-English-speaking backgrounds (Nautiyal et al., 2023). It also supports collaborative learning by connecting students across locations and enabling simultaneous knowledge sharing (McLaren et al., 2010). With tools such as learning management systems, AI delivers personalized feedback, identifies at-risk students, helps to design adaptive curricula, enhance teamwork, and guide students throughout their educational journey (Mahendra, 2023; Mureşan, 2023).

6. Teachers Support

ChatGPT provide instructional support by assisting teachers with lesson planning, generating customized teaching materials, and enhancing assessment practices (Rahman & Watanobe, 2023). It also provides formative feedback, promote reflective teaching, and offer language editing and translation services to support diverse learners (Wiggins, 2011). ChatGPT also helps improve presentations, streamline literature reviews, and enhance teaching effectiveness (Buriak, 2023). Similarly, by reducing teachers' workload, Bhutoria (2022) submit that this tool allows educators to concentrate on higher-order instructional tasks. ChatGPT can also track student engagement, identify weak learners, and provide needed help, thereby fostering active student participation.

Furthermore, ChatGPT help to make instructional more engaging and efficient (Ku Chhaya, cited in Amadi & James, 2025). For instance, while traditional search engines often produce excessive information, ChatGPT can deliver precise and immediate responses which improves instructional effectiveness. Amadi and James (2025) also state that the tool can support differentiated instruction by generating tailored reading passages to match individual learners' needs.

Constraints of ChatGPT in Secondary Education Administration

ChatGPT offers significant benefits in educational administration. However, research highlights numerous challenges ranging from infrastructural deficit, limited digital literacy to change resistance that require careful regulation (Tlili et al., 2023; Shah, 2021; Zhai, 2022).

i. Infrastructural Deficit

Inadequate infrastructure is one major barrier to AI adoption in schools particularly in developing countries like Nigeria. It is observed that many public secondary schools do not have adequate



computers, tablets, and other digital devices required for the effective use of AI-based tools. Teachers also find it difficult to acquire the device because of its high cost. Apart from this challenge, unstable electricity supplies, lack of internet connectivity further obstruct the consistent use of AI applications.

ii. Limited Digital Literacy

The low level of digital literacy among some school manager is another key challenge facing the utilization of ChatGPT in school management. Effective utilization of AI tools require technical expertise. However, the sad reality is that many secondary educational managers do not have this skill and are not even willing to learn. This has resulted to resistance in adoption and ineffective usage. Chukwu and Ekene (2022) emphasize the need for training to solve the problem.

iii. Ethical and Data Privacy Issues

Artificial intelligence systems typically depend on extensive data collection involving students, teachers, and various school administrative processes. When proper protective measures are not in place, such data becomes vulnerable to hacking, unauthorized access, and potential misuse. Many stakeholders, including parents and educators, express concern about the intrusive capabilities of certain AI tools, such as facial recognition systems and behavioral monitoring technologies, which may infringe on individuals' privacy rights (Ezeani & Onuoha, 2023). In addition to privacy challenges, ethical debates continue regarding whether outputs generated through AI genuinely represent students' academic abilities or merely reflect automated task completion (Cooli, as cited in Cui & Alias, 2024).

Furthermore, the dependability of tools like ChatGPT is also frequently questioned because they are trained on datasets that may be outdated or biased, and they can sometimes produce incorrect or entirely fabricated information, including false references (Lo, 2023). Furthermore, there are growing concerns that increased reliance on AI in education may encourage students to become overly dependent on automated tools, thereby weakening their critical thinking, creativity, and independent learning skills especially in cases where students who use AI extensively perform as well as or better than their peers (Wei, 2024).

iv. Change Resistance

Another significant barrier to the adoption of AI in education is the resistance often exhibited by teachers and school administrators. Educators who are deeply rooted in conventional teaching and management methods may view artificial intelligence as a challenge to their professional autonomy and decision-making authority. This perception is frequently accompanied by fears that AI-driven systems might diminish or even replace the role of human expertise, thereby creating distrust and hesitation toward its use (Babalola & Oladipo, 2022). Overcoming this challenge requires effective leadership communication that reassures stakeholders that AI is intended to function as a supportive tool that complements human judgment rather than substitutes it.

Approaches for Mitigating ChatGPT Limitations in Secondary Education Administration

1. Formulation of Comprehensive Institutional AI Guidelines

One of the major ways of addressing the challenges associated with ChatGPT in secondary education is through the establishment of well-defined institutional policies to guide its use. School administrators and educational authorities need to develop clear and detailed regulations that explain how AI tools should and should not be used by teachers, students, and school managers. These



guidelines should focus on important issues such as academic integrity, ethical use of AI-generated content, protection of confidential information, assessment practices, and responsible application of artificial intelligence within the school system.

When schools put proper regulations in place and ensure that they are effectively implemented, the chances of misuse and unhealthy dependence on ChatGPT can be minimized. Clearly stated AI policies also help maintain the quality of education by ensuring that AI serves as a supportive resource for teaching, learning, and administration instead of replacing human responsibilities.

2. Training and Continuous Professional Development for Educators

The continuous training and retraining of teachers and school administrators can help to reduce the limitations of ChatGPT in secondary education. Many of the problems linked to AI usage in schools arise from insufficient understanding of how AI technologies operate. Organizing regular workshops, seminars, conferences, and professional development programmes can help users to acquire the knowledge and practical skills needed to use ChatGPT effectively and responsibly. By improving the digital competence of administrators, teachers and students, schools can enjoy the advantages of ChatGPT while reducing its potential risks and limitations.

3. Enhancing Data Protection and Cybersecurity Practices

The growing adoption of ChatGPT and other AI technologies in schools has made data privacy and cybersecurity increasingly important in educational management. Since AI systems depend heavily on digital data and online communication, secondary schools must introduce strong security measures to safeguard sensitive information relating to students, teachers, and school operations. Such measures may include the use of secure internet systems, encrypted data platforms, password-protected devices, restricted access to confidential records, and regular monitoring of digital activities within the school environment.

Apart from technological protection, schools should also create awareness among staff and students on safe data-sharing habits and responsible online behaviour. This can help reduce the risks of cyberattacks, data breaches, unauthorized access, and misuse of confidential information. This will protect institutional records and increase trust and confidence among stakeholders.

4. Encouraging Responsible and Critical Use of AI Tools

Encouraging a balanced and thoughtful use of ChatGPT is another effective strategy for addressing its limitations in secondary education administration. Although AI technologies can improve efficiency and provide quick access to information, overreliance on them may weaken creativity, independent reasoning, and problem-solving abilities among both students and staff. Schools should therefore promote the use of ChatGPT as a supportive educational tool rather than allowing it to replace human intelligence, creativity, and professional expertise.

Moreso, teachers should create learning activities and assessment tasks that encourage originality, critical thinking, and active participation, even when AI tools are available. In the same way, students and staff should be guided to verify and improve AI-generated responses instead of accepting them without proper evaluation.



5. Continuous Monitoring, Evaluation, and Feedback Mechanisms

Another important administrative approach for reducing the limitations of ChatGPT in secondary education is the establishment of effective monitoring, evaluation, and feedback systems. Beyond developing policies and training staff, schools need to consistently track how AI tools are being used within teaching, learning, and administrative processes. This involves regularly assessing whether ChatGPT is being applied appropriately, the extent of its impact on academic performance, and any emerging challenges such as misuse, inaccuracies, or overdependence.

This measure can help school administrators identify gaps in implementation and make informed decisions to improve AI integration practices. Feedback from teachers, students, and other stakeholders is also essential, as it provides practical insights into the real-life effectiveness of ChatGPT in the school environment.

Conclusion

This study examined the role of ChatGPT in secondary education administration in Nigeria, with particular attention to its applications, benefits, constraints, and management approaches for effective utilization. The discussion established that secondary education serves as a critical foundation for national development, equipping learners with the cognitive, affective, and psychomotor competencies needed for higher education, employment, and societal contribution. However, the attainment of these goals is largely dependent on effective school management, which is currently challenged by issues such as inadequate resources, weak administrative systems, and declining educational outcomes. In this context, the integration of Artificial Intelligence tools such as ChatGPT presents a significant opportunity to strengthen administrative efficiency, improve decision-making, enhance communication, support teaching and learning processes, and promote data-driven school management.

Despite these advantages, the study also revealed that the use of ChatGPT in secondary education administration is constrained by infrastructural deficits, limited digital literacy, ethical and data privacy concerns, and resistance to change among stakeholders. These challenges, if not properly addressed, may limit the effective adoption of AI in school systems. Nevertheless, the study emphasized that these limitations can be mitigated through strategic management approaches such as the formulation of clear institutional AI policies, continuous professional development for educators, strengthening cybersecurity measures, promoting responsible and critical use of AI tools, and establishing monitoring and evaluation mechanisms. Overall, the study concludes that while ChatGPT holds transformative potential for improving secondary education management in Nigeria, its successful integration depends on deliberate, well-structured, and ethically guided management strategies that ensure it complements rather than replaces human expertise in educational administration.

Recommendations

The following recommendations are made:

1. Secondary school authorities should establish clear and comprehensive policies guiding the use of ChatGPT and other AI tools. Such policies should define acceptable usage, ethical standards, and academic integrity requirements to ensure responsible integration within the school system.
2. Government should invest in improving ICT infrastructure in secondary schools, including stable electricity supply, internet connectivity, and access to digital devices. This will ensure



that schools are adequately equipped for the effective use of ChatGPT in administrative and instructional processes.

3. Regular training, workshops, and professional development programmes should be organized to improve the digital literacy and AI competence of teachers and school managers. This will enable them to effectively apply ChatGPT in decision-making, communication, and administrative tasks.
4. Schools should adopt robust cybersecurity measures to safeguard sensitive academic and administrative data. This includes secure digital platforms, controlled access systems, and continuous monitoring of data usage to prevent breaches, misuse, and unauthorized access.
5. Educational administrators should ensure regular monitoring and evaluation mechanisms are established to assess the impact ChatGPT on school administration and ensure continuous improvement in its application.

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