ISSN: 3507 - 3684
Volume 22, Number 2, 2026
Journal of Research in International Education

ARTIFICIAL INTELLIGENCE COMPETENCES AND SECRETARIES JOB PERFORMANCE IN TERTIARY INSTITUTIONS IN RIVERS STATE.

NWAOBURU, Blessing Ph.D
Department of Business Education,
Federal University, Otuoke, Bayelsa State.
Email: ***nwaeriadols@gmail.com***
Phone No: *08036747586*

Abstract

The study investigated investigate the relationship between Artificial Intelligence Competences and Secretaries Job Performance in Tertiary Institutions in Rivers State. Two objectives, two research questions and two hypotheses guided the study. A correlational research design was adopted in the study. The population for the study comprised of 305 secretaries in selected tertiary institutions in Rivers State. The entire population was used for the study, hence, there was no sampling. The instruments for the data collection were two self-structured questionnaire developed by the researcher titled "Questionnaire On Artificial Intelligence competencies of secretaries (QAICS)" and Questionnaire on Job Performance of Secretaries (QJPS). It has two sections. The first session contains the demographic data of the respondents while the second section contains item statements and response options. The response option was: Strongly Agreed (SA)-4, Agreed (A)-3, Disagreed (DA)-2, Strongly Disagreed (SDA)-1. The instruments were validated by three experts. Cronbach alpha was used to establish the reliability of the instrument and reliability coefficients of 0.84 and 0.81 was established. Pearson product moment correlation coefficient (PPMC) was used to analyze the data collected in the study while t-transformation was used to test the hypotheses formulated in the study at 0.05 level of significance. Findings in the study shows that; AI document management competency, AI data processing competencies relates to job performance of secretaries in tertiary institutions in Rivers State. Based on these findings, conclusions and recommendations were made.

Keywords: Artificial intelligence, Document Management and Data processing.

Introduction

Secretaries' job is evolving from the task of assisting executive to dealing and making most use of AI tools to permeate the workplace. Technological advances in offices according to Enyekit and Ubulom (2020), have led to secretaries performing a wide range of duties that were once performed by executives. Automation and structural reformation is a major impact of the advent of Artificial Intelligence. It has made a serious modification in office activities. This shift necessitates a new set of skills, including AI data process, AI document management and AI cybersecurity. Understanding how to harness AI tools and integrate them into daily operations is becoming crucial for administrative officers to maintain their relevance and contribute to organizational success. There is need for Administrative officers who see to supporting organizational objectives and efficient office operations to now adapt these technological advancements. Skills like **AI** Data Processing, AI Analysis and Interpretation**,** AI Automation and Workflow Management**,** AI Problem-Solving and so on, are essential for effective job performance in modern day office. The incorporation of these skills by administrative officers will connect and align office activities contrarily.

Artificial Intelligence (AI) remains in the world of secretaries in terms of making waves and providing the required support to put tasks in their proper positions. Making productivity to be so high and increasing efficiency. Artificial intelligence is a tool that is so great that when appropriately used, will support the administrative officers job performance. AI, technology in general is premeditated to raise the proficiencies of workforces and not for them to be replaced when it connects to knowledge, applications that are complex, the workforces and computers. Among the things that it

can do are, to retrieve data, product design, enable applications during their work to distribute, data mining, email management, sort data, manufacturing, and scheduling. Artificial Intelligence systems depend on the experiences and understanding of humans; reasonable models are chosen, and the current advanced technologies are an addition of human experiences. So, they do not replace humans because they lack human feeling (Shaw, Rudzicz, Jamieson, and Goldfarb, 2019).

Bupo and Akpomi (2023) defined Artificial Intelligence as the reproduction of human intelligence formed by machines, computer systems, and codes to do things and reason like humans. On the word hand, Canhoto & Clear (2020) defined AI as the gathering together of components of technology to take, change, and turn on data in ways that act out human intelligence. In all, it should be noted that the documentary "Coded Bias" by Kantayya (2021) detected that Artificial Intelligence is based on the data that we give them. It is the reflection of data history, an insensible prejudice and the impact it has had on people today. To Hung (2019), it is a computer collection that can pick up lessons and advance to resolve problem the way that it is usually done by human or an intelligence subject. AI is the ability of a machine that is controlled by computer, digital computer, or robot to do jobs connected ordinarily with intelligent beings like humans (Amuge, 2023). It is that aspect of computer systems study that embraces the creation of capable machines that perform tasks that would necessitate human intelligence (Russell, 2016).

AI systems have demonstrated the capacity of processing data, showcasing the broader spectrum of its capabilities beyond mere convenience in field of administration. Artificial Intelligence and Robotics are turning businesses and everyday life for the better (Bupo and Akpomi, 2023). To understand Artificial intelligence is to first understand intelligence which Diaz (2024) postulated has been defined by some experts as the ability to solve problems, adapt, plan, learn new things and improvise in new situations. Intelligence is the *ability to make decisions, apply knowledge and skills learnt, process information and* solve problems. This is further explained by enumerating the features of an intelligent dog. It is said that an intelligent dog is recognized when its behaviours are not natural or instinct, behaviours that are beyond maintaining its biological body such as sleep, eat, breath, run, bark etc. An intelligence dog is one that can do beyond the natural behaviours like sit down or get up at someone's instruction, pick up a newspaper or catch a ball etc. A good example is a dog that can do more than just running. It knows how to run and jump to catch a flying stick (Hung, 2019). AI fosters innovation by uncovering insights and patterns that humans might overlook, leading to new discoveries and solutions to complex problems.

AI is a computer system that has the fitness to do jobs that ordinarily need human intelligence acknowledgement of translation between languages, speech, visual perception, and making decision. Artificial Intelligence as postulated by McCarthy, cited in Bupo and Akpomi (2023) is the science and manufacturing of computer programs that are intelligent just as the task of an understanding intelligence human. By using computers, and it does not have to confine itself to forms that are observed in nature. Meaning that it is a branch of applied science that get by with the replication of behaviour that is intelligent in computer, the ability of a machine to imitating the behaviour of intelligent human. Jobs that are repeated over and over, and time-consuming are mechanized by Artificial Intelligence, allowing Administrative officers to focus on more compound and strategic aspects, other roles has been mentioned severally. Administrative officers with AI knowledge can identify areas within their responsibilities where AI can be applied to enhance efficiency, reduce costs, or improve overall performance. A basic understanding of AI helps them manage and oversee these systems effectively. Administrative officers with AI skills can play a role in facilitating training programs for staff members on how to use AI tools effectively. Artificial Intelligence is digital technologies that are advanced and has the capability to change the entire society (Mona, Rohit, Anton, & Uthayasankar, 2022). This promotes a smoother adoption process across the organization. Being open to technological advancements and changes in the AI

landscape, an adaptive mind-set ensures that administrative officers can leverage new AI tools effectively. Understanding the limitations and potential risks associated with AI is essential. Secretaries with AI skills can access and manage these risks effectively.

The system of artificial intelligence when it gets enough information from categories, properties, objects intends to act like a human. In developed countries, routine functions in no small measure are carried out by Artificial intelligence and robots (Bupo and Akpomi, 2023). Being the intelligent imitation of human behaviour by machine, it is observed by Suo (2021) that Robotic industry in China has greatly advanced, but that what seems certain in the artificial intelligence issue is that it might not replace all jobs, but it will change the nature of work by commonplace. So, every employee as a matter of necessity should possess basic skills of information technology as the future of organizational performance to an extent as postulated by Zahraee, Assadi, &Saidur (2016), requires the ability to effectively and efficiently make use of the potentials of Artificial Intelligence by generating relevant data from digital collaboration. The use of AI in the business world, especially in the administrative profession, is no exception (Denton, 2023). Artificial Intelligence according to Adetiba (2021) are widely building expert systems and language processing. The basis as postulated by Graham as cited in Adetiba (2021) for many ideas in storage management automatically, vigorous typing, computer science, including higher-order functions, tree data structures, conditionals, the self-hosting compiler and recursion is AI. Denton (2023) opine that AI can be used to the benefit of those in the dynamics of offices with the right skill set and knowledge and not at their detriment. A lot of artists, designers, companies, architects, and researchers use Processing, a programming language and development setting that has different purposes to create diverse range of projects incredibly.

Humans however, needs the AI skills to improve tasks. The current advancements in technology, artificial intelligence in particular, is believed to improve administrative officers' job performance if the skills are possessed. The ability to handle complex data analysis for example with AI-powered tools, can automate routine tasks like scheduling meetings, managing emails, and organizing files, relieving up administrative officers and having them to focus more on strategic activities.

The possibilities of AI are endless and there is a better bright future for secretaries with the use of AI in their job.
These possibilities are utilized and sustained by AI Data Processing, AI Document Management, and AI Cybersecurity and Privacy Management. Mastering AI skills is crucial for individuals and organizations seeking to harness the full potential of AI. By developing expertise in AI Data Processing, AI Document Management, AI Cybersecurity and Privacy Management, secretaries will perform their jobs faster, effectively, confidently with minimized errors with less stress following the automation system. AI-powered tools can automate document classification, extraction of key information, and search functionalities, improving document accessibility and retrieval efficiency.
AI technologies have enhanced document management by enabling smarter document retrieval, indexing, and storage solutions. Studies have shown that AI-powered document management systems improve accessibility and organization, thus facilitating better information retrieval and decision-making (Patel, 2024). The business world is specifically changing and being reshaped by AI as it pertains to administrative professionals, to mention is the areas of document management, email management and automation of tasks (Denton, 2023). Document management being the use of artificial intelligence technologies to automate and enhance the processes involved in storage, sharing, retrieval and analysis of documents within an organization often require data from multiple sources. Also stating that the maintenance and scaling of Artificial Intelligence systems that have been built using well-structured data models are easier because they provide a clear understanding of the system's components.

Data processing is a process wherein raw data from various sources are accumulated and synchronized into easy bigger information that derive useful insights. These insights help in the forecasting trends and informed business decisions making that is better. The insights also help in making strategies before investing in resources, thereby increasing efficiency and productivity. (Anderson, 2024). Effective data processing transforms raw data into valuable information that can significantly impact an organization's efficiency and effectiveness. It involves a series of steps from collection to storage, each crucial for ensuring the quality and usability of the data. By deriving useful insights from processed data, organizations can make informed decisions and gain a competitive advantage. This process is crucial for turning raw data into actionable insights that can drive decision-making and provide value to organizations. Data accumulation involves gathering raw data from various sources. These sources could be databases, spreadsheets, Application Programming Interfaces (APIs), Internet of Things (IoT) devices, sensors, or any other data-generating systems while the synchronisation is done after the collection of the data. The augmentation involves standardizing formats, resolving inconsistencies, and ensuring that the data from different sources can be effectively merged and analysed together. This step often involves data cleaning and transformation. After synchronization, additional data might be added, or existing data might be enriched with additional information. This could involve combining different datasets, adding metadata, or enriching the data with external sources such as demographic data, market trends, or geographic information. This is where the real insights are generated.

Efficient data processing is fundamental for administrative efficiency. Advances in AI have revolutionized data handling, allowing for real-time processing and analysis of large datasets (Clark & Wright, 2023). Techniques such as data mining and predictive analytics are increasingly employed to enhance administrative decision-making (Miller, 2024). The hindrances in executing jobs at all levels are disappearing very fast as a result of scientific and technological innovations that is becoming part of life daily (Chuzhykova, 2019). The tasks of minutes taking during meeting and expense reporting are common in administrative roles. Otter.ai is one such tool that enhances note taking during meeting in an efficient, fast, and organized manner. AI Data Processing skills are essential for anyone working with AI and machine learning, as they enable the transformation of raw data into valuable insights that drive decision-making and enhance the performance of AI models. Key aspects of AI data processing skill include gathering data from various sources, such as databases, APIs, web scraping, sensors, and other input devices, identifying and correcting errors, inconsistencies, and missing values in the data and converting raw data into a suitable format for analysis. Items recorded after being obtained as facts through observation, measuring, counting, reading and weighing are data while processing entails raw data being transformed or converted into a meaningful and useful form. The processed data is information.

Ikpesu and Numbarabari (2023) carried out a study on the Utilization of Cloud Technology Applications for Efficient Office Administration among Secretaries in Rivers State Universities. The findings were that Secretaries in Rivers State universities are utilizing cloud technology applications for office administration, particularly SaaS and CaaS. The researchers found the growing importance of digital technologies in the modern administrative environment and the importance of robust security measures to protect sensitive data in cloud applications, highlighting the need for digital proficiency among administrative staff. Cloud technology applications offer several benefits, including improved efficiency, collaboration, and data accessibility and cloud applications are found to enable better collaboration among university staff, allowing secretaries to share data and resources seamlessly. There is no significant difference in the utilization of cloud technology applications between universities, they recommended training secretaries to use cloud technology more effectively and suggests universities create a digital environment that facilitates the use of cloud technology.

Pohle (2022) studied Digitization and AI in public administration and employed a qualitative research design, using two primary methods of data collection: document analysis and expert interviews. The findings were that AI skills related to data processing (including data management and

interpretation) and automation (in terms of workflow management and process optimization) were identified as critical for modern public administration; there was a growing reliance on AI systems to streamline administrative tasks, reduce human errors, and increase efficiency. AI was increasingly being used in decision-making processes, particularly for tasks like predictive analytics, automating routine decisions, and providing data-driven insights for policy development.

Keding & Meissner (2021) studied the reason and level at which managers rely on AI advisory systems instead of human for decision-making. Artificial Intelligence was found to be the performance of diverse cognitive functions that are usually the same with human intelligence by a machine.

The study also revealed that recent studies emphasize that unique sense-making skills is the bedrock of humans keep playing the key role of central processors and final authorities in strategic decision maker and that senior managers are shifting their function of generating solutions to the evaluation of the ones proposed by machines.

Statement of the Problem

Secretaries in tertiary institutions are expected to adopt and utilize the Artificial Intelligence competences to enhance their efficiency and productivity in today's digital world. However, there is a serious concern that many secretaries in tertiary institutions in Rivers State may lack the needed AI competences needed for their duties, which could lead to inefficiencies, low job performance and an inability to meet the demands of a fast growing digital work environment. Lack of these needed AI competences among Secretaries not only obstructs job performance but also pose great risk to their operational effectiveness in tertiary institutions. The reason is that the gap between the required competences and actual proficiencies widens regularly due to AI technology, resulting in job performance that is low, increased errors, and even the failure to adequately make use of the great potentials of AI. It is on this ground that the study seeks to investigate the relationship between Artificial Intelligence Competences and Secretaries Job Performance in Tertiary Institutions in Rivers State.

Purpose of the Study

The purpose of the study was to investigate the relationship between Artificial Intelligence Competences and Secretaries Job Performance in Tertiary Institutions in Rivers State.

Specifically, the study attempts to achieve the following:

1. Examine how Artificial Intelligence Document Management competencies of secretaries relates to their job performance in Tertiary Institutions in Rivers State.
2. Examine how Artificial Intelligence Data processing competencies of secretaries relates to their job performance in Tertiary Institutions in Rivers State.

Research Questions

The following research questions guided the study:

1. What is the relationship between Artificial Intelligence Document Management competencies of secretaries and job performance in Tertiary Institutions in Rivers State**?**
2. What is the relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in Tertiary Institutions in Rivers State**?**

Hypotheses

The following null hypotheses were formulated and were tested at 0.05 level of significance.

1. There is no significant relationship between Artificial Intelligence Document Management competencies of secretaries and job performance in Tertiary Institutions in Rivers State.

2. There is no significant relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in Tertiary Institutions in Rivers State.

Methods

The study investigated investigate the relationship between Artificial Intelligence Competences and Secretaries Job Performance in Tertiary Institutions in Rivers State. Two objectives, two research questions and two hypotheses guided the study. A correlational research design was adopted in the study. The population for the study comprised of 305 secretaries in selected tertiary institutions in Rivers State. The entire population was used for the study, hence, there was no sampling. The instruments for the data collection were two self-structured questionnaire developed by the researcher titled "Questionnaire On Artificial Intelligence competencies of secretaries (QAICS)" and Questionnaire on Job Performance of Secretaries (QJPS). It has two sections. The first session contains the demographic data of the respondents while the second section contains item statements and response options. The response option was: Strongly Agreed (SA)-4, Agreed (A)-3, Disagreed (DA)-2, Strongly Disagreed (SDA)-1. The instruments were validated by three experts. Cronbach alpha was used to establish the reliability of the instrument and reliability coefficients of 0.84 and 0.81 was established. Pearson product moment correlation coefficient (PPMC) was used to analyze the data collected in the study while t-transformation was used to test the hypotheses formulated in the study at 0.05 level of significance.

Results

Research Question 1: What is the relationship between Artificial Intelligence Document Management competencies of secretaries and job performance in tertiary institutions in Rivers State**?**

Table 1: Relationship Between Artificial Intelligence Document Management competencies of secretaries and Job Performance in Tertiary Institutions in Rivers State

Variables	Σx Σy	Σx^2 Σy^2	Σxy	**r-cal**	**Level of Relationship**
Artificial Intelligence Document Management (x)	20.93	62.8			
			58.73	0.93	Very strong positive relationship
Job performance (y)	22.49	63.3			

Source: Field Survey, 2025

The computed r-value of 0.93 explicates how Artificial Intelligence Document Management competencies of secretaries and job performance in tertiary institutions in Rivers State. The calculated coefficient indicates positive interaction of the existing relationship and the result however shows very strong positive relationship between Artificial Intelligence Document Management competencies of secretaries and job performance in tertiary institutions in Rivers State.

Research Question 2: What is the relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in tertiary institutions in Rivers State**?**

Table 2: Result Showing the relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in tertiary institutions in Rivers State

Variables	Σx Σy	Σx^2 Σy^2	Σxy	**r-cal**	**Level of Relationship**
Artificial Intelligence Data Processing competencies (x)	15.55	43.5			
			43.3	0.82	Very strong positive relationship
Job performance (y)	22.49	63.3			

Source: Field Survey, 2025

The computed r-value of 0.82 shows the relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in tertiary institutions in Rivers State. The calculated coefficient indicates positive interaction of the existing relationship and the result however shows very strong positive relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in tertiary institutions in Rivers State.

Hypotheses Testing

1. **Hypothesis 1:** There is no significant relationship between Artificial Intelligence Document Management competencies of secretaries and job performance in tertiary institutions in Rivers State.

Table 3: Analysis of Computed Correlation showing Relationship between Artificial Intelligence Document Management competencies of secretaries and job performance in tertiary institutions in Rivers State

Variables	Σx **·y**	Σx^2 **·y²**	Σxy	**t-trans**	**t-crit**	**Df**	**Level of sign**	**Decision**
Artificial Intelligence Document Management (x)	20.93	62.8				288	0.05	
			58.73	4.3	1.960			Significant
Job Performance (*Y*)	22.49	63.3						

Source: Field Survey, 2025

The result of the hypothesis tested at 0.05 level of significance showed the t-value of 4.3 is higher than t-critical of 1.960. Thus, the hypothesis implies a significant relationship between Artificial Intelligence Document Management competencies of secretaries and job performance in tertiary institutions in Rivers State.

Hypothesis 2: There is no significant relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in tertiary institutions in Rivers State.

Table 3: Artificial Intelligence Data Processing competencies of secretaries and job performance in tertiary institutions in Rivers State.

Variables	Σx ·y	Σx^2 ·y²	Σxy	t-trans	t-crit	Df	Level of sign	Decision
Artificial Intelligence Data Processing competencies (x)	15.55	43.5					0.05	
			43.3	24.3	1.960	288		Significant
Job Performance (*Y*)	22.49	63.3						

Source: Field Survey, 2025

The result of the hypothesis tested at 0.05 level of significance showed the t-value of 24.3 is higher than t-critical of 1.960. Thus, the hypothesis was rejected meaning that there is significant relationship between Artificial Intelligence Data Processing competencies of secretaries and job performance in tertiary institutions in Rivers State..

Discussion of Findings

The discussion of findings was done based on the purposes of the study.

The findings on AI document management competences of secretaries and job performance in tertiary institutions in Rivers State shows that the respondents have the following competences; knowledge of basic AI tools and software used for document management, ability to organize and categorize documents into relevant folders, speedy retrieval of documents when needed and implementation of advanced document management strategies.

These findings are in agreement with the view of Pohle (2022) who opined that; AI skills related to data processing (including data management and interpretation) and automation (in terms of workflow management and process optimization) were identified as critical for modern public administration; there was a growing reliance on AI systems to streamline administrative tasks, reduce human errors, and increase efficiency. AI was increasingly being used in decision-making processes, particularly for tasks like predictive analytics, automating routine decisions, and providing data-driven insights for policy development.

In agreement with the view of Pohle, Surabhi and Vibhav (2022) opined that; AI-enabled task characteristics and knowledge promotes characteristics such as job complexity, specialization, information processing and impact innovative work behaviour. Also, AI-enabled job characteristics are strongly associated with innovative work behaviour under differential effects of perceived substitution crisis.

The findings on AI data processing competences of secretaries and job performance in tertiary institutions in Rivers State shows that the respondents have the following competences; ability to identify patterns, and trends in data using AI method, application of machine learning algorithms to analyze data, interpretation of AI results to make informed decisions, analysis of raw data using AI and use of AI-driven tool or data management.

This findings are in agreement with the view of Keding & Meissner (2021) who opined that Artificial Intelligence was found to be the performance of diverse cognitive functions that are usually the same with human intelligence by a machine. The researchers highlighted how intelligent expert system aided decision making

In agreement with the view of Keding & Meissner, Surabhi and Vibhav (2022) opined that; AI-enables task characteristics and knowledge characteristics such as job complexity, specialization, and information processing impact innovative work behaviour. AI-enables job characteristics of employees of high-tech firms in regard to innovative work behaviour (IWB).

Conclusion

Based on the findings in the study, the following conclusions were made; AI document management competency and AI data processing competency relates to Job Performance of secretaries in Tertiary Institutions in Rivers State.

Recommendations

The following recommendations were made by the researcher;

1. Trainings and re-trainings should be organized for secretaries on how to use more AI tools to enhance their work.
2. Seminars should be organized by the management for secretaries on various ways of using AI tools.

REFERENCES

Bupo, G.O. & Akpomi, M.E. (2023). Artificial Intelligence, Robotics, and Information Communication Technologies: Tools for Enhancing Business and Educational Management. *Journal of Business and Entrepreneurship Education (JOBEE), 2(1), 21-29.*

Chuzhykowa, V. (2019). Global modernization of Business education. Information Technologies and Management. 1-2. Retrieved from https://w.w.wismaitm.lv/images/Files/Theses/2019/02_BEE/12_ITM2019_Chuzhykova.pdf

Denton D. (2023) AI and The Future of Administrative Professionals. https://officedynamics.com/ai-and-the-future-of-administrative-professionals/ . Retrieved on 17th May 2024/

Hung, N. N. (2019). Artificial Intelligence and its Impact on Workforce. Being thesis Centria University of Applied Sciences Business Management.

Ikpesu C.O & Numbarabari E.K. (2023). Utilization of Cloud Technology Applications for Efficient Office Administration among Secretaries in Rivers State Universities. *International journal of empirical studies*,4(4), 45-50.

Keding, C., & Meissner, P. (2021). Managerial overreliance on ai-augmented decision making processes: How the use of ai-based advisory systems shapes choice behavior in r&d investment decisions. *Technological forecasting and social* change, 17(1), 12-17.

Shaw, J., Rudzicz, F., Jamieson, T., & Goldfarb, A. (2019). Artificial intelligence and the implementation challenge. *Journal of Medical Internet Research*, 21(7), 12-15.

Suo, H. (2021). Design and development of educational robot teaching resources using artificial intelligence technology. *International Journal of Educational Technology (IJET). 16(5), 116-129.*

Surabhi V. & Vibhav S. (2022). Impact of artificial intelligence-enabled job characteristics and perceived substitution crisis on innovative work behavior of employees from high-tech firms*. Computers in human Behavior*. 1(3), 10-17.

Ubulom, W. J., & Dambo, B. I. (2016). An Evaluation of the objectives of the undergraduate Business Education Degree Programme in some Nigerian Universities. *International Journal of Innovative Education and Research*, 4(1), 26-35.