Awareness of Secretaries towards Artificial Intelligence and Robotic Technology in the Advancement of Secretarial Profession

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Abstract

The study examined the awareness of secretaries towards artificial intelligence and robotic technology in the advancement of secretarial profession in Nigeria. Specifically, the study examine the level of awareness of AI and robotics technology and the influence of AI and robotics technology to the advancement secretarial profession. The descriptive research design of the survey type was used in this study. The population of the study comprised of all secretarial professional in Ekiti State. The sample for the study comprised of a total of 200 secretarial professionals selected from Ekiti State using simple random sampling technique. Questionnaire was used to collect the data for the study. The data collected were analyzed using descriptive and inferential statistics. The findings revealed that secretarial professionals were aware of Google Assistants, Siri, Chabots, Robots and Document management systems; also, the study revealed that there was significant relationship between level of awareness of AI, robotics technology and advancement of secretarial profession. There is also a joint significant influence of AI and robotic technology on the advancement of secretarial profession. The study therefore recommended that secretaries in Ekiti State should get familiar with different artificial intelligence that can help with the advancement of their profession and the government must fund training and development initiatives to provide public sector secretaries the knowledge of AI and robotics they require and an awareness of how these technologies may be used in their line of work.

Keywords: Artificial Intelligence, Robotic Technology, Awareness, Secretarial Profession

Introduction

One could argue that robotics and artificial intelligence (AI) represent the future of technology and could perhaps usher in a new era of technological living due to their rapid progress. Many people believe that robots and mechanics will only have an impact on their personal lives through computer-generated home appliances and autonomous cars, but this may not be the case since AI and robotics technology will eventually make an appearance in many industries. Thus, artificial intelligence (AI) can be defined as the theory and creation of computer systems that are capable of carrying out activities that typically require human intelligence, such as speech recognition, visual perception, decision-making, and language translation.

In computer science, artificial intelligence (AI) is the study of creating intelligent machines that can carry out tasks that normally call for human intelligence. Speech recognition, problem-solving, learning, planning, and decision-making are a few examples of these tasks. AI has drawn a lot of interest and is now widely used in a number of sectors, including entertainment, finance, healthcare, and transportation. Artificial Intelligence (AI) is the intelligence displayed by computers as opposed to that of humans or animals. "Intelligence" includes the capacity for learning, reasoning, generalization, and meaning-inference. Advanced web search engines like Google Search, recommendation systems like those used by YouTube, Amazon, and Netflix, speech recognition software like Siri and Alexa, self-driving cars like Waymo, generative or creative tools like ChatGPT and AI art, automated decision-making, and competitive play at the top levels of strategic game systems like Go and Chess are just a few examples of AI applications (Morozov, 2023).

The idea that human intellect "can be so precisely described that a machine can be made to simulate it" served as the foundation for the study. This sparked philosophical debates over the nature of the mind and the moral implications of constructing artificial intelligence comparable to that of humans; these topics have been discussed since antiquity in mythology, science fiction, and philosophy. Since then, philosophers and computer scientists have warned that if AI's logical faculties are not directed toward advancing humankind's interests, it could endanger humanity's very existence. In addition to speculating about unemployment in the absence of sufficient social policy for full employment, economists have repeatedly underlined the hazards of AI-related layoffs. Additionally, the phrase "artificial intelligence" has come under fire for exaggerating its actual technological capabilities (Basen, 2020).

Robotics technology in engineering deals with the design, development, and application of robots. Building intelligent machines that can assist people in various ways is the aim of robotics. Conversely, robotics can take on a variety of forms. It can be an application, such as robotic process automation (RPA), that emulates human interaction with software to perform repetitive, rule-based tasks, or it can be human-like. Even though the field of robotics and study into the potential uses and benefits of robots has grown considerably in the 20th century, the idea is clearly not new.The field of secretarial work has been predicted to be significantly impacted by robotic technology. The use of automation technologies, such as robotics and artificial intelligence, has resulted in a number of advancements and modifications to the way administrative duties are completed.

Secretarial profession is one of the human endeavors that has contributed significantly to the growth and development of business and industry in particular, as well as society at large. Secretaries have played a crucial role in the growth, survival, and efficient management of businesses across the globe due to their necessary roles. Secretaries assist in providing direction for decision-making and the efficient administration of the business in addition to maintaining records and planning, organizing, and coordinating office tasks. A secretary is an executive with great command of office procedures, the ability to assume responsibilities without direct supervision, initiative, sound judgment, and the capability to make decisions within the bounds of allocated power, according to Adebayo and Akinyele (2017).Administrative assistants and professional secretaries do similar tasks, and as no office could function well without one, secretaries are vital to the success of any firm (Adam, 2015).

The advancement of artificial intelligence (AI) and robotic technology has significantly impacted various industries, including the secretarial profession. In Nigeria, the awareness and utilization of AI and robotic technology among secretaries have grown, although it still faces certain limitations. AI and robotic technology have revolutionized the secretarial profession by automating various administrative tasks, improving productivity, and enabling secretaries to focus on more strategic and complex activities. For instance, AI-powered chatbots and virtual assistants can handle routine inquiries from clients, schedule appointments, and provide seamless customer service. Robotic process automation (RPA) can automate repetitive tasks such as data entry, report generation, and file management. These technological advancements have not only improved efficiency but also reduced human errors, allowing secretaries to deliver higher-quality work (Fawehinmi, 2019).

The awareness of secretaries towards AI and robotic technology in Nigeria has been steadily growing. Many secretaries now recognize the benefits of these technologies and their potential in enhancing their professional capabilities. This awareness can be attributed to the increasing availability of AI-driven applications and robotic technologies in the workplace, as well as efforts by professional associations and organizations to promote the adoption of these technologies. However, the benefits of Adopting AI and Robotic Technology for Secretaries include increased productivity, automation of repetitive and time-consuming tasks which allows secretaries to focus on more important responsibilities, analysis large volumes of data and provide insights that help secretaries make informed decisions and it demonstrates professionalism and adaptability, enhancing the perception of secretaries as technologically proficient (Adetunji, 2020).

Challenges and Limitations of AI and robotic technology faced by secretarial professionals include cost of technology, that isacquiring and implementing AI and robotic technologies may be costly for organizations, limiting the accessibility and adoption of these technologies by secretaries (Ibrahim, 2020). Also, some secretaries may experience skepticism or resistance to incorporating AI and robotic technology into their workflow and Limited access to training and education on AI and robotic technology could hinder secretaries' ability to effectively utilize these advancements.

Statement of the Problem

Due to the growth and evolution of the secretarial profession, administrative professional roles and responsibilities have replaced secretarial professions. Thus, the need for highly trained labor is only going to increase. As a result of technological advancements, complex ICT devices and machinery today demand skilled workers with the necessary technical understanding to maintain and operate them. The secretarial profession is therefore challenged by a mismatch in talent and skill sets.

 In this context, the advancement of artificial intelligence and robotic technology comes to mind and it is perceived to have the potential to significantly impact the role of secretaries in Nigeria. However, there is a lack of understanding about the potential benefits and challenges that these technologies may bring to the secretarial profession. Therefore, there is a need to investigate the awareness of secretaries towards artificial intelligence and robotic technology in order to understand their readiness for the potential changes that these technologies may bring to their profession. This study aims to explore the current level of awareness and understanding of secretaries towards

artificial intelligence and robotic technology, as well as their attitudes and perceptions towards the potential impact of these technologies on their profession in Nigeria.

Purpose of the Study

The main purpose of this study is to examine the awareness of secretaries towards Artificial Intelligence and Robotic Technology in the advancement of secretarial profession in Nigeria. The study will specifically:

i.   examine the level of awareness of AI and robotics technology by secretarial professionals;

ii. determine the influence of AI and robotics technology to the advancement of secretarial profession;

Research Questions

This study specifically seeks to provide answers to the following research questions:

i.   What is the level of awareness of AI and robotics technology by secretarial professionals?

ii. How does AI and robotics technology influence the advancement of secretarial profession?

Research Hypotheses

The following null hypotheses were formulated to guide the study:

i.   There is no significant relationship between level of awareness of AI & robotics technology and advancement of secretarial profession;

ii. There is no significant influence of AI and robotic technology on the advancement of secretarial profession.

Methodology

The study adopted a descriptive research design of the survey type which is considered appropriate because survey design generally can be used to effectively investigate problem in realistic settings and the survey research provides the researcher with the accurate description of the respondents' opinion. The population of the study comprised of secretaries in Ekiti State. The sample for the study comprised of a total of 200 secretarial professionals selected using simple random sampling technique.

A questionnaire was used as the instrument used to collect relevant data for the study. The reliability of the instrument was determined through test re-test method. The instrument was administered to 20 members of the population who were not included in

the study; the same instrument was then re-administered within an interval of two weeks on the same set of students. The two scores were correlated using Pearson's Correlation to obtain a reliability coefficient of 0.81 which was adjudged reliable. Furthermore, the data collected for the study were analyzed using descriptive and inferential statistics.

Results

Research Question 1: What is the level of awareness of AI and robotics technology by secretarial professionals?

Table 1: Descriptive analysis showing the level of awareness of AI and robotics technology by secretarial professionals

S/N	ITEMS	N	MEAN	SD	REMARKS
1	Google Assistants	100	3.10	1.32	Aware
2	Siri	100	2.95	1.20	Aware
3	Alexa	100	2.25	0.99	Not Aware
4	Chabots (Automated customer service, ChatGPT, Chats AI)	100	2.89	1.30	Aware
5	Robots	100	3.06	1.47	Aware
6	Document management systems	100	2.51	1.24	Aware
7	Smart meeting room systems (automate meeting room setup, controls audio and visual equipment, etc.	100	1.82	0.77	Not Aware

Mean cut off: 3.00

The data in table 1 were collated and analyzed using descriptive statistics such as mean and standard deviation. The mean score cut-off mark of 3.00 was used and it was derived by finding the average of the scoring system. Mean score of items greater than mean cut-off of 3.00 were tagged "aware" while those less than 3.00 were tagged "not aware". Thelevel of awareness of AI and robotics technology by secretarial professionals was presented in table 1. Using the criterion mean score of 3.00 as cut-off to determine the awareness level of each statement, secretarial professionals are aware of Google Assistants ($\bar{x}$=4.30), Siri ($\bar{x}$=3.49), Chabots ($\bar{x}$=3.89), Robots ($\bar{x}$=3.60) and Document management systems ($\bar{x}$=3.31). The respondents are therefore, not aware of Alexa ($\bar{x}$=2.85) and Smart meeting room systems ($\bar{x}$=1.82).

Research Question 2: How does AI and robotics technology influence the advancement of secretarial profession?

Table 2: Descriptive analysis showing the effect of AI and robotics technology on the advancement of secretarial profession

S/N	ITEMS	MEAN	SD	REMARKS
1	AI and robotic technology can automate repetitive and mundane tasks	3.70	0.64	Agreed
2	With AI-powered tools and robots, secretaries can complete tasks more quickly and accurately	3.65	0.57	Agreed
3	AI chatbots and virtual assistants can handle basic inquiries and provide instant responses	3.75	0.62	Agreed
4	AI algorithms can be used to organize and categorize documents, making it easier for secretaries to retrieve information quickly.	3.65	0.66	Agreed
5	AI can provide secretaries with real-time information, such as market trends, news updates, and client insights	3.70	0.64	Agreed
6	AI technology can offer secretaries opportunities for continuous learning and skill development	3.72	0.68	Agreed

N = 200   **Mean cut off = 2.50**

The effect of AI and robotics technology on the advancement of secretarial profession was presented in table 2. Using the criterion mean score of 2.50 as cut-off to determine the affirmation of each statement, all the statement in the table were accepted; this indicated that AI and robotic technology can automate repetitive and mundane tasks, with AI-powered tools and robots, secretaries can complete tasks more quickly and accurately, AI chatbots and virtual assistants can handle basic inquiries and provide instant responses, AI algorithms can be used to organize and categorize documents, making it easier for secretaries to retrieve information quickly, AI can provide secretaries with real-time information, such as market trends, news updates, client insights and AI technology can offer secretaries opportunities for continuous learning and skill development.

Test of Hypotheses

Hypotheses One: There is no significant relationship between level of awareness of AI & robotics technology and advancement of secretarial profession.

Table 3: Pearson's Product Moment Correlation showing the Relationship between the level of awareness of AI & robotics technology and advancement of secretarial profession

Variables	N	Mean	Standard Deviation	r-cal	P-value
Awareness of AI and Robotic Technology	200	3.32	0.63	0.237*	0.001
Advancement of Secretarial Profession	200	3.69	0.54		

* P < 0.05

Table 3 showed a significance relationship between level of awareness of AI & robotics technology and advancement of secretarial profession, there is a moderate and positive correlation between them with correlation coefficient (r-cal) of 0.237, p-value = 0.001 (*p*< 0.05).. Therefore, the hypothesis formulated which states that there is no significant relationship between level of awareness of AI & robotics technology and advancement of secretarial profession is therefore rejected.

Hypotheses Two: There is no significant influence of AI and robotic technology on the advancement of secretarial profession

Table 4: Regression Analysis showing the influence of AI and robotic technology on the advancement of secretarial profession

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.167	.251		12.627	.000
AI and Robotic	.182	.086	.149	2.118	.035

Dependent Variable: Advancement of Secretarial Profession

F = 4.484

R = 0.149

R² = 0.222

R Adj = 0.170

P < 0.05 (Significant)

Table 4 shows that there is positive correlation between AI and advancement of secretarial profession R = 0.149. This implies that the predictor variable (AI and robotic technology) is a factor that can influence advancement of secretarial profession. The value of the coefficient of determinant (R^2 = 0.222) indicates that AI and robotic technology accounted for 22.2% of the variation of advancement of secretarial profession, while the remaining 77.8% unexplained variation may be due to other variables not considered in the study. This implies that there are other variables that account for advancement of secretarial profession. The F-ratio (4.484) was significant at 0.05 level of significance. This implies that there is a significant influence of AI and robotic technology on the advancement of secretarial profession and the null hypothesis is therefore rejected.

Discussion

The findings of the study revealed that the level of awareness of AI and robotics technology by secretarial professionals, it revealed that respondents were aware Google Assistants, Siri, Chabots, Robots and Document management systems. However, the study shows a moderate awareness of AI and robotic technology. Artificial intelligence has advanced to the point that certain mobile phones come pre-installed with Siri and Google Assistance, which has increased awareness. On the other hand, chatbots—like the chatgpt—are now accessible on a number of social media platforms, including Facebook and Telegram, and they let users chat and ask questions. A study by Oke, Aigbavboa, and Omole (2020) suggested holding seminars and workshops to raise professionals' knowledge levels because they are currently low.

The study's findings also showed that artificial intelligence (AI) and robotics can automate tedious and repetitive tasks, enabling secretaries to work more quickly and accurately. AI chatbots and virtual assistants can answer simple questions and provide prompt assistance; AI algorithms can be used to organize and categorize documents, making it simpler for secretaries to retrieve information quickly; AI can provide secretaries with real-time information, including market trends, news updates, and client insights; and AI technology can provide opportunities for ongoing learning and skill development.This study supports the findings of Ahiakpor (2019), who found that secretaries can be more productive by using AI to multitask by sending messages and setting appointments. Additionally, according to Adetoro (2021), the employment of AI chatbots in customer service frees secretaries to concentrate on more important corporate tasks by doing away with the need for human participation in routine client concerns.

The findings also revealed that there is significant relationship between level of awareness of AI & robotics technology and advancement of secretarial profession. This suggests that

the secretarial profession will improve more as awareness of robotics and artificial intelligence grows.

The study also revealed that there is a significant influence of AI and robotic technology on the advancement of secretarial profession. Because of this, it's critical that secretaries acquire new competencies like data analysis and digital marketing, which are in demand in the AI era (Petrizzo, 2021). Additionally, businesses can help secretaries adjust to these changes by offering them training on new technology and pushing them to assume more strategic roles inside the company (Miller, 2019).

Conclusion

The study therefore concluded that Secretarial professionals were aware Google Assistants, Siri, Chabots, Robots and Document management systems but indicated a very low level of AI and robotic usage by secretarial professionals. The study also showed that there is significant relationship between level of awareness of AI & robotics technology and advancement of secretarial profession. Finally, artificial intelligence and robotic technology will jointly and significantly influence the advancement of secretarial profession in Ekiti State.

Recommendations

Based on the findings of this study, the following recommendations were made.

1. Secretaries in Ekiti State should get familiar with different artificial intelligence that can help with the advancement of their profession

2. The government must fund training and development initiatives to provide public sector secretaries the knowledge of AI and robotics they require and an awareness of how these technologies may be used in their line of work.

3. To enable AI awarenss, the government must invest in the appropriate technology, software, and relevant datasets. Building partnerships with businesses will be crucial to ensuring access to these resources and staying up to date with advancements in AI.

4. Ekiti State secretaries must to make an effort to take use of artificial intelligence's advancements and advantages, particularly with regard to labor automation.

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