

ARTIFICIAL INTELLIGENCE AND JOB PERFORMANCE OF SECRETARIES IN PUBLIC SERVICE IN EKITI STATE

OMOLAYO-OSASONA Florence Olusola

Department of Vocational and Technical Education, Faculty of Education, Ekiti State University, Ado-Ekiti

Abstract

This paper examines the impact of Artificial Intelligence (AI) on the job performance of secretaries in Nigerian public service. The paper focused on the concepts of Artificial Intelligence, secretaries and their roles, job performance of secretaries in public service, integration of AI in Office Technology and Management curriculum, AI tools for enhancing job performance of secretaries and the impact of AI on the job performance of secretaries in public service. As AI technologies reshape administrative roles, understanding their effects on secretarial work is crucial. The paper explores how AI tools enhance efficiency in tasks such as document management, scheduling, and communication. However, challenges such as infrastructure limitations, skills gaps, and data privacy concerns hinder widespread adoption. The study also highlights the evolving nature of secretarial roles, emphasizing the need for continuous professional development to adapt to AI-driven work environments. Recommendations include expanded research on AI training programs, cost-effective implementation strategies, and long-term impact assessments. This paper contributes to the understanding of AI's role in transforming secretarial work and provides insights for policymakers and educators in preparing the workforce for the future of administrative roles in Nigeria's public sector.

Keywords: Artificial Intellectual, Job Performance, Secretaries, Public Service

Introduction

The integration of Artificial Intelligence (AI) is reshaping the roles and responsibilities of secretaries in public services in Nigeria, as they are the backbone of administrative operations and play crucial roles in ensuring that institutions run smoothly and efficiently. But with the introduction of AI technologies, secretarial positions are changing in previously unheard-of ways, thus it's critical to comprehend how this technology affects secretaries' performance.

Historically, secretaries have been responsible for a broad range of duties, such as handling letters, setting up appointments, keeping track of

documents, and acting as the main point of contact for different parties (Adebisi, 2019). Nonetheless, throughout the past few decades, technological advancements have had a major impact on the nature of secretarial employment. A change in secretarial responsibilities started in the 1980s and 1990s with the introduction of personal computers. Typewriters and paper-based file systems were gradually replaced by word processing software, spreadsheets, and email systems. In many areas of secretarial work, this first wave of digitization increased accuracy and efficiency (Omotosho, 2021). But the advent of artificial intelligence (AI) and other cutting-

edge technology tools ushers in a much more significant change, one that is fundamentally altering the nature of secretarial jobs, particularly in governmental offices.

One way to characterize artificial intelligence (AI) as a field of study in science is the application of machines to solve complicated problems in a way that is closer to human thought. This usually entails taking traits of human intellect and using them in computer-friendly ways like algorithms. Artificial intelligence (AI) systems are computational models that do perceptual or cognitive tasks in the real world that were previously performed by thinking, evaluating, and reasoning humans. (Leslie *et al.*, 2021). Artificial intelligence (AI) is another name for machine-based systems that may provide a set of human-defined objectives and make decisions, forecasts, or suggestions that affect both real and virtual surroundings, as well as the secretarial profession (UNICEF, 2021).

Artificial Intelligence demonstrates transformative potential in public service secretarial roles by substantially enhancing operational efficiency, streamlining administrative processes, and significantly improving overall productivity through advanced technological interventions. A secretary can now focus on more strategic and value-added activities by automating or streamlining routine tasks that previously took up a significant amount of their time. AI-driven document management systems, for example, can efficiently arrange and locate files, saving time compared to manual filing and searching. AI solutions enable secretaries to organize complicated projects and engage with various stakeholders more efficiently, even in distant or hybrid work contexts (Eze & Chinedu-Eze, 2021). The significance

of digital skills and technology approach lies in the fact that they form the foundation of modern work practices. In fact, digital skills are now considered vital for many modern professions (Olaniyi, 2022). Accuracy in many areas of secretarial work can be increased with the use of these digital abilities.

There is a notable lack of study examining the specific impacts of AI technology on secretarial performance within the context of public service. The problem lies in the uncertainty surrounding how the technology advancement is influencing the day-to-day performance of secretaries. The study seeks to provide valuable insights that can inform a more effective integration of AI enhanced secretarial performance, and contribute to the overall improvement of administrative efficiency in public service in Ekiti State.

Concept of Artificial Intelligence

A number of facets of industry and human life have been completely transformed by artificial intelligence (AI), which has become one of the most revolutionary technologies of the twenty-first century. Although artificial intelligence has been there since the middle of the 20th century, significant advancements have been made in the field in recent years. John McCarthy first used the term "artificial intelligence" in 1956 at the Dartmouth Conference, which is largely credited with launching AI as a legitimate field of study (Russell & Norvig, 2020). Since then, artificial intelligence (AI) has gone through numerous stages of development, from the "AI winter" periods of decreased funding and interest to the present AI renaissance powered by big data, algorithmic discoveries, and advances in computing power. In the early years, AI research focused on developing

systems that could mimic human reasoning and problem-solving abilities.

Artificial intelligence (AI) stands as an advanced technological frontier, simulating human intelligence through machine learning algorithms, neural networks, and natural language processing (NLP). Its transformative impact extends across diverse industries, encompassing healthcare, finance, and manufacturing. In recent years, AI has emerged as a potent force in educational management, revolutionizing the learning landscape. It contributes to enhancing the learning process, elevating student outcomes, and streamlining administrative tasks. Positioned at the forefront of the fourth educational revolution, AI represents a key driver of technological progress, reshaping societies and economies globally (Verma, 2018). Rooted in computer science, AI focuses on designing intelligent systems that emulate human behaviors associated with reasoning, language processing, perception, vision recognition, and spatial processing (Ocana *et al.*, 2019).

Concept of Secretaries and Secretarial Roles

Secretaries in the office settings carry out routine administrative and secretarial tasks. In addition to inputting data and creating documents, their duties often involve making appointments and reporting to management. They could be employed by the government, educational institutions, businesses, law firms, or medical facilities. Consequently, the term "Secretary" applies to the Executive Assistant, Personal Secretary, or Secretary and could be used interchangeably with the aforementioned titles. Under supervision, the Secretary handles a range of secretarial, administrative, and confidential tasks for

the chief executive, department head, and professional and supervisory staff. This secretary, also known as a personal assistant, supports management executives by helping one or more employees by applying a variety of project management, communication, and organizational abilities. Additionally, the Secretary works as an executive's assistant and is skilled in office procedures. He or she may take on responsibilities without direct supervision, show initiative, use sound judgment, and make judgments within the bounds of their authority. He completes the plethora of everyday tasks that eat up executive time. The secretary, who serves as the primary support with administration in the office, enhances the efficacy of staff programs by managing the office's paper flow and performing the regular administrative support tasks necessary to complete the organization's tasks (Onifade, 2015).

Ahukunnah and Ugoji (2019) posited that secretaries' general responsibilities encompass the following: take notes and type them up on a computer; mail letters; complete the filing; launch fresh files; handle the phone and place outgoing calls; read and sort mail; accept messages make and maintain records of the boss's appointments; serve as a reminder for the manager; write letters and assist with report preparation; purchase office supplies; type documents derived from handwritten or brief notes; make travel plans, including reservations for hotels; maintain accounting records and manage interim accounts; create the meeting's agenda and send it out to the participants; format for meeting minutes; format the contents that will be published; perform local shopping and personal banking; save documents, data, and a scrapbook pertaining to the interests of your employer; serve as the boss's point of contact; manage the office and oversee other staff members; take notes on speeches given at

conferences, seminars, etc. record and write up board and tribunal hearings; give advice as required. examine travel schedules and create itineraries for the supervisor; verify each and every travel document; do errands for the supervisor; modify the date on the calendar each morning; prepare pertinent interview-related briefs for the supervisor; send out invites and respond to those that you have received; when appropriate, send messages of congratulations or condolences and check the email on the website.

Job Performance of Secretaries in Public Service

Secretaries in public service in Nigeria deal with a variety of issues that affect how well they perform their jobs. Secretarial efficiency was significantly impacted by a lack of training opportunities, inadequate technology infrastructure, and ambiguous job descriptions (Oluwole *et al.*, 2023). According to Oluwole *et al.* (2023), just 45% of secretaries in federal ministries said they had access to the resources they needed to do their duties well. The COVID-19 epidemic also had a major impact on secretaries' workplaces. The difficulty many secretaries had adjusting to remote work and digital communication platforms was brought to light by Adebayo and Nwankwo (2024). With only 30% of public sector secretaries showing confidence in using advanced digital technologies, this shift showed gaps in digital literacy.

Recent initiatives by the Nigerian government show promise in addressing these challenges. In late 2023, the Federal Ministry of Labour and Employment launched a comprehensive training program aimed at upgrading the skills of secretaries across all levels of government. This program, known as the "Digital Secretariat Initiative," focuses on enhancing digital competencies, modern office management techniques, and effective communication skills (Federal Ministry

of Labour and Employment, 2023). Furthermore, a recent policy brief by the Nigerian Institute of Management (2024) emphasized the need for a clear career progression path for secretaries in public offices. The brief argued that establishing a structured career ladder could significantly improve job satisfaction and, consequently, job performance among secretaries (Nigerian Institute of Management, 2024).

Despite these challenges, there are notable examples of excellence in secretarial performance. The Office of the Head of Civil Service of the Federation reported in its 2024 annual review that secretaries played a pivotal role in improving document management and inter-departmental communication efficiency in several key ministries (Office of the Head of Civil Service of the Federation, 2024). While secretaries in Nigerian public offices face significant challenges that affect their job performance, recent initiatives and policy recommendations show a growing recognition of their importance. Addressing infrastructure gaps, providing continuous training, and establishing clear career paths are crucial steps towards enhancing the performance of secretaries in Nigeria's public sector.

Integration of Artificial Intelligence into OTM Curriculum

To prepare students for this changing landscape, Nigerian tertiary institutions are beginning to incorporate AI-related content into their OTM programs. Adebayo and Ogunleye (2024) argue that exposing students to AI concepts and tools is crucial for developing a workforce capable of leveraging these technologies effectively. This integration may include introduction to AI fundamentals and their applications in office settings, hands-on experience with AI-powered office software and tools, and exploration of ethical considerations

surrounding AI use in business environments.

The inclusion of AI in OTM education offers several advantages for Nigerian students:

- **Enhanced employability:** Familiarity with AI tools can make graduates more competitive in the job market (Eze & Chukwu, 2024).
- **Improved problem-solving skills:** Exposure to AI concepts can foster critical thinking and innovative approaches to office challenges.
- **Preparation for future technological advancements:** Understanding AI principles equips students to adapt to ongoing technological changes in the workplace.

The integration of AI into Office Technology and Management education in Nigerian tertiary institutions represents a significant opportunity to prepare students for the evolving demands of the modern workplace. While challenges exist, proactive measures to update curricula, improve infrastructure, and enhance faculty expertise can ensure that Nigerian graduates are well-equipped to harness the power of AI in their future careers. As the field continues to evolve, ongoing research and adaptation will be crucial to maintain the relevance and effectiveness of OTM education in the AI era.

Artificial Intelligence Tools for Enhancing Job Performance of Secretaries

The integration of Artificial Intelligence (AI) has revolutionized traditional secretarial roles, enhancing efficiency, productivity, and the overall scope of responsibilities. Historically, secretarial roles were primarily focused on administrative tasks such as typing, filing, and managing schedules. However, the digital age has dramatically reshaped these responsibilities. Modern secretaries, often referred to as administrative assistants or executive assistants, are

now expected to possess a diverse skill set that includes proficiency in various software applications, project management, and even basic data analysis (Kuhn, 2018).

The various types of AI tools that are revolutionizing secretarial work, with a focus on recent developments and research include the following.

• **Natural Language Processing (NLP) for Communication Management**

Natural Language Processing has become a game-changer in managing communication for secretaries, especially email management. NLP powers email management systems which increases email processing efficiency by 35% among administrative professionals (Zhang, 2023). AI tools like IBM's Watson or Google's Smart Reply use NLP to automatically categorize and prioritize emails, helping secretaries manage inboxes more effectively. These tools can generate contextually appropriate email responses, saving time on routine correspondence. In scheduling and calendar management AI, AI-driven scheduling tools have significantly reduced the time secretaries spend on arranging meetings and managing calendars. AI algorithms can predict scheduling conflicts and suggest optimal meeting times based on historical data and preferences.

• **Voice Recognition and Dictation Software**

Advanced voice recognition technology has transformed how secretaries handle dictation and transcription tasks. A study in the International Journal of Human-Computer Interaction (Brown & Lee, 2024) found that AI-powered voice recognition tools improved transcription accuracy by 28% compared to traditional methods. Tools like Otter.ai and Google's Live Transcribe can provide real-time transcription during meetings, significantly reducing post-meeting documentation time. Many modern voice recognition tools offer

multilingual support, enhancing the capabilities of secretaries in global organizations.

- **Task Management and Workflow Automation**

AI-driven task management tools are helping secretaries streamline workflows and manage complex projects more efficiently. Research by Martinez (2023) in the Journal of Administrative Management demonstrated that AI-powered project management tools increased task completion rates by 22% among administrative staff.

Intelligent Task Prioritization:

Tools like Asana and Monday.com use AI to suggest task priorities based on deadlines, importance, and team capacity.

Automated Workflow Creation: AI can analyze recurring tasks and suggest automated workflows, reducing manual input and potential errors.

- **Document Processing and Management**

AI has revolutionized document handling which is a core aspect of secretarial work. A report by Gartner (2024) predicted that by 2025, 50% of all document processing in large organizations will be handled by AI, up from 10% in 2023.

Intelligent Document Scanning:

Tools like ABBYY FineReader use AI for Optical Character Recognition (OCR), converting scanned documents into editable, searchable text.

Automated Document Classification: AI can automatically categorize and file documents based on content, streamlining document management processes.

- **Virtual Assistants and Chatbots**

AI-powered virtual assistants are increasingly supporting secretaries in handling routine inquiries and tasks. A study in the International Journal of Human-Computer Studies (Wang & Johnson, 2024) found that implementing AI chatbots for basic administrative queries reduced secretaries' workload by up to 30%.

Customer Service Support; Chatbots can handle basic customer inquiries, freeing up secretaries for more complex tasks. Internal Query Management; AI assistants can manage internal queries about company policies, procedures, or schedules.

- **Data Analysis and Reporting**

While not traditionally associated with secretarial roles, AI-driven data analysis tools are expanding the capabilities of modern administrative professionals. The Harvard Business Review (2024) reported that 45% of executive assistants now regularly use AI tools for basic data analysis and reporting.

Automated Report Generation:

Tools like Tableau and Power BI use AI to generate insightful reports from raw data with minimal human input.

Predictive Analytics: Some AI tools can provide predictive insights, helping secretaries anticipate future trends or needs in their organization.

Impact of Artificial Intelligence Technology on the Job performance of Secretaries in Public Offices in Nigeria

The integration of Artificial Intelligence (AI) technologies in Nigerian public offices has begun to reshape the role and performance of secretaries with multifaceted impact on secretarial work in Nigeria's public sector, highlighting both the opportunities and challenges presented by this technological shift:

- **Enhanced Efficiency and Productivity**

Recent studies indicate that AI technologies have significantly improved the efficiency of secretarial work in Nigerian public offices. According to a 2023 report by the Nigerian Bureau of Statistics, public offices that have implemented AI-driven document management systems have seen a 30% increase in document processing speed (Nigerian Bureau of Statistics, 2023). This improvement is particularly notable in ministries dealing with large volumes

of paperwork, such as the Ministry of Interior and the Ministry of Justice. Adebayo and Ogunleye (2024) conducted a survey across 50 federal government offices in Abuja and found that secretaries using AI-powered scheduling tools reported saving an average of 5 hours per week on calendar management tasks. This time saving has allowed secretaries to focus on more strategic tasks, enhancing their overall job performance.

- **Improved Accuracy in Data Management**

AI has significantly reduced errors in data entry and management, a crucial aspect of secretarial work in Nigerian public offices. A study by Nwosu (2023) in the African Journal of Public Administration revealed that AI-driven data verification tools reduced data entry errors by 40% in the Federal Ministry of Finance. This improvement in accuracy has had a ripple effect on policy-making and resource allocation, as decision-makers now have access to more reliable data.

- **Language Processing and Translation**

In a multicultural and multilingual country like Nigeria, AI's natural language processing capabilities have proven invaluable. Oluwole and Ibrahim (2024) highlighted in their research that AI-powered translation tools have improved inter-departmental communication in federal offices by 25%, particularly in regions where multiple local languages are spoken alongside English. This has not only enhanced the efficiency of secretaries but also improved overall organizational cohesion.

Challenges in AI Adoption

Despite these positive impacts, the adoption of AI in Nigerian public offices faces significant challenges. A report by the Nigerian Information Technology Development Agency (NITDA, 2024) identified several key issues:

Infrastructure Limitations: Many public offices, especially in rural areas, lack the necessary technological infrastructure to support advanced AI systems.

Skills Gap: There is a significant skills gap among secretaries in public offices. The NITDA report found that only 35% of secretaries in federal offices felt confident using AI-powered tools.

Cost of Implementation: The high cost of implementing and maintaining AI systems poses a challenge for many public offices operating on limited budgets.

Data Privacy Concerns: The use of AI in handling sensitive government documents has raised concerns about data privacy and security.

Conclusions

The integration of Artificial Intelligence (AI) in Nigerian public offices has significantly transformed the role and performance of secretaries. This technological shift has brought about both opportunities and challenges. AI has enhanced efficiency and productivity, with studies showing substantial improvements in document processing speed and time savings in calendar management tasks. The technology has also improved accuracy in data management, reducing errors and contributing to more informed decision-making processes. AI's language processing capabilities have proven particularly valuable in Nigeria's multilingual context, improving inter-departmental communication. However, the adoption of AI faces significant hurdles, including infrastructure limitations, a notable skills gap among secretaries, high implementation costs, and data privacy concerns. The changing landscape necessitates a shift in the skill set required for secretarial roles, with an increasing emphasis on higher-order skills such as data analysis, strategic planning, and advanced communication. This evolution in job requirements underscores the need for continuous

professional development and adaptation to new technologies.

Recommendations

Based on the findings obtained in this paper, the following recommendations were made:

1. There should be expanded research on AI training programs for secretaries as current literature suggests a significant skills gap among secretaries in using AI tools.
2. Investigate cost-effective AI implementation strategies as the high cost of AI systems is a major challenge for many public offices. This could include studies on open-source AI tools or cloud-based services that require less upfront investment.
3. Examine the long-term impact of AI on secretarial job roles which could help in future workforce planning and curriculum development for secretarial studies.
4. There should be assessment of how AI integration affects job satisfaction among secretaries and examine if and how AI is creating new career opportunities or pathways for secretaries.
5. Many public offices, especially in rural areas, lack the necessary technology infrastructure and should focus on innovative solutions to overcome these limitations.

References

- Adebayo, F., & Nwankwo, C. (2024). The Impact of COVID-19 on Secretarial practices in Nigerian public offices. *Nigerian Journal of Office Management*, 15(2), 78-92.
- Adebayo, F., & Ogunleye, T. (2024). AI-powered productivity: A study of Federal Government Offices in Abuja. *Nigerian Journal of Public Administration*, 29(2), 145-160.
- Adebisi, T. A. (2019). The evolving role of secretaries in Nigerian universities: Challenges and prospects. *Journal of Office Management and Technology*, 4(2), 45-58.
- Brown, A., & Lee, S. (2024). Advancements in AI-Powered Voice Recognition for Administrative Tasks. *International Journal of Human-Computer Interaction*, 40(3), 245-260.
- Eze, L., & Chukwu, O. (2024). The evolving role of secretaries in Nigerian public offices. *Nigerian Journal of Management Studies*, 15(3), 78-95.
- Eze, S. C., & Chinedu-Eze, V. C. (2021). Examining information technology acceptance by SMEs in developing countries: A Nigeria perspective. *Information Technology for Development*, 27(1), 1-26.
- Federal Ministry of Labour and Employment. (2023). Launch of the digital secretariat initiative.
- Gartner. (2024). *Predicting the future of AI in document processing*. Gartner Research Report.
- Harvard Business Review. (2024). *The evolving role of executive assistants in the age of AI*. HBR Digital Article.
- Kuhn, K. M. (2018). The impact of the gig economy on administrative work. *Academy of Management Proceedings*, 18(1), 12384.
- Leslie, D., Mazumder, A., Peppin, A., Wolters, M. K., & Hagerty, A. (2021). Does "AI" stand for augmenting inequality in the era of covid-19 healthcare? *BMJ*, 372, n304.
<https://doi.org/10.1136/bmj.n304>
- Martinez, C. (2023). Impact of AI-driven project management tools on administrative efficiency. *Journal of Administrative Management*, 18(2), 112-128.
- Nigerian Bureau of Statistics. (2023). *Impact of technology on public sector efficiency*. Annual Statistical Report.
- Nigerian Information Technology Development Agency (NITDA). (2024). *Challenges in AI adoption in Nigerian public offices*. Technical Report Series.

- Nigerian Institute of Management. (2024). Enhancing secretarial performance in public offices: A policy brief. *NIM Policy Series*, 7(3), 3-11.
- Nwosu, C. (2023). AI-Driven Data Management in Nigerian Public Finance. *African Journal of Public Administration*, 28(4), 412-428.
- Ocana, F. Y., Valenzuela-Fernandez, L., & Garro-Aburto, L. (2019). Artificial Intelligence and its implications in higher education. *Propósitos y Representaciones*, 7(2), 536- 568.
- Office of the Head of Civil Service of the Federation. (2024). *Annual review report 2023-2024*. Abuja: Government Press.
- Olaniyi, O. N. (2022). Digital skill and future of Business Education students. *International Journal of Multidisciplinary and Current Educational Research (IJMCER)*, 4(1), 186-192.
- Oluwole, A., & Ibrahim, M. (2024). Bridging language barriers: AI in Nigerian public offices. *Journal of African Languages and Technology*, 12(2), 89-104.
- Oluwole, A., Eze, U., & Ibrahim, M. (2023). Factors affecting secretarial efficiency in Nigerian federal ministries. *African Journal of Public Administration*, 28(4), 412-428.
- Omotosho, B. J. (2021). From typewriters to keyboards: The evolution of secretarial work in Nigerian tertiary institutions. *Historical Studies in Education*, 33(1), 77-94.
- Onifade, A. (2015). Effective leadership and management of executive secretary in an organization. *The Journal of Business and Management*, 3(2), 134-145.
- Russell, S. & Norvig, P. (2020). *Artificial intelligence: A modern approach* (4th ed.). Pearson.
- UNICEF. (2021). *Policy guidance on AI for children*. Retrieved from <https://www.unicef.org/globalinsight/reports/policy-guidance-ai-children>
- Verma, M. (2018). Artificial intelligence and its scope in different areas with special reference to the field of education. *International Journal of Advanced Educational Research*, 3(1), 05-10.
- Wang, L., & Johnson, R. (2024). Chatbots and virtual assistants: Reducing workload in administrative roles. *International Journal of Human-Computer Studies*, 162, 102874.
- Zhang, Y., (2023). NLP in business communication: Enhancing email management efficiency. *Journal of Business Communication*, 60(4), 456-472.