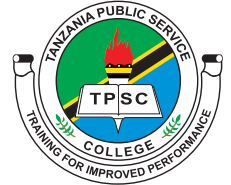




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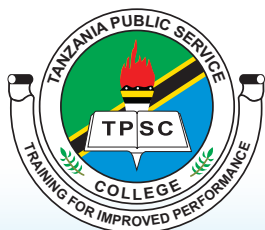
TANZANIA PUBLIC SERVICE COLLEGE

MTWARA CAMPUS

RESEARCH REPORT ON
THE IMPACT OF ADVANCED OFFICE
TECHNOLOGY ON RESHAPING THE
ROLES AND SKILLS OF PROFESSIONAL
SECRETARIES IN TANZANIA

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OCTOBER, 2025

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TABLE OF CONTENTS

LIST OF ABBREVIATIONS	ix
LIST OF TABLES	vii
LIST OF FIGURES	viii
ABSTRACT	x
ACKNOWLEDGEMENTS	xi

CHAPTER ONE: INTRODUCTION 1

1.1 Chapter Overview	1
1.2 Background of the Study.....	1
1.3 Problem Statement.....	2
1.4 Research Objectives	3
1.4.1 General Objective	3
1.4.2 Specific Objectives.....	3
1.4.3 Research Questions.....	3
1.5 Significance of the Study	3
1.6 Delimitation of the Study	3

CHAPTER TWO: LITERATURE REVIEW 4

2.1 Chapter Overview	4
2.2 Definition of Terms.....	4
2.3 Historical Evolution of Office Technology for Professional Secretaries	5
2.4 The Role of Technology in Modern Offices.....	6
2.4.1 Advanced Office Technologies.....	6
2.4.2 Impact on Productivity, Efficiency, and Workflow Management.....	7
2.5 Changing Roles and Responsibilities of Professional Secretaries.....	7
2.5.1 Evolution with New Technologies.....	7
2.5.2 Comparison of Traditional and Modern Roles	8

2.6	Skill Set Transformation for Professional Secretaries.....	8
2.6.1	<i>Identification of New Skills</i>	9
2.6.2	<i>Decline of Traditional Skills and Emergence of New Competencies</i>	9
2.7	Challenges and Opportunities Posed by Advanced Office Technology	10
2.7.1	<i>Challenges Faced by Secretaries</i>	10
2.7.2	<i>Opportunities for Career Growth and Enhanced Job Performance</i>	11
2.8	Future Trends in Office Technology and the Secretarial Profession	12
2.8.1	<i>Predictions for the Future of Office Technology</i>	12
2.8.2	<i>Emerging Technologies and Their Implications</i>	12
2.9	Role of Educational Institutions and Professional Organisations in Supporting Training in Secretarial Studies	13
2.9.1	<i>The Role of Educational Institutions</i>	13
2.9.2	<i>Role of Professional Organisations</i>	14
2.10	Relevant Studies	14
2.10.1	<i>Relevant Global Studies</i>	14
2.10.2	<i>Relevant Studies in Africa</i>	15
2.10.3	<i>Relevant Studies in Tanzania</i>	15
2.10.4	<i>Synthesis</i>	16
2.11	Theoretical Framework.....	16

CHAPTER THREE: RESEARCH METHODOLOGY 18

3.1	Chapter Overview	18
3.2	Research Design.....	18
3.3	Population and Sampling Procedures	18
3.3.1	<i>Targeted Population</i>	18
3.3.2	<i>Sampling Procedure</i>	18
3.4	Data Collection Methods	19
3.4.1	<i>Questionnaires</i>	19
3.4.2	<i>Interview</i>	19
3.4.3	<i>Focus Group Discussion</i>	19
3.5	Data Analysis, Presentation, and Interpretation Plan	19

3.6	Validity and Reliability	20
3.6.1	<i>Validity</i>	20
3.6.2	<i>Reliability</i>	20
3.7	Ethical Consideration	20

CHAPTER FOUR: PRESENTATION AND DISCUSSION OF THE FINDINGS..... 21

4.1	Chapter Overview	21
4.2	Demographic Information.....	21
4.3	Current Roles and Skills of Professional Secretaries	22
4.3.1	<i>Roles and Responsibilities of Secretaries</i>	22
4.3.2	<i>Essential Skills for Professional Secretaries</i>	23
4.3.3	<i>Current Landscape of Secretarial Training</i>	27
4.4	Advanced Office Technologies in the Secretarial Profession.....	31
4.4.1	<i>Current Use of Advanced Office Technologies</i>	31
4.4.2	<i>Effect of Advanced Office Technologies on Organisations</i>	32
4.5	Future Roles and Skills of Prospective Secretaries.....	35
4.5.1	<i>Digital Training Programs for Secretaries</i>	35
4.5.2	<i>Skills Becoming Obsolete for Secretaries</i>	38
4.5.3	<i>Emerging Roles and Responsibilities</i>	40

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS..... 43

5.1	Chapter Overview	43
5.2	Summary of Findings.....	43
5.3	Conclusion.....	45
5.4	Recommendation	45
5.4.1	<i>Recommendations on what should be done to enable the adaptation of advanced office technology in Tanzania</i>	45
5.4.2	<i>Recommendations on Areas for Further Studies</i>	47

REFERENCES..... 48

APPENDICES	53
Appendix I: Questionnaire for Secretaries	53
Appendix II: Questionnaire for Human Resource Professionals	58
Appendix III: Questionnaire for Trainers.....	63
Appendix IV: Interview Guide for Professional Secretaries.....	68
Appendix V: Interview Guide for Human Resource Professionals	69
Appendix VI: Interview Guide for Trainers.....	70
Appendix VII: Focused Group Discussion Guide.....	71
Appendix VIII: Institutions Involved in the Study	72

LIST OF TABLES

Table 1: Respondents' Working Experience.....	21
Table 2: Roles and Responsibilities of Secretaries in Tanzania.....	22
Table 3: Considered Skills in Hiring Secretaries in Tanzania.....	24
Table 4: Currently Applicable Skills in the Secretarial Profession.....	25
Table 5: Frequency of Applying the Skills	26
Table 6: Impact of Advanced Office Technology on Organisations.....	33
Table 7: Emerging Roles and Responsibilities Due to Advancement in Office Technology	40

LIST OF FIGURES

Figure 1:	Conceptual Framework	17
Figure 2:	Respondents' Access to Training in the Past Three Years.....	28
Figure 3:	Secretaries' Participation in Digital and Non-Digital Training Programs.....	28
Figure 4:	Office Technology Curriculum Updates in the Past Five Years	29
Figure 5:	Curriculum Adaptation to Office Technology.....	30
Figure 6:	Advanced Office Technologies Currently used by Professional Secretaries.....	32
Figure 7:	Introduction of New Training Programs.....	35
Figure 8:	Digital Training Programs for Advanced Office Technology.....	36
Figure 9:	Desired Training Areas for Secretaries to Adapt to Office Technology Changes.....	37
Figure 10:	Skills Obsolescence Among Professional Secretaries in Tanzania	38

LIST OF ABBREVIATIONS

AI	: Artificial Intelligence
AR	: Augmented Reality
HR	: Human Resources
HRO	: Human Resource Officer
IT	: Information Technology
MS	: Mean Score
Ms	: Microsoft
TPSC	: Tanzania Public Service College
SD	: Standard Deviation
SPSS	: Statistical Package for the Social Science
VR	: Virtual Reality

ABSTRACT

The rapid integration of advanced office technologies such as cloud-based collaboration tools, artificial intelligence, digital scheduling systems, and cybersecurity platforms has significantly transformed workplace dynamics worldwide. This study explores how these technological shifts impact the roles and skill requirements of professional secretaries in Tanzania.

Employing a mixed-methods approach, data were collected from 112 participants who responded to a questionnaire, 30 interview participants, and 10 focus group discussions, including professional secretaries, human resource professionals, trainers, and secretarial studies students across eight regions: Arusha, Dar es Salaam, Dodoma, Kilimanjaro, Morogoro, Mtwara, Mwanza, and Tabora in Tanzania. Quantitative data were analysed using IBM SPSS, while qualitative data from interviews, focus group discussions, and open-ended survey responses were analysed through thematic analysis.

Findings show a growing need for digital literacy among secretarial staff and significant concerns about limited access to relevant training opportunities. The study emphasises the importance of investing in both training and infrastructure, advocating for a phased implementation plan that starts with basic digital skills and advancing to specialised technological expertise.

This study recommends that the government, through the President's Office, Public Service Management and Good Governance (PO-PSMGG), in collaboration with key stakeholders such as the Tanzania Personal Secretaries Association (TAPSEA), Secretarial Training Institutions, and Employers, revisit and redefine future secretaries' roles, responsibilities, and skill sets to ensure alignment with the ongoing technological advancements.

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CHAPTER ONE: INTRODUCTION

1.1 Chapter Overview

This chapter presents an introduction crucial for understanding the current study. It begins by providing background information that establishes the context of the research. Furthermore, the chapter presents the problem statement, study objectives, research questions, significance of the study, and parameters within which the study was conducted. Finally, the chapter provides key terminologies used in the study.

1.2 Background of the Study

The rapid advancement of office technology has transformed the roles and skill sets of professional secretaries. This transformation, driven by the advent of sophisticated office tools and digital platforms, has redefined traditional administrative functions, necessitating a closer examination of its implications.

In recent decades, the proliferation of advanced office technologies, such as integrated software systems, cloud computing, and communication tools, has revolutionised the way secretaries perform their duties (Johnson & Carter, 2022). According to Harris and Harris (2020), the integration of digital technologies has significantly transformed organisational workflows. Routine clerical tasks are increasingly automated, allowing employees to focus more on strategic responsibilities such as data management and digital communication. Secretaries are now expected to possess diverse technical skills to navigate complex digital environments and manage advanced tools effectively (Smith, 2019).

Globally, the trend of office technology advancement has been marked by the integration of Artificial Intelligence (AI) and automation in administrative functions (Brown & Smith, 2021). AI-driven tools have streamlined scheduling, correspondence management, and document processing, reduced manual workloads, and enhanced efficiency (Jones & Roberts, 2021). Similarly, cloud-based solutions have enabled real-time collaboration and access to information from any location, further transforming the role of secretaries from traditional support positions to critical operational contributors (Lee & Kim, 2022).

In the African context, the impact of advanced office technology on secretarial roles is evident but varies significantly across different regions (Ngugi & Mwaura, 2023; Osei & Bediako, 2022). A study by Mwangi (2022) highlights that while technology adoption in African countries has increased, the pace and extent of integration differ, with some regions lagging due to infrastructural and resource constraints. This disparity affects the skill development of secretaries, who may not have access to the same level of training and technology as their counterparts in more developed regions (Njeri, 2023).

In Tanzania, the adoption of advanced office technology has been relatively gradual. The introduction of digital tools and systems in Tanzanian workplaces is still evolving, with many organisations struggling to keep up with global technological trends (Kigoma, 2024). Despite the increasing use of digital tools, a significant gap exists in understanding how these technologies impact the roles and skills of professional secretaries in Tanzania (Mwangi & Omari, 2023; Kessy & Ndunda, 2024). Previous research has predominantly focused on broader African or global perspectives, leaving a gap in empirical evidence specific to the Tanzanian context (Mtemi, 2023).

A comprehensive investigation into the impact of advanced office technology on Tanzanian secretaries is essential. This offers valuable insights into how technological advancements are reshaping their roles and the skills required to perform effectively in the evolving work environment. This understanding contributes to a better grasp of this dynamic field, thus, informing training programs and policy decisions in supporting secretaries in adapting to technological changes.

1.3 Problem Statement

The rapid advancement in office technology has significantly transformed professional secretarial work globally (Lee, 2020). Innovations such as sophisticated office software, automated systems, and digital communication tools have redefined traditional secretarial roles, necessitating the acquisition of new digital skills among secretaries. Today, secretaries are tasked with managing digital documents, utilising advanced scheduling software, and facilitating virtual meetings, in addition to traditional duties such as typing and filing and other office management duties (Smith, 2021). This shift emphasises a crucial need for secretaries to enhance their skills, emphasising technical proficiency alongside traditional administrative abilities (Jones & Roberts, 2022). Extensive research conducted in the United States, Europe, and Africa (e.g., Miller, 2019; Lee, 2020; Mbah, 2020; Nguyen & Masuku, 2021; Osei & Bediako, 2022; Ochieng, 2022; Ngugi & Mwaura, 2023) has highlighted these transformations, noting an increased reliance on digital communication, data management, and a reduction in routine clerical tasks. These studies advocate for new training programs and continuous professional development to address the evolving roles of secretaries.

Despite this extensive documentation, there remained a significant gap in research focusing on the impact of advanced office technology on reshaping the roles and skills of professional secretaries within the Tanzanian context.

Existing literature (e.g., Moshia, 2022; Mbuya, 2023; Mtemi, 2023; Mwangi & Omari, 2023; Kigoma, 2024; Kessy & Ndunda, 2024) generally addresses technological adoption in office environments but lacks a detailed examination of such technological adoption in transforming secretarial roles its implications for secretarial roles. This study aimed to fill this gap by analysing how technological advancements have reshaped the roles and skills of professional secretaries in Tanzania. It also explored the growing need for the adoption of new technologies among the secretaries and

a continuously upgrading of their skills to enable them stay relevant in the evolving working environment.

1.4 Research Objectives

This study strives to achieve the following objectives:

1.4.1 General Objective

To investigate the impact of advanced office technology on reshaping the roles and skills of professional secretaries in Tanzania.

1.4.2 Specific Objectives

- i. Examining the current state of the roles and skills of professional secretaries.
- ii. Identifying the advanced office technologies in the secretarial profession
- iii. Determining the assumed new roles and key skills for secretaries in an increasingly technology-driven work environment

1.4.3 Research Questions

- i. What is the current state of the roles and skills among professional secretaries?
- ii. What advanced office technologies are used in secretarial professions?
- iii. What roles and key skills will prospective secretaries need to thrive in an increasingly technology-driven environment?

1.5 Significance of the Study

This study contributes to the understanding of how advanced office technology has transformed the current roles and skills of professional secretaries and provides valuable insights into the future landscape of prospective secretarial work, particularly in the light of the emergence of advanced office technology. The findings also inform educational institutions, training programs, current and prospective secretaries, and organisations on the evolving technologies in the secretary profession and thus facilitating better preparation and adaptation to the work environment.

1.6 Delimitation of the Study

The focus of this study was to investigate the impact of advanced office technology on professional secretary skills and roles in Tanzania. The study was limited to the selected public institutions in eight regions of Tanzania: Arusha, Dar es Salaam, Dodoma, Kilimanjaro, Morogoro, Mtwara, Mwanza and Tabora. These regions were selected because they had a sufficient number of organisations for the study. By selecting multiple cases, the researcher made generalisations based on the findings.

CHAPTER TWO: LITERATURE REVIEW

2.1 Chapter Overview

Chapter Two reviews the existing body of knowledge on the impact of advanced office technology on reshaping the roles and skills of professional secretaries in Tanzania. It synthesises various studies that explore how these technological advancements have reshaped the traditional responsibilities of secretaries, requiring new competencies and skills. By examining the evolution of office technology, this chapter provides a comprehensive overview of how these innovations have influenced the secretarial profession. The literature review also highlights the challenges and opportunities presented by these changes, setting the stage for a deeper understanding of the current and future landscape of secretarial work in Tanzania.

2.2 Definition of Terms

Advanced Office Technology: This means all modern technologies used by an organisation to remain relevant in business operations, including computers, printers, Wi-Fi routers, and cloud-based software, such as space management, access control, and other workplace technologies.

Job Skills: They refer to the specific abilities, competencies, and knowledge that individuals need to perform a particular job effectively. These skills can be technical (related to specific tasks or tools), interpersonal (related to communication and interaction), or organisational (related to managing tasks and resources).

Job roles: refer to the specific duties, responsibilities, and functions that an individual is expected to perform in their job. A job role defines what is required of the employee in terms of tasks, accountability, and expectations.

Technological adoption: This refers to the process by which individuals, businesses, or organisations begin to use and integrate new technologies into their daily operations, products, or services. This process involves several stages: awareness, interest, evaluation, trial, and full integration. Technological adoption can apply to various types of technology, such as software, hardware, tools, or methodologies.

Technological adaptation: This refers to the process by which individuals, businesses, or organisations adjust and modify their existing systems, processes, or behaviours to incorporate and effectively use new technologies. This adaptation goes beyond the initial adoption phase, focusing on how the technology is integrated, optimised, and evolved within the existing infrastructure and practices

Professional secretary: Also known as an administrative assistant or executive assistant. A professional secretary is a skilled individual who provides administrative support to executives, managers, and other professionals in an organisation. They play a crucial role in the smooth functioning of an office and are responsible for a wide range of tasks.

Prospective Secretary: This refers to an individual who will be equipped with various skills to meet future office needs by accurately conveying information to their employer and executing instructions through advanced technological office tools.

2.3 Historical Evolution of Office Technology for Professional Secretaries

The introduction of typewriters in the late 19th century marked a pivotal point in the evolution of office technology. This invention, attributed to Christopher Latham Sholes in 1868, revolutionised written communication, increasing the efficiency and speed of documentation (Yates, 1989). Typewriters became a staple in offices, and proficiency in their use was essential for secretaries.

The mid-20th century saw the emergence of electronic devices, such as electric typewriters and dictation machines, which further transformed secretarial work (David, 1990). The electric typewriter, introduced by International Business Machines Corporation (IBM) in the 1930s, improved typing speed and accuracy. At the same time, dictation machines allowed executives to dictate letters and documents, which secretaries then transcribed. These technologies streamlined office workflows and increased productivity.

The introduction of computers in the 1970s and 1980s brought about another significant shift. Early computers, equipped with word processing software, replaced typewriters, enabling more sophisticated document creation and editing capabilities (Smith, 1994). The advent of personal computers (PCs) and software like MS Word and WordPerfect transformed the secretarial role, requiring new skills in computer literacy and software proficiency.

The rise of digital communication technologies, including email and the Internet, in the 1990s and 2000s, further revolutionised the secretarial profession (Johns, 2004). Email replaced traditional postal mail for internal and external communications, making correspondence more immediate and efficient. Additionally, the Internet provided access to a vast array of information and resources, which secretaries could use for research and information management.

In recent years, advancements in office technology have continued with the development of cloud computing, collaborative software, and mobile devices (Brown, 2018). These technologies have enabled remote work, real-time collaboration, and access to information from anywhere, further transforming the secretary's role

into a more dynamic and versatile position. Secretaries now often manage digital calendars, organise virtual meetings, and utilise project management software.

Therefore, it is evident that the historical evolution of office technology has impacted the role of professional secretaries. Technological advancement has required secretaries to acquire new skills and adapt to changing office environments, from the typewriter to the modern digital workspace. The continuous development of office technology suggests that the role of the secretary will continue to evolve, demanding ongoing learning and adaptation.

2.4 The Role of Technology in Modern Offices

2.4.1 Advanced Office Technologies

The advent of advanced office technologies has transformed the traditional office environment, significantly altering how work is conducted. Among these innovations, cloud computing, communication tools, and software applications stand out as pivotal elements in modern office settings.

Cloud computing has revolutionised data storage and accessibility, enabling businesses to securely store vast amounts of information and access it from any location with internet connectivity. This technology facilitates remote work, collaboration, and real-time data sharing, making it an essential component of modern office infrastructure. According to Buyya *et al.* (2013), cloud computing offers scalability, flexibility, and cost-effectiveness, allowing businesses to adjust their storage and processing needs as required.

Communication tools, such as video conferencing platforms (e.g., Zoom, Ms Teams), instant messaging applications (e.g., Slack, Ms Teams), and email services, have significantly enhanced the way employees interact. These tools support internal communication and extend to client interactions, enabling seamless, real-time exchanges that are critical in today's fast-paced business environment. Ghaffari and Hakimpoor (2014), highlight that these tools reduce geographical barriers and improve the efficiency of communication processes.

Software applications tailored for specific business functions, such as project management (e.g., Trello, Asana), customer relationship management (CRM) systems (e.g., Salesforce), and office suites (e.g., MS Office, Google Workspace), have further streamlined office workflows. These applications automate routine tasks, track project progress, and facilitate data analysis, thus improving overall efficiency. As per the findings of Davenport and Harris (2017), integrating these applications has led to more informed decision-making processes and enhanced business operations.

2.4.2 Impact on Productivity, Efficiency, and Workflow Management

The integration of these advanced technologies into office environments has had a profound impact on productivity, efficiency, and workflow management. Cloud computing, for instance, has facilitated a shift towards more flexible work arrangements, such as remote and hybrid working models. This flexibility allows employees to work from locations that best suit their needs, potentially increasing job satisfaction and productivity (Dery *et al.*, 2017).

Communication tools have also contributed to increased productivity by enabling instant communication and collaboration, reducing the time required for meetings and decision-making processes. According to a study by Gloor *et al.* (2017), the use of these tools has been linked to improved team dynamics and quicker response times to business needs.

Furthermore, software applications have automated various administrative and operational tasks, reducing the burden of manual work on employees. This automation not only saves time but also minimises the risk of errors, thereby enhancing the accuracy and reliability of business processes. The research by Brynjolfsson and McAfee (2014) suggests that the adoption of these technologies leads to more efficient resource management and a reduction in operational costs.

The cumulative effect of these technologies is a more streamlined workflow, where tasks are completed more efficiently, communication flows smoothly, and data is managed more effectively. This, in turn, allows organisations to respond more swiftly to market changes and customer demands, maintaining a competitive edge in their respective industries (Bharadwaj *et al.*, 2013).

2.5 Changing Roles and Responsibilities of Professional Secretaries

The roles of professional secretaries have evolved significantly over the past few decades, mainly due to the advent of new technologies. Traditionally, secretaries were responsible for typing, filing, answering phones, and scheduling appointments. These duties required meticulous attention to detail and a strong command of clerical skills (Smith, 2019). However, with the introduction and integration of advanced office technologies, the role of the secretary has transformed, demanding a broader skill set and a more dynamic approach to office management.

2.5.1 Evolution with New Technologies

The digital revolution has redefined the secretarial role, expanding beyond the traditional clerical tasks to include responsibilities that require technological proficiency. Secretaries are now often involved in managing digital communication platforms, organising virtual meetings, and handling data management systems.

This shift is primarily attributed to the widespread use of computers, the Internet, and software applications designed for office administration (Jones & Lee, 2021). For instance, using digital calendars and scheduling software has streamlined the process of organising meetings, making it more efficient and less time-consuming (Brown & Wilson, 2020).

Moreover, the emergence of cloud computing and collaborative tools has enabled secretaries to work remotely and coordinate with teams across different locations. This flexibility has not only changed the physical workspace but also the way secretaries interact with their colleagues and handle tasks. As a result, the role now requires a solid understanding of information technology and data security measures (Davis & Thompson, 2022).

2.5.2 Comparison of Traditional and Modern Roles

Comparing the traditional and modern roles of secretaries reveals several significant changes. Traditionally, secretaries were viewed as support staff, primarily focused on administrative tasks and assisting executives. In contrast, modern secretaries often take on a more strategic role, contributing to decision-making processes and managing projects. This evolution is evident in the shift from simple document preparation to more complex tasks like preparing presentations, managing social media accounts, and conducting market research (Anderson, 2023).

Additionally, the rise of automation has further altered the landscape of secretarial work. Many routine tasks that once required manual input are now automated, freeing up secretaries to engage in higher-level tasks that require critical thinking and problem-solving skills (Nguyen, 2023). For example, automated transcription services have reduced the need for manual note-taking, allowing secretaries to focus on coordinating and planning events (Harris, 2021).

Thus, transformation in the roles and responsibilities of professional secretaries highlights the impact of technological advancements on office administration. The modern secretary is not just a support figure but a key player in the organisational structure, equipped with technological skills and strategic insight. As technology continues to evolve, the role of the secretary will likely continue to expand, incorporating new skills and responsibilities that reflect the changing demands of the workplace.

2.6 Skill Set Transformation for Professional Secretaries

Due to advancements in office technology, the role of professional secretaries has undergone significant transformations in recent years. This section explores new skills required, such as digital literacy, data management, and cybersecurity awareness. It discusses the decline of traditional skills and the emergence of new competencies.

2.6.1 Identification of New Skills

Digital Literacy:

The rapid digitalisation of office environments necessitates high digital literacy among professional secretaries. Digital literacy encompasses using office software, managing digital communication platforms, and utilising cloud-based storage systems. According to a study by Jones (2021), digital literacy is now a fundamental requirement for secretaries, enabling them to efficiently handle tasks such as scheduling, document preparation, and virtual meetings. This shift towards digital platforms has transformed the traditional roles of secretaries, requiring them to be proficient in various digital tools and applications (Jones, 2021).

Data Management:

Another critical skill for modern secretaries is data management. With the increasing volume of digital information, secretaries are expected to organise, store, and retrieve data efficiently. As noted by Smith and Thompson (2022), the ability to manage large datasets and ensure data integrity is essential, especially in environments where confidentiality and accuracy are paramount. Secretaries must use data management software and understand data privacy regulations (Smith & Thompson, 2022).

Cybersecurity Awareness:

The growing threat of cyber-attacks has made cybersecurity awareness a vital skill for secretaries. They are often the first line of defence in protecting sensitive information. As highlighted by Lee and Martinez (2023), secretaries need to be knowledgeable about phishing scams, secure password practices, and data encryption techniques. This awareness helps prevent data breaches and protects the organisation's digital assets (Lee & Martinez, 2023).

2.6.2 Decline of Traditional Skills and Emergence of New Competencies

The advent of advanced office technology has led to the decline of specific traditional skills. For instance, typing speed and shorthand, once considered essential, are now less emphasised. As voice-to-text software and digital dictation tools become more widespread, the need for manual transcription skills has diminished (Davis, 2020).

Furthermore, the role of secretaries has evolved from a purely administrative function to one that requires strategic thinking and problem-solving abilities. Secretaries are now expected to manage projects, coordinate events, and even assist

in decision-making processes. This shift has necessitated the development of new competencies, such as project management and critical thinking. Brown (2021) points out that the modern secretary is more of a business partner than a mere support staff, contributing to organisational success through a broad skill set that includes strategic planning and digital communication (Brown, 2021).

The emergence of these new competencies reflects the changing landscape of the workplace. As organisations increasingly rely on technology, the role of secretaries continues to evolve. The ability to adapt to new technologies and processes is now a key component of the secretary's skill set (Anderson & Gupta, 2022).

Therefore, the transformation of the skill set required for professional secretaries is a response to the rapid advancements in office technology. Digital literacy, data management, and cyber security awareness have become essential skills, while traditional competencies like shorthand and typing speed have seen a decline. The modern secretary's role now encompasses a broader range of responsibilities, including strategic planning and project management, reflecting the changing demands of the workplace. As technology continues to evolve, so too will the skills required for secretaries, making continuous learning and adaptation crucial for success in this profession.

2.7 Challenges and Opportunities Posed by Advanced Office Technology

The rapid development of advanced office technology has significantly impacted the role of secretaries, presenting both challenges and opportunities. This literature review explores the potential challenges secretaries face, including the need for continuous learning, fears of job displacement, and technological adaptation. It also examines the opportunities for career growth, specialisation, and enhanced job performance.

2.7.1 Challenges Faced by Secretaries

Need for Continuous Learning: Integrating new technologies in office settings requires secretaries to update their skills continuously. As Johnson and Carter (2023) highlighted, staying current with the latest software and tools is essential for maintaining productivity and efficiency. This constant need for learning can be overwhelming, especially for those less familiar with technological advancements (Johnson & Carter, 2023).

Job Displacement Fears: Automating administrative tasks has led to concerns about job displacement. Many secretaries fear that the increasing use of artificial intelligence (AI) and automated systems may render their roles obsolete. A study by Wilson and Brown (2022) found that 60% of surveyed secretaries expressed concerns about job security due to technological advancements. This anxiety

is compounded by the perception that employers may prioritise cost-saving technologies over human employees (Wilson & Brown, 2022).

Technological Adaptation: Adapting to new technologies can be a significant challenge, particularly for those who may not have a strong background in technology. Transitioning from traditional office tools to advanced digital platforms requires a considerable learning curve. According to Lee and Martinez (2023), secretaries often face difficulties in mastering new software, which can hinder their job performance and reduce overall office efficiency (Lee & Martinez, 2023).

2.7.2 Opportunities for Career Growth and Enhanced Job Performance

Career Growth and Specialisation: Despite the challenges, advanced office technology also presents numerous opportunities for career growth and specialisation. Secretaries can expand their roles by developing expertise in areas such as data analysis, project management, and digital communication. As noted by Smith (2021), acquiring specialised skills can lead to higher positions within an organisation, such as office manager or executive assistant, which often come with increased responsibilities and compensation (Smith, 2021).

Enhanced Job Performance: Advanced technology can significantly enhance job performance by automating routine tasks and providing tools for better organisation and communication. For instance, cloud-based collaboration platforms enable secretaries to manage documents and schedules more efficiently. Brown (2022) argues that leveraging technology for multitasking and workflow optimization is a key factor in the modern secretary's success. This enhanced capability allows secretaries to focus on more strategic and value-added activities (Brown, 2022).

Opportunities for Remote Work: Adopting digital tools has also facilitated remote work opportunities for secretaries. This flexibility can improve work-life balance and provide access to more job opportunities. According to Johnson (2023), the shift towards remote and hybrid work models has enabled secretaries to work from anywhere, broadening their employment prospects and allowing for greater flexibility in managing personal and professional responsibilities (Johnson, 2023).

Thus, the advent of advanced office technology presents both challenges and opportunities for secretaries. While the need for continuous learning and fears of job displacement are significant concerns, these challenges can be mitigated through proactive adaptation and skill development. On the other hand, the opportunities for career growth, specialisation, enhanced job performance, and remote work offer secretaries the potential to thrive in the evolving workplace. As technology advances, secretaries who embrace these changes and continually upgrade their skills will be well-positioned to succeed in their careers.

2.8 Future Trends in Office Technology and the Secretarial Profession

The landscape of office technology is evolving rapidly, and these advancements are poised to impact the secretarial profession significantly. This section examines predictions for the future of office technology and its potential effects on the role of secretaries. It also discusses emerging technologies such as Artificial Intelligence (AI) and automation and their implications for the profession.

2.8.1 Predictions for the Future of Office Technology

Increased Integration of AI: The integration of AI into office technology is expected to be a significant trend in the coming years. AI technologies, including natural language processing and machine learning, are anticipated to revolutionise administrative tasks. According to Brown and Smith (2024), AI will likely handle routine tasks such as scheduling, email management, and document creation more efficiently, allowing secretaries to focus on more complex and strategic functions (Brown & Smith, 2024).

Growth of Remote and Hybrid Work: The future of office technology will continue to support remote and hybrid work models. Advances in cloud computing and virtual collaboration tools are making it easier for teams to work together regardless of their physical location. Johnson and Williams (2023) predict that these technologies will further enhance the flexibility of secretarial roles, enabling secretaries to manage tasks and coordinate activities from anywhere in the world (Johnson & Williams, 2023).

Enhanced Data Analytics: The increasing availability of data analytics tools will transform office operations. Secretaries will have access to advanced analytics platforms that can provide insights into workflow efficiency, productivity, and resource allocation. According to Davis (2023), these tools will enable secretaries to make data-driven decisions and optimise office processes, thereby improving overall organisational performance (Davis, 2023).

2.8.2 Emerging Technologies and Their Implications

Artificial Intelligence (AI): AI is set to play a transformative role in the secretarial profession. AI-powered systems are expected to automate repetitive tasks, such as data entry and document management, which could streamline office operations and reduce the workload of secretaries. Lee and Martinez (2024) note that while AI can enhance efficiency, it also raises concerns about job displacement and the need for secretaries to acquire new skills to work alongside AI systems (Lee & Martinez, 2024).

Automation: Automation technologies, including robotic process automation (RPA), are increasingly used to handle routine administrative tasks. These technologies can perform tasks such as scheduling appointments and processing invoices with minimal human intervention. According to Smith and Brown (2023), automation

is likely to shift the secretarial role from performing manual tasks to managing and overseeing automated systems (Smith & Brown, 2023).

Virtual Reality (VR) and Augmented Reality (AR): VR and AR technologies are emerging to enhance remote collaboration and training. Secretaries may use VR for virtual meetings and AR for interactive training sessions. As Johnson (2024) highlighted, these technologies offer new ways to engage with colleagues and clients, potentially leading to more immersive and compelling communication experiences (Johnson, 2024).

Cybersecurity Enhancements: As technology advances, so does the need for robust cybersecurity measures. Secretaries must be vigilant in managing and protecting sensitive information from cyber threats. According to Anderson and Gupta (2023), advancements in cybersecurity technologies will be crucial for safeguarding data and maintaining organisational integrity in the face of increasing cyber risks (Anderson & Gupta, 2023).

Therefore, the future of office technology promises significant changes for the secretarial profession, driven by advancements in AI, automation, and other emerging technologies. While these developments offer opportunities for increased efficiency and new capabilities, they also present challenges related to job displacement and the need for continuous skill development. Secretaries must adapt to these technological changes by acquiring new competencies and embracing innovative tools to remain effective in their roles. The ongoing evolution of office technology will shape the profession, emphasising the importance of adaptability and forward-thinking in navigating this dynamic landscape.

2.9 Role of Educational Institutions and Professional Organisations in Supporting Training in Secretarial Studies

The evolution of the secretarial profession requires ongoing training and development to keep pace with technological advancements and changing job requirements. Educational institutions and professional organisations play crucial roles in supporting training in secretarial studies.

2.9.1 The Role of Educational Institutions

Curriculum Development: Educational institutions are instrumental in shaping the curriculum for secretarial studies. They offer specialised programs that address both foundational and advanced skills required in the profession. According to Thompson and Harris (2023), modern secretarial programs include courses on digital literacy, data management, and cybersecurity, reflecting the evolving demands of the workplace (Thompson & Harris, 2023). These programs aim to equip students with the necessary competencies to handle advanced office technology and perform complex administrative tasks.

Integration of Technology: The integration of technology into secretarial training is another critical role of educational institutions. Schools and colleges increasingly incorporate practical training on the latest office software and tools into their curricula. Training institutions are now adopting hands-on training modules and simulations to provide students with real-world experience in using digital tools and managing virtual office environments (Davis, 2024). This approach helps bridge the gap between theoretical knowledge and practical application.

Partnerships with Industry: Many educational institutions partner with businesses and professional organisations to enhance their training programs. These partnerships facilitate internships, guest lectures, and industry collaborations, providing students with valuable insights and experience. According to Johnson and Smith (2023), such collaborations help students gain practical experience and better understand the current needs and expectations of employers (Johnson & Smith, 2023).

2.9.2 Role of Professional Organisations

Certification Programs: Professional organisations play a significant role in offering certification programs that validate the skills and knowledge of secretaries. Brown (2023) emphasises that these certifications help standardise competencies across the profession and provide a benchmark for skill assessment (Brown, 2023).

Networking and Professional Development: Networking opportunities and professional development events organised by professional organisations are essential for career advancement. These events allow secretaries to connect with peers, mentors, and industry experts, fostering professional relationships and sharing best practices. Smith and Thompson (2023) highlight that participation in professional networks can lead to career opportunities, mentorship, and professional growth (Smith & Thompson, 2023).

2.10 Relevant Studies

Advanced office technology has transformed the roles and skills required of professional secretaries worldwide. This section examines previous studies conducted globally, in Africa, and in Tanzania on this topic. It highlights key findings from each region and identifies gaps that suggest a need for the proposed research, particularly within the Tanzanian context.

2.10.1 Relevant Global Studies

A comprehensive study by Johnson and Carter (2022) explored the global impact of advanced office technology on the secretarial profession. Their research indicated a significant shift towards digital skills, with increased emphasis on data management and cybersecurity (Johnson & Carter, 2022). While the study provides a broad

overview of global trends, it primarily focuses on developed countries, leaving a gap in understanding how these changes affect secretaries in developing regions like Tanzania.

A study by Brown and Smith (2021) investigated the technological adaptation of secretaries and their training needs across various international settings. They found that secretaries in different regions face diverse challenges related to technology adoption, including the need for ongoing training and adaptation (Brown & Smith, 2021). However, this study lacks a specific focus on how these challenges are experienced in other contexts, suggesting the need for localised research.

2.10.2 Relevant Studies in Africa

In Africa, a study by Ngugi and Mwaura (2023) analysed the impact of advanced office technology on secretarial roles within various African countries. Their findings highlighted differences in technology adoption rates and skill requirements between urban and rural areas (Ngugi & Mwaura, 2023). Although the study provides valuable insights into regional variations, it does not delve deeply into the specific circumstances of other countries.

Research conducted by Osei and Bediako (2022) examined the challenges and opportunities faced by secretaries in Africa due to advanced office technology. The study emphasised issues such as limited access to training resources and varying levels of technological infrastructure across the continent (Osei & Bediako, 2022). While the study offers a broad perspective, it does not provide a detailed analysis specific to contexts, thus highlighting the need for targeted research.

2.10.3 Relevant Studies in Tanzania

A study by Mwangi and Omari (2023) investigated how Tanzanian secretaries have adapted to advanced office technology. The study found that while there has been progress in integrating digital tools, challenges such as inadequate training and limited access to technological resources remain significant (Mwangi & Omari, 2023). Despite these findings, the research lacks an in-depth exploration of the specific skills and roles affected by these technological changes, suggesting a gap for further investigation.

Research by Kessy and Ndunda (2024) focused on the impact of advanced office technology on the skills and training of Tanzanian secretaries. The study highlighted some improvements in job efficiency but also pointed out persistent issues with outdated training programs and insufficient technological support (Kessy & Ndunda, 2024). The research indicates the need for a more detailed study to address how these technological impacts specifically influence the evolving roles and skillsets of Tanzanian secretaries.

2.10.4 Synthesis

The review of relevant previous studies revealed that while there was substantial research on the impact of advanced office technology on secretarial roles and skills globally, in Africa and Tanzania, there remained significant gaps. Specifically, there was a lack of detailed, localised research focusing on many other countries, including the Tanzanian context. Existing studies often provided broad overviews or focused on other regions, leaving a need for more targeted research on secretaries examining the unique challenges and opportunities Tanzanian secretaries face. This includes understanding how technological advancements are reshaping their roles and skill requirements in a more specific and detailed manner.

2.11 Theoretical Framework

The Theory of Technological Determinism guides the study, primarily associated with Marshall McLuhan (1964). This theory asserts that technology primarily drives social and cultural change (McLuhan, 1964). According to McLuhan, a communication theorist, technological advancements shape human behaviour and societal structures, altering how individuals interact and perform their roles. Additionally, the theory assumes that technology develops independently of social influences and directly determines societal evolution, positioning technology as an autonomous force that drives progress and influences social structures, behaviours, roles, skills, and values (McLuhan, 1964).

The Theory of Technological Determinism has faced notable criticisms for its overemphasis on technology's role while overlooking the influence of social, cultural, and economic factors (Williams, 1974). Critics argue that it presents a deterministic view, suggesting a one-way influence from technology to society, disregarding the complex, reciprocal interactions between them (Bijker, Hughes, & Pinch, 2012). The theory is criticised for neglecting human agency, failing to account for how individuals and societies shape and adapt technologies to fit their needs and contexts (Winner, 1986).

Chung and Koo (2022) applied the Theory of Technological Determinism to investigate how emerging technologies like AI and automation influence workplace dynamics and job roles, showing that technological advancements drive changes in job functions and organisational structures. Rogers (2023) used the theory to analyse how digital transformation affects business operations, revealing that technological innovations lead to shifts in business processes and employee skill requirements. Kim and Lee (2021) explored the impact of technology on educational practices, demonstrating how technological tools alter teaching methods and learning experiences, consistent with the theory's view of technology-driven change.

In the study, the Theory of Technological Determinism was employed to examine how technologies shape the roles and skills required for secretaries. The theory provides a framework for analysing how these technologies drive changes in job functions and skill sets, identifying gaps in current training and skills among Tanzanian secretaries. Despite its criticisms, the theory remains relevant as it offers a foundational perspective on technology’s primary influence on job roles and skills. However, it should be complemented by considerations of contextual factors as intervening variables.

The impact of advanced office technology on the roles and skills of professional secretaries in Tanzania was studied through the lens of the Theory of Technological Determinism.

In the conceptual framework presented below, advanced office technology (e.g., software applications, automation tools, and communication platforms) acts as the independent variable influencing the job roles and skills of professional secretaries. Job roles encompass specific responsibilities such as scheduling and document management, while skills include technical, organisational, and communication competencies required for effective performance. Contextual factors such as organisational culture, training and development opportunities, work environment, and managerial support serve as intervening variables, moderating the relationship between technology and its impact on job roles and skills.

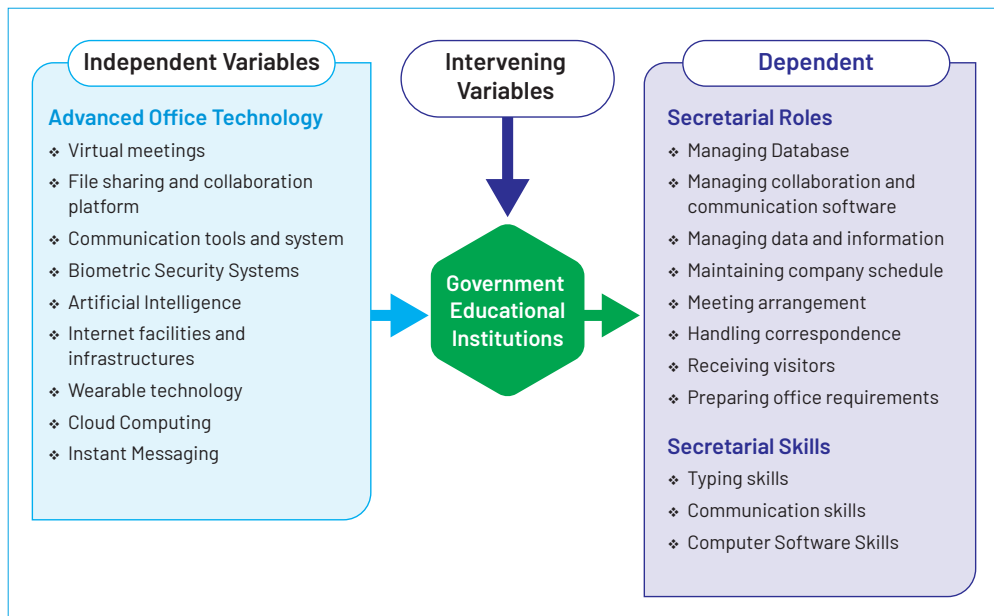


Figure 1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Chapter Overview

This chapter describes the design and implementation procedures of the study. It covers the research design, methods of data collection, target population, and sampling procedures, as well as the strategies for data analysis, presentation, and interpretation. Additionally, it addresses issues of validity and reliability, along with the ethical considerations observed throughout the research process.

3.2 Research Design

The study employed a survey research design, chosen for its strength in facilitating data collection from a large number of respondents. This approach offers a comprehensive overview of the subject under investigation. Moreover, it supports the use of quantitative methods (such as questionnaires with numerically rated items), qualitative methods (such as open-ended questions), or a combination of both, making it suitable for mixed-methods research. Survey designs are particularly effective for describing and exploring human behaviour (Singleton & Straits, 2009).

3.3 Population and Sampling Procedures

3.3.1 Targeted Population

The target populations of the study included 30 public institutions from eight regions of Tanzania; Arusha, Dar es Salaam, Dodoma, Kilimanjaro, Morogoro, Mtwara, Mwanza and Tabora. The study sought to gather information from secretarial trainers, students enrolled in secretarial studies, experienced professional secretaries, and Human Resources (HR) professionals from the mentioned public institutions.

3.3.2 Sampling Procedure

In choosing the participants, the study employed a mixed-method sampling approach, utilizing distinct procedures to select respondents from different groups. The purposive sampling technique was used for professional secretaries, HR professionals, and secretarial trainers because these groups are rich in information, and their knowledge is essential to provide in-depth insights necessary to address the research questions. This form of sampling is essentially strategic and necessitates an attempt to establish a good correspondence between research questions and the selected sample (Bryman, 2004).

Conversely, students pursuing secretarial studies were selected using Convenience sampling, whereby students who were readily accessible and available during the time of data collection participated in the focus group discussion.

3.4 Data Collection Methods

To obtain the necessary data for this study, various data collection methods were employed, including questionnaires, interviews, and focus group discussions. The reason for adopting these methods was based on the complementarity and mitigation of the weakness of one method. The following are instruments that were used for data collection.

3.4.1 Questionnaires

The questionnaires were distributed to secretaries, secretarial trainers, and Human Resources (HR) professionals. They included both open-ended and closed-ended questions. The questionnaires were distributed to collect demographic information, personal opinions, and facts from respondents.

3.4.2 Interview

The interview method was used to 30 respondents to obtain nuanced data about the changes in office technology, roles, and the skills that will be needed in the future of the secretarial profession. This method was used for four secretarial trainers because they are dealing with the preparation of curricula based on the needs of the employers. For HR professionals total of seven Head of HR Departments were interviewed because they have a lot of experience on issues related to recruitment, training, and development of secretaries in the organisation, and, therefore, detailed information from them was crucial to fulfil the purpose of the research. Also, 19 experienced professional secretaries were interviewed because they have worked for a long time and are familiar with various office technological changes, particularly those affecting their daily operations.

3.4.3 Focus Group Discussion

Using this method, 10 participants pursuing secretarial studies were gathered and selected by using convenience sampling to discuss the change in office technology and the readiness of potential users to acquire the necessary skills for future secretarial roles.

3.5 Data Analysis, Presentation, and Interpretation Plan

The data collected in this study were primarily descriptive and narrative in nature. Quantitative data were analysed by using descriptive statistics, which included calculating percentages and mean scores. The results were presented using tabular formats and graphs to ensure high clarity and precision, therefore enhancing the factual and logical interpretation of the findings.

The qualitative data, derived from open-ended responses and interviews, were analysed thematically. The process involved researchers systematically reviewing, coding, and grouping the data to identify recurring patterns and themes to get

key insights. This helped the researchers to compare findings against quantitative results, therefore providing a comprehensive understanding.

3.6 Validity and Reliability

3.6.1 Validity

To ensure the validity of data collection, the researcher used the experts' judgment to ensure that the questionnaire instrument clearly defined the concepts used in the study.

3.6.2 Reliability

Data collection tools of the research study were pilot-tested to check the reliability coefficient of the study's variables, and were tested using SPSS software. A reliability coefficient (r) of greater than 0.7 for different variables tested means the data presented from the questionnaire is reliable.

3.7 Ethical Consideration

In conducting this research study, various ethical considerations were addressed to ensure the integrity and respect of all participants. Free and informed consent was obtained from interviewees, with both parties agreeing on the terms of participation. The study emphasised a mutual consensus between the researcher and respondents. Confidentiality was strictly maintained, ensuring that sensitive information from respondents was not disclosed. The researcher ensured that the disclosure of information harmed no participant.

Respondents were thoroughly informed about the study's purpose and procedures to encourage voluntary participation. The study aimed to maintain neutrality and objectivity by adhering to these methods, ensuring that the findings accurately represent the respondents' views. Permission to conduct this study was sought from the respective authorities. This process started with obtaining research clearance from the Chief Executive Officer of the Tanzania Public Service (TPSC), followed by approvals from the Regional Administration Offices and the respective public service institutions where researchers visited.

CHAPTER FOUR: PRESENTATION AND DISCUSSION OF THE FINDINGS

4.1 Chapter Overview

This chapter presents the research findings in alignment with the study objectives, which sought to examine the impact of advanced office technology on the roles and skills of professional secretaries in Tanzania. The findings are thematically organised according to the specific objectives and arranged sequentially to offer a clear and comprehensive understanding of the study. Quantitative data are presented through tables and charts to enhance clarity and support the analysis.

4.2 Demographic Information

As presented in Table 1, the research focused solely on working experience, as it was deemed to be the most relevant factor for the study's objectives. Other demographic information, such as age, gender or education level of respondents, was not included because it does not affect the study's purpose.

Table 1: Respondents' Working Experience

Designation	Working Experience	No. of Respondents	Percentage (%)
Secretaries	1-5	19	33.9
	6-10	8	14.3
	11-15	11	19.6
	16-20	4	7.1
	20+	13	23.2
	Missing	1	1.8
	Total	56	100.0
Human Resource officers	1-5	10	33.3
	6-10	9	30.0
	11-15	9	30.0
	16-20	0	0
	20+	2	6.7
	Total	30	100.0
Trainers	1-5	9	34.6
	6-10	6	23.1
	11-15	4	15.4
	16-20	2	7.7
	20+	5	19.2
	Total	26	100.0

Table 1 shows that 65 per cent of respondents had experience of more than 5 years in a particular field. This is an indication of the knowledge possessed by respondents regarding how they view the secretarial profession and the changes in technology occurring in daily office practice.

4.3 Current Roles and Skills of Professional Secretaries

The first objective of this study was to examine the current state of the roles and skills among professional secretaries in Tanzania. This objective is discussed from three angles: first, the roles and responsibilities of secretaries in different organisations; second, the current key skills for professional secretaries in Tanzania and the current landscape of secretarial training.

4.3.1 Roles and Responsibilities of Secretaries

A questionnaire-based approach was used to collect data from two distinct groups: Professional Secretaries and HROs. Professional Secretaries were required to tick off roles and responsibilities they are currently performing. In contrast, HROs were required to tick on the roles that Professional Secretaries currently perform in their organisations. To facilitate a comprehensive analysis of the responses to these shared questions, it was important to merge data using the recode technique in SPSS, as presented in Table 2 below.

Table 2: Roles and Responsibilities of Secretaries in Tanzania

S/N	Roles and Responsibilities	No. of Respondents	Percentage (%)
1.	Typing letters, information and documents	84	98.8
2.	Receiving customers	79	92.9
3.	Keeping information and records of events, meeting dates and trips	76	89.4
4.	Looking for necessary files and documents	80	94.1
5.	Receive and distribute required files and documents	78	91.8
6.	Collect, maintain, and return files and documents	75	88.2
7.	Prepare office requirements	75	88.2
8.	Make preparation for meetings	69	81.2
9.	Monitor implementation of instructions given by the supervisor	67	78.8

According to the data presented in Table 2, a comprehensive survey of secretarial roles among 86 Professional secretaries and HROs, who provided insights into secretaries' daily functions in Tanzania, revealed that typing letters, information, and documents was the most prominent role, with 84 respondents (98.8%)

affirming its significance in their work. This is closely followed by the task of *looking for necessary files and documents*, which 80 respondents (94.1%) identified as a key responsibility. Statistics also show that *receiving customers* from the office is another notable responsibility, reported by 79 (92.9%) respondents.

Other critical responsibilities include *receiving and distributing required files and documents*, as noted by 78 respondents (91.8%). In comparison, 76 respondents (89.4%) highlighted their role in *keeping information and records of events, meeting dates, and trips*. Another notable responsibility is *collecting, maintaining, and returning files and documents* with 75 reactions (88.2%), as well as *preparing office requirements*, which 75 respondents (88.2%) undertake. Furthermore, 69 respondents (81.2%) are involved in *preparations for meetings*, and 67 respondents (78.8%) *monitor the implementation of instructions given by the supervisor*. The lowest engagement, with a 78.8% participation rate, in the last role is likely due to executive assistants predominantly performing this role. These findings align with Herbrason et al. (2022), indicating that a secretary's responsibilities encompass typing letters, answering phone calls, arranging meetings, handling correspondence, maintaining records, and performing general clerical tasks for individuals in business offices, as well as managing related affairs of organisations, companies, or associations.

4.3.2 Essential Skills for Professional Secretaries

4.3.2.1 Considered Skills for Hiring Secretaries

The study also aimed to identify the skills currently required of secretaries to effectively fulfil their roles and responsibilities within the office and other related functions of an organisation. A specific question posed to HR Professionals was, "*What specific skills do you currently look for when hiring secretaries?*" Respondents were required to tick the appropriate skills which they deem most critical during the recruitment process. The aim was to gain insight into the competencies that HRs value most when hiring secretaries, thereby ensuring that skills align with the organisational needs.

The findings, presented in Table 3, highlight the key skills considered important by most HR professionals for secretaries to succeed in their roles.

Table 3: Considered Skills in Hiring Secretaries in Tanzania

S/N	Current Skills in Hiring Secretaries	No. of Respondents	Percentage (%)
1.	Digital literacy (office, cloud, internet)	26	86.7
2.	Data management skills	19	63.3
3.	Problem-solving skills	20	66.7
4.	Typing skills	28	93.3
5.	Communication skills	27	90.0
6.	Phone skills	22	73.3
7.	Note-taking skills	26	86.7
8.	Hatim Kato & Shorthand	21	70.0

Table 3 reveals that Typing skills are deemed as the most essential skill that Professional secretaries are required to have, as 28 of 30 respondents (93.3%) indicated. Another skill that is prioritised in the hiring process of secretaries is Communication Skills. 27 respondents (90%) showed the importance of this skill for secretaries, as it is crucial for clear and compelling customer interactions. Digital literacy and note-taking skills are equally valued by 26 respondents (86.7%). Digital literacy, encompassing office software, cloud computing, and internet knowledge, suggests a growing reliance on technology in secretarial roles. Meanwhile, note-taking skills remain crucial for accurately recording minutes during meetings and other significant events.

Phone skills (73.3%), Hatim Kato & Shorthand (70%) and Problem Solving (66.7%) are considered important but rank lower. This shows that organisations also consider phone skills competence for managing calls and maintaining professionalism over the telephone. At the same time, problem-solving indicates the need for secretaries to solve arising problems in the course of performing their duties. For Hatim Kato and Shorthand, although it is less prioritised, it still indicates a demand for traditional secretarial skills in specific contexts. The least prioritised skill was Data management skills, accounting for 19 respondents (63.3%). This might indicate that data management is either less important for the day-to-day responsibilities of Professional Secretaries, or it is a skill that is perceived to be part of digital skills.

From the interview response, HR professionals were also asked what specific skills a professional secretary is required to possess to be hired by their organisations. The responses from different respondents included typing skills, note-taking skills, communication skills, computer literacy, ability to handle confidential information, shorthand skills, and *Hatimkato*. The responses contradict the literature, which advocates that these skills are less emphasised in modern organisations. Davis (2020) highlighted the significance of integrating digital dictation tools to replace manual transcription skills. When interviewed on why the organisation still relies on these skills, the reply from the HR professional was;

“We are complying with the updated scheme of service for hiring an office management secretary, which was circulated in 2022. We have our needs on how we want our office secretary to be, matching the rapid technological growth, but we have to comply” (Respondent 1).

Another HRO said;

When we need to hire a Professional Secretary, there are skills and criteria that we consider. Specifically, considerable emphasis is placed upon their ability to use a computer, unerring keyboard capabilities, as well as their ability to serve clients. (Respondent 2).

4.3.2.2 Current Applied Skills by Professional Secretaries

To evaluate the current skill sets of Professional Secretaries, a question was posed to secretaries, requesting them to “Mention the skills that are currently applicable in their profession,” whereby the responses, as shown in Table 4, detail the prevalence and utilisation of these skills among professional secretaries.

Table 4: Currently Applicable Skills in the Secretarial Profession

S/N	Skills applied by Secretaries	No. of Respondents	Percentages (%)
1.	Typing skills	55	100.0%
2.	Communication skills	55	100.0%
3.	Phone skills	48	87.3%
4.	Note-taking skills	47	85.5%
5.	Hatim Kato & Shorthand skills	12	21.8%
6.	Word Processing Software (Eg, Ms word, Google Documents)	54	98.2%
7.	Spreadsheet Software (Eg, Ms Excel, Google spreadsheet)	49	89.1%
8.	Presentation Software (Eg, MS PowerPoint)	41	74.5%
9.	Publisher (Eg, Ms publisher, Adobe)	40	72.7%
10.	Internet and Email	53	96.4%

Data from Table 4 provide an overview of currently applicable skills in the secretarial profession, based on responses from 55 participants. The findings show that Typing skills and Communication skills are the most widely applied skills, with 100% of respondents indicating their use. Word processing software skills, including the ability to use tools like MS Word and Google Docs, are widely used skills, with 54 respondents (98.2%) using them. This reflects a critical role of document creation and management in the secretarial profession. Data also reveal digital competence dominance, as 53 respondents (96.4%) indicated the use of the Internet and e-mail.

In contrast, spreadsheet software, which includes software like MS Excel and Google Sheets, is used by 49 respondents (89.1%), indicating a widespread application of data organisation. Phone skills are another skill with higher applicability, whereby 48 respondents (87.3%) use this competency. This highlights the importance of this skill in facilitating effective office communication. Note-taking skill also follows closely, with 47 respondents (85.5%) indicating a reliance on this ability to capture important information during meetings or conversations. Presentation software such as MS PowerPoint is applied by 41 respondents (74.5%), suggesting it is important in preparation for visual aids in meetings. MS Publisher has a slightly less dominant role, where 40 respondents (72.7%) pointed to applying it. Hatim Kato and Shorthand skills are notably less applied skills, with only 12 respondents (21.8%) using them. This might indicate the decline in demand for these traditional skills in current secretarial practices.

4.3.2.3 Frequency of Skills Application by Professional Secretaries

The rate of skills application by Professional Secretaries was evaluated by mean score (MS) analysis, where a scale ranging from 4.5-5.0 MS denoted 'Always', 3.5-4.4 MS indicated 'Sometimes' usage, 2.5-3.4 MS means 'Often', 1.5-2.4 MS represented 'Rarely' and 1-1.4 MS signified 'Never'. Table 4.5 shows the frequency of use of each skill by Professional Secretaries in their daily office routine.

Table 5: Frequency of Applying the Skills

S/N	Secretarial Skills	No. of Respondents	Mean	SD	Interpretation
1.	Typing skills	55	4.87	.610	Always
2.	Communication skills	54	4.89	.462	Always
3.	Phone skills	50	4.72	.757	Always
4.	Note-taking skills	47	4.26	1.052	Sometimes
5.	Hatim Kato & Shorthand skills	40	1.70	1.265	Rarely
6.	Word Processing Software (Eg, Ms word, Google Documents)	53	4.92	.331	Always
7.	Spreadsheet Software (Eg, Ms Excel, Google spreadsheet)	51	4.55	.610	Always
8.	Presentation Software (Eg, Ms Powerpoint, Google slides)	46	3.93	.952	Sometimes
9.	Publisher (Eg, Ms publisher, Adobe)	46	3.61	1.125	Sometimes
10.	Internet and Email	53	4.85	.601	Always

The data detailed in Table 5 provide an analysis of the frequency with which various secretarial skills are employed in the daily office routine. Data derived from a sample of 55 respondents revealed that *Word Processing Software* (e.g., MS Word, Google Docs) has the highest score of 4.92 with a standard deviation (S.D.) of 0.331, placing it in the 'Always' category. This is followed by *Communication skills* with a mean score of 4.89 and S.D. of 0.462, also in the 'Always' category. *Typing skills* with MS of 4.87 and S.D. of 0.61 are placed in the 'Always' category. *Internet and e-mail skills* have an MS of 4.85 with a S.D. of 0.601, indicating their constant application. *Phone skills* follow with MS 4.72 and S.D. of 0.757, categorised as 'Always'. *Spreadsheet Software* (Eg, MS Excel, Google spreadsheet) showed a MS of 4.55 with S.D of 0.610, implicating the 'Always' category.

Note-taking skills, having an MS of 4.26 with an S.D. of 1.052, indicate a 'Sometimes' response. Despite the high mean score, the standard deviation of 1.052 suggests that although the average use of note-taking skills falls in the 'Sometimes' category, individual responses in this skill varied to a noticeable degree. This means that while some respondents use note-taking skills more frequently, some respondents use it less. *Presentation Software* (E.g., MS PowerPoint, Google Slides) recorded an MS of 3.93 with S.D. 0.952, meaning that it falls in the 'Sometimes' category. With M.S of 3.61 and S.D of 1.125, *Publisher* (E.g., Ms publisher, Adobe) is also placed in 'Sometimes' response. Having an S.D. of 1.125 suggests that there is dispersion of opinions among the respondents on the frequency of using this skill. On the contrary, *Hatim Kato & Shorthand skills* recorded the lowest M.S of 1.70 with S.D of 1.265, indicating rare usage of this skill.

The scheme of service for a professional secretary in Tanzania outlines requisite skills such as typing skills, computer literacy, shorthand skills, and hatimkato (URT, 2002; URT, 2022). However, research results indicate that a subset of these skills exhibit limited practical applicability within modern office environments. The decline of some traditional secretarial skills might be the result of the digital transformation of the workplace, as argued by Jones (2021).

4.3.3 Current Landscape of Secretarial Training

To understand the current state of knowledge, skills and attitude of Professional Secretaries, the question was asked, "Have you undergone any training to improve your skills in the past three years?" The primary aim of this question was to determine if the Professional Secretaries are receiving consistent training to ensure their skills remain relevant and do not become obsolete in an evolving professional environment. The Positive response to this question was followed by another important question requiring the respondents to state whether they participated in *Digital or Non-Digital Training programs*. These questions aimed to provide a detailed understanding of the training employed, offering a valuable contribution to the secretarial development landscape, showcasing the need for targeted intervention to align secretarial skills with contemporary demands. The findings are presented in Figure 2 and Figure 3, respectively.

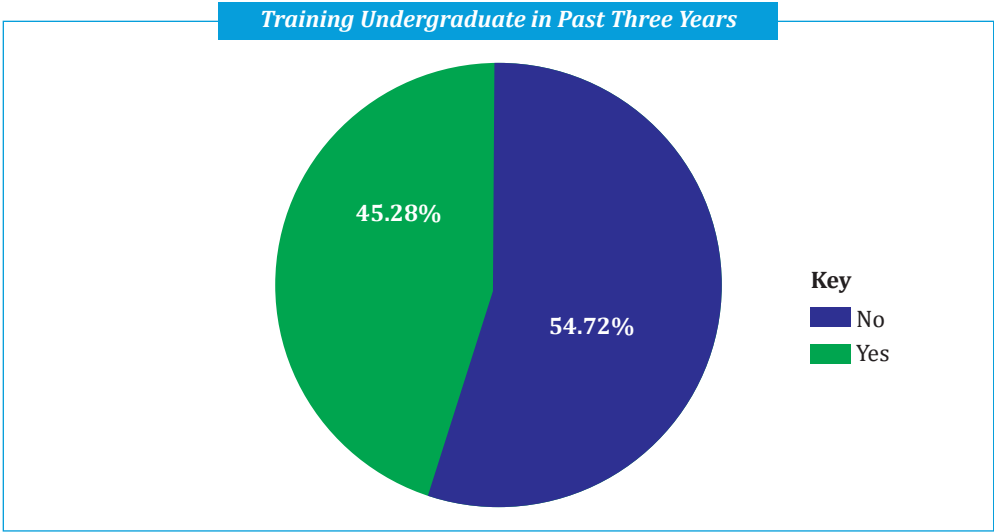


Figure 2: Respondents’ Access to Training in the Past Three Years

The findings from Figure 2 indicate that a majority (54.72%) of respondents did not have access to training in the past three years, in comparison to 45.28% who accessed training. The difference among respondents is relatively small, an indication of a fair attempt by organisations to develop the skills of professional secretaries. This suggests that despite the efforts of organisations to provide training, there are still gaps in ensuring all secretaries have access to training.

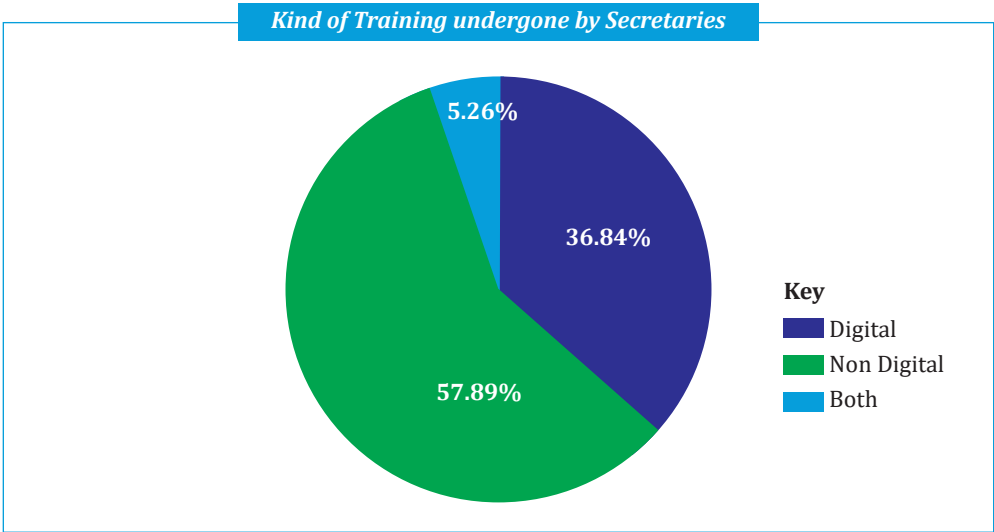


Figure 3: Secretaries’ Participation in Digital and Non-Digital Training Programs

The Data in Figure 3 indicate that the majority of respondents (57.89%) who had access to training were subjected to non-digital training programs such as administrative procedures, communication skills, customer handling or other traditional secretarial competencies. This suggests that most organisations are still

prioritising traditional training over digital upgrading. The findings also revealed that (36.84%) underwent digital training, which include skills such as using software tools like MS Office programs or other technological competencies. This indicates that digital skills are becoming essential for Professional Secretaries, aligning with the trend of digital transformation in the workplace. Only (5.26%) of respondents received both kinds of training.

The heavy emphasis on non-digital compared to digital training might indicate a challenge for preparing secretaries for an increasingly changing digital workplace and office technology. As technology continues to advance, organisations may need to increase access to digital training. The observed data pinpoint the importance of prioritising digital training to prepare secretaries for future technological changes. This is further substantiated by the study of Johnson and Carter (2023), whose research emphasised the direct correlation between staying current with digital tools and maintaining productivity and efficiency in the workplace. Their findings, consistent with the present study, suggest that ignoring digital training can have negative consequences for the organisation that needs to shift from traditional secretarial skills to modern skills proactively.

To further understand the response derived from Professional Secretaries, 26 Trainers were engaged with an additional inquiry: *“Has the secretarial training curriculum been updated in the last five years to include advanced office technology?”* This question aimed to evaluate the adaptability of training programs to technological advancement. The positive response from this inquiry required respondents to state *“which new topics or skills have been introduced in the curriculum to match the advancements in office technology?”*. The response to these questions is shown in Figures 4 and 5, respectively.

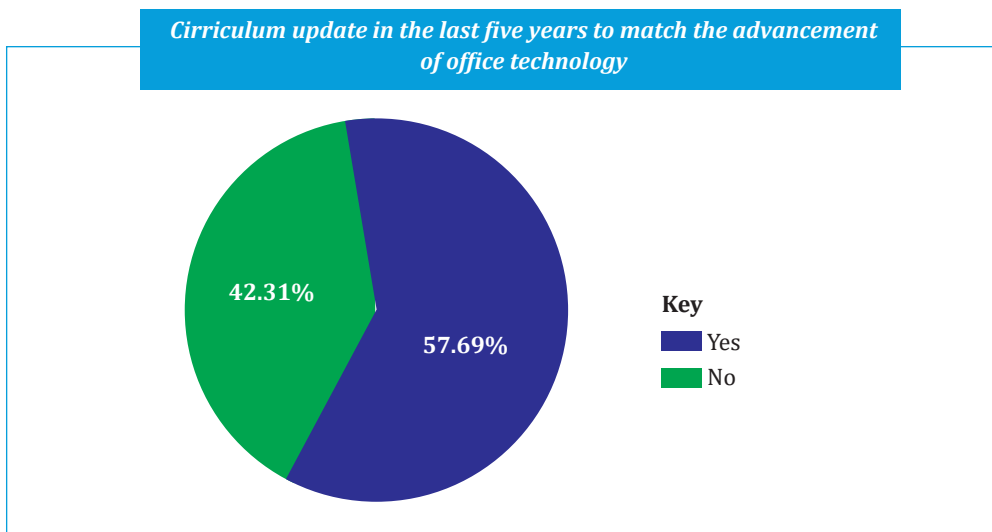


Figure 4: Office Technology Curriculum Updates in the Past Five Years

Figure 4 illustrates that 15 respondents (57.69%) representing the majority of respondents indicated 'No' to signify that their programs have not been updated in the past 5 years to match the technological advancement, while 11 respondents (42.31%) affirmed 'Yes', indicating that their training programs have been revised to match the technological advancement. These responses reflect that over half of training programs fail to address the modern skill requirements of Professional secretaries, hindering their ability to adapt to contemporary office demands. This highlights the critical need for widespread curriculum change to ensure consistency and relevance across the profession. Furthermore, these findings show the importance of investing in training infrastructures to bridge the gap and enhance technological proficiency among Professional Secretaries in response to evolving office environments.

Among the 11 respondents who replied 'Yes' in curriculum update over the past five years to match advancement of office technology, only eight responded to the new topics introduced, while responses from 3 participants were recorded as missing values, indicating incomplete data that require further investigation.

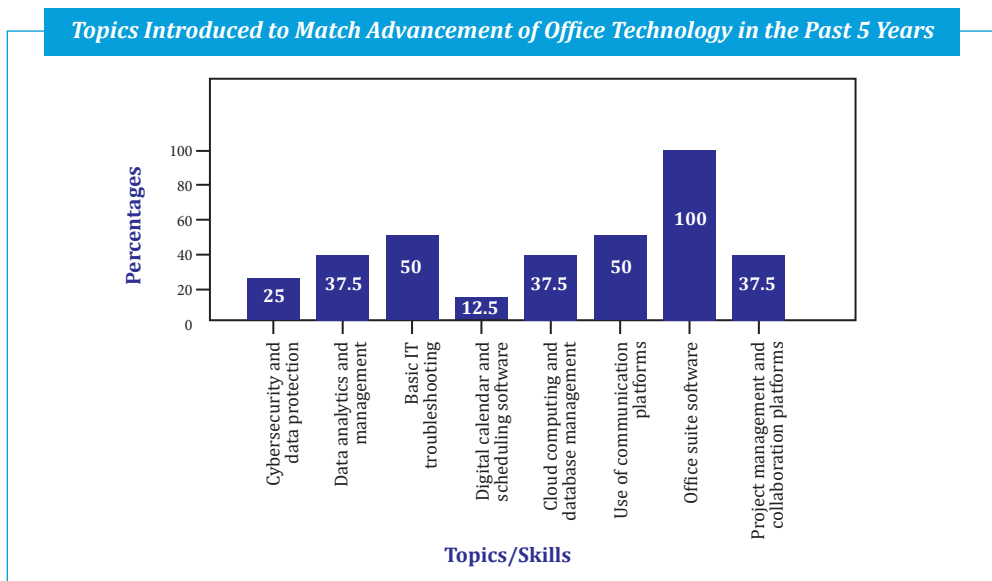


Figure 5: Curriculum Adaptation to Office Technology

The data in Figure 5 indicate a high adoption rate of Office suite software skills at 100%, indicating unanimous recognition among respondents that this topic has been introduced to match office technological advancements. The use of Communication Platforms and Basic IT Troubleshooting follows with 50% adoption rates, indicating a moderate focus on these topics. Data analytics, Cloud Computing, and Project management and collaboration tools had an adoption rate of 37.5%, indicating moderate integration. In contrast, Cyber Security and Data Protection (25%) and Digital Calendaring and Scheduling (12.5%) showed the lowest adoption rates in

secretarial training. At just 25% adoption rates, data security and privacy training appeared to be less emphasised, given the rising incidence of cyber threats and the importance of securing data handling. The limited access to these programs raises a potential concern.

“To meet the need of advanced office technology, we are involving different stakeholders, including administrators, trainers and secretaries in preparation of our curriculum, and finally, we forward it to NACTVET for additional inputs and approval”. (RESPONDENT 3).

Asked if the contents are enough to prepare prospective secretaries to meet future office needs, the reaction was;

“We always leave room for improvements, probably we are not where we would want to be to capture the pace of the developed world, but we are still looking to match our curricula to the growing office needs, especially for public offices” (RESPONDENT 4)

The interviewee also highlighted the issue of updating the curriculum to match advanced office technology. One respondent was quoted.

“As Trainers, I have not been involved in curriculum preparation and curriculum development; also, curriculum changes do not align with technological advancements. Despite the curriculum being revised, the content remains the same as in the old curriculum, which does not include content like AI, cloud computing, remote working tools and e-office systems.” (RESPONDENT 5)

Another trainer was quoted saying;

“There was no curriculum update to match the new advanced office technology, despite having new curriculum” (RESPONDENT 6)

4.4 Advanced Office Technologies in the Secretarial Profession

The second objective of this study was to identify the advanced office technology in the secretarial professions in public organisations in Tanzania. It focused on identifying current advanced office technologies used in daily office routines and their impacts.

4.4.1 Current Use of Advanced Office Technologies

In a questionnaire guide, human resource officers and professional secretaries were asked to identify the advanced office technologies currently used in daily office activities, with the question, ‘What advanced office technologies are currently used by secretaries in your organisation?’ The response for this question is shown in Figure 6 below.

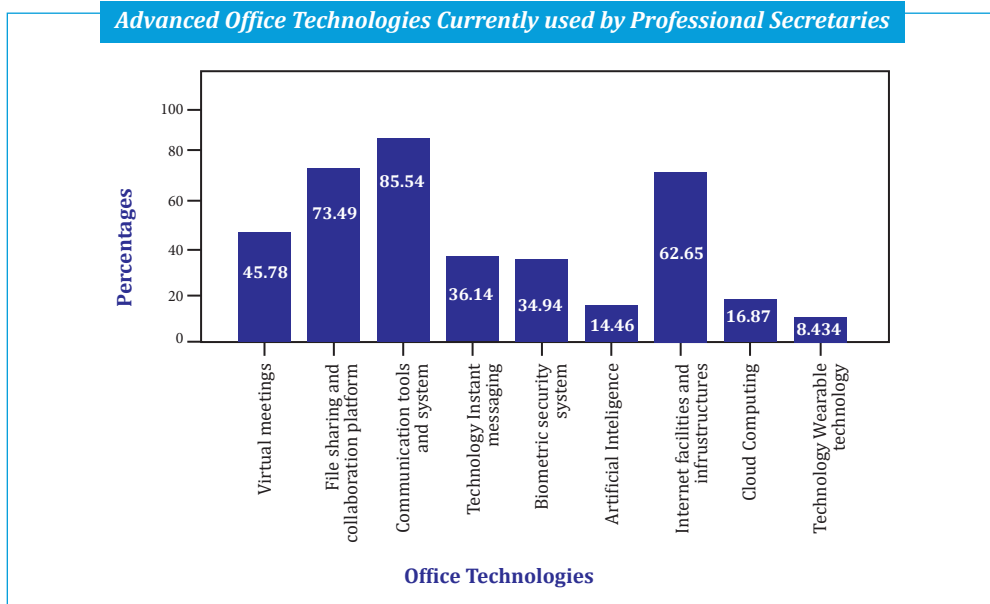


Figure 6: Advanced Office Technologies Currently used by Professional Secretaries

From figure 6, data from 86 respondents revealed that there are dominant and most used office technologies that are *Communication tools and systems*, whereby 85.5% of 86 respondents agreed to it, followed by *file sharing and collaboration platforms* with 73.5% of 86 respondents and *internet facilities and infrastructure* with 62.7% of 86 respondents agreed to it.

Data revealed that there are moderately used office technologies. Of the 86 respondents, 38 (45.8%) agreed on *virtual meetings*. These suggest that there is a preference for in-person meetings despite growing trends in remote working. Following in the row are *instant messaging*, 36.1% and *biometric security systems*, 34.9%.

On the other hand, data indicates limited integration of emerging technologies, including cloud computing, Artificial Intelligence (AI) tools, automated systems, and *wearable technologies*. Out of 86 respondents, 14 (16.9%) were consistent with cloud computing, 12 (14.5%) corresponded to AI tools, and 7 (8.4%) to wearable technologies. The lower percentage of responses in cloud computing, Artificial Intelligence, and wearable technologies might reflect that there is relatively low use of these technologies, implying that they are less critical for current professional secretaries' roles.

4.4.2 Effect of Advanced Office Technologies on Organisations

This section examines the effects of advanced technologies currently used by professional secretaries in the workplace, providing an understanding of the growing digital work environment and technology adoption. To gather data on this aspect,

Professional Secretaries who are the primary users of office technologies, Trainers who are responsible for developing effective training programs on new technologies and Human Resource Officers who oversee effectiveness and alignment of these technologies with organisation goals were asked ‘How has the introduction of these office technologies impacted the roles of professional secretaries in the organisation?’ The statements were rated on a Likert scale of 1 to 5, where 1 was Strongly Disagree, 2 was Disagree, three was Neutral, 4 was Agree and 5 was Strongly Agree. Range from 4.5-5.0 MS denoted ‘**Strong Agree**’, 3.5-4.4 MS indicated ‘**Agree**’, 2.5-3.4 MS means ‘**Neutral**’, 1.5-2.4 MS represented ‘**Disagree**’, and 1-1.4 MS signified ‘**Strong Disagree**’, with the interpretation column indicating agreement levels. The response to this question is shown in Table 6.

Table 6: Impact of Advanced Office Technology on Organisations

S/N	Impact	Respondents	Mean	SD	Interpretation
1	Advanced office technology contributed to better communication and resource sharing	107	4.46	.872	Agreed
2	Improved efficiency and cost-effectiveness as a result of automation, remote working, minimisation of errors and fast access to stored information	101	4.30	.807	Agreed
3	The use of modern office technologies has raised productivity and improved workflow management	105	4.35	.866	Agreed
4	Advanced office technologies enhance decision-making processes	104	4.23	.873	Agreed
5	Requirement for continuous learning and adaptation to new technologies	52	4.06	.938	Agreed
6	Ability to take on more difficult and strategic tasks such as project management and research	100	3.66	.966	Agreed
7	Reduce the burden of Manual work	103	4.25	.987	Agreed
8	No significant impact	52	1.90	1.034	Disagreement

The findings in Table 6 show that respondents ‘Agreed’ on the statement that Advanced office technology contributed to better communication and resource sharing, with a mean of 4.46, and a standard deviation of 0.82, indicating a slight variation of opinion from respondents. This is closely followed by other statements, including; *The use of modern office technologies has raised productivity and better workflow management*, with MS of 4.35 and S.D of 0.866, *Improved efficiency and*

cost-effectiveness as a result of automation, remote working, minimization of errors and fast access to stored information with MS of 4.30 and an S.D of 0.807, Reduced the burden of manual work with MS of 4.25 and S.D 0.987, Advanced office technologies enhance better decisions making process with MS of 4.23 and an SD of 0.873, and Requirement for continuous learning and adaptation to new technologies with MS of 4.06 and SD of 0.938. The mean score on the stated categories depicts respondents' Agreement with these statements. Additionally, the findings revealed respondents' agreement on the Ability to take on more difficult and strategic tasks such as project management and research, as it recorded the mean score of 3.66 and standard deviation of 0.966. However, the low mean score of 1.90 indicates disagreement with the notion that advanced office technologies have no significant impact in the workplace.

These data revealed the significant impacts of advanced office technology on the contemporary office context. The notable shift towards integrating advanced office technology in office operations has been supported by Musty (2023), who showed that the integration of office technologies has increased the efficiency of professional secretaries by reducing costs and time, providing proper and secure storage of information, and automating secretarial tasks. Responding to the interview question, one HR professional was quoted;

“Our department’s approach to recruitment, particularly in secretarial roles, has evolved due to technological changes. Our main focus in the staffing process is on proficiency in modern office technologies, such as computer applications, rather than merely considering traditional skills, to reduce the burden of manual work. Generally, I can say the evolution of technology has shaped our recruitment strategy, especially in the people we are acquiring and integrating into our teams” (RESPONDENT 7)

On the other hand, the trainer replied on the impact of advanced technology on the roles and skills of a Professional secretary was;

I think the impact is too positive; however, potential adverse outcomes with a low probability can occur, including a sense of job insecurity among office management secretaries. Additionally, organisations might face an increase in operational costs due to the necessity of repeated sessions to ensure secretaries remain proficient with evolving office technological practices. (RESPONDENT 8)

Another response from the Professional Secretary who responded to the interview question on the impact of advanced technology on the roles and skills of a Professional Secretary was;

The introduction of office technology has demonstrably simplified work processes and saved time compared to the previous period, when it was necessary to physically move files from one office to another, a task that has been superseded by modern technology.

Nowadays, we can share files through office systems regardless of distance...It also streamlined management of administrative tasks such as scheduling appointments using digital systems like e-calendars. (RESPONDENT 9)

4.5 Future Roles and Skills of Prospective Secretaries

4.5.1 Digital Training Programs for Secretaries

To explore the future trends in digital technology adoption among Professional Secretaries, HRs were asked to respond to the question *Have you introduced any new training programs to help secretaries adapt to new office technological changes?* As illustrated in Figure 7, 18 respondents (60%) answered 'Yes', confirming that they have implemented new training programs, while 12 respondents (40%) replied 'No', highlighting a potential gap in adopting digital training initiatives for secretaries.

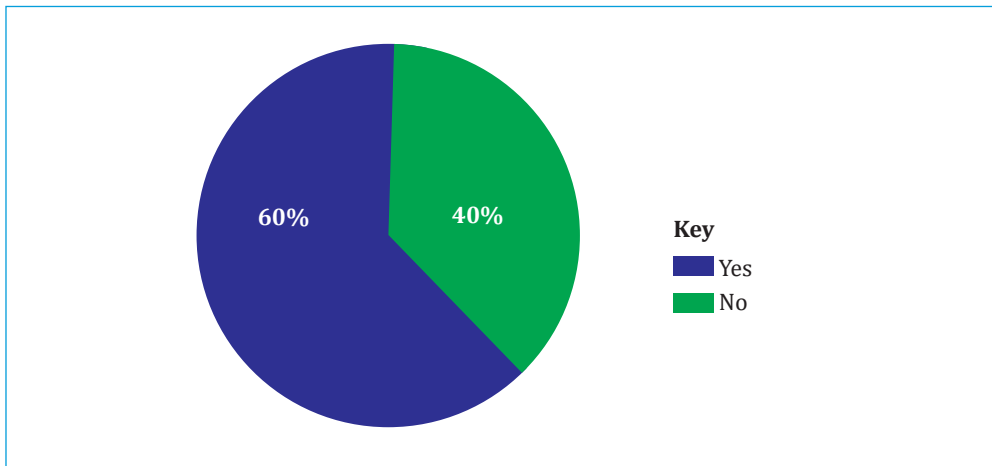


Figure 7: Introduction of New Training Programs

The 'No' responses suggested a reliance on traditional skill sets, potentially leaving secretaries in these organisations at a disadvantageous position as technology continues to reshape the secretarial roles. The findings also highlight the shift from traditional administrative duties to more technology-driven responsibilities. The 60% adoption rate is a promising sign of adaptation, while the 40% gaps signify a risk of skill obsolescence among Professional secretaries.

Consistently, Lee and Martinez (2024) highlighted the inevitability of professional secretaries to acquire new skills working alongside AI systems and office automation, thus introducing training programs on new office technology would be valuable to enable swift adaptability to the changing workplace. This will likely shift the secretarial roles from performing clerical tasks to managing automated systems, as discussed by Smith and Brown (2023).

Based on the findings, 18 respondents confirmed the implementation of a new training program to help secretaries adapt to new technological changes in their organisations. Several advanced technologies were listed, for respondents to choose if they introduced it for future secretarial endeavour, these includes; Cyber Security awareness and Protection, Data analytics and management, AI and Machine Learning, Internet and electronic mailing systems, Digital calendars and scheduling software, Cloud computing and database management, Communication platforms (e.g. Zoom meeting), Office suite software (i.e. Google Workspace, Ms Office, Ms Teams, WPS Office) and Project management and collaboration platform. Respondents were also allowed to add any digital training that was implemented apart from the listed. Response from this can be seen in Figure 8.

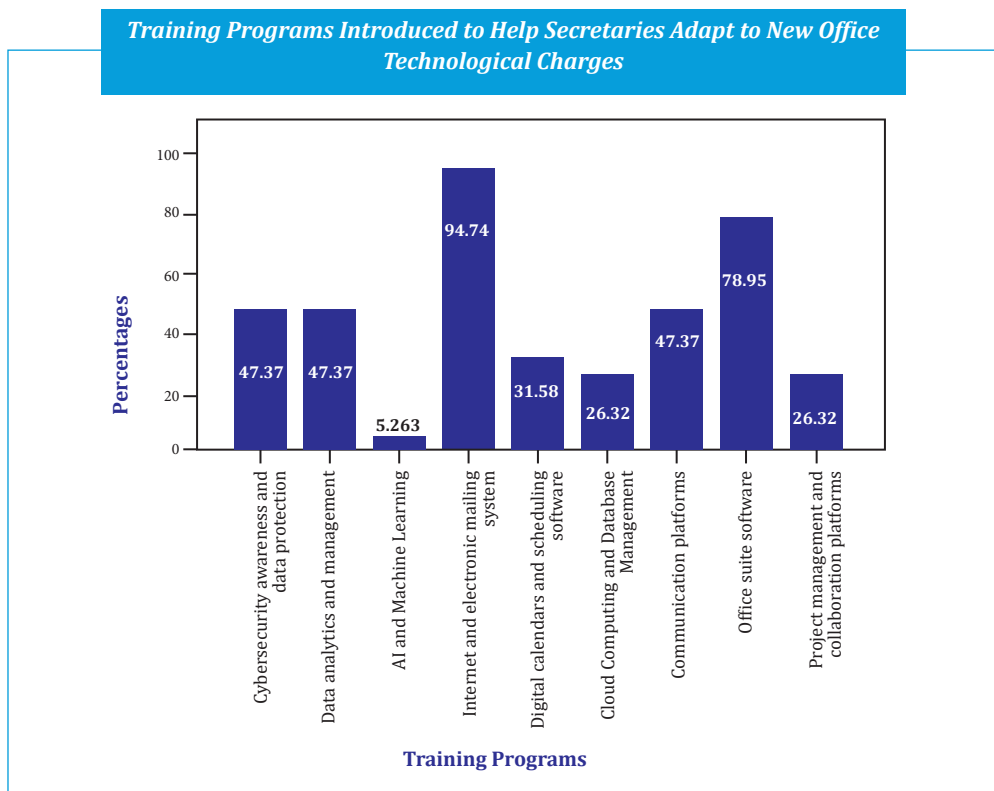


Figure 8: Digital Training Programs for Advanced Office Technology

A significant majority of respondents (94.74%) highlighted Internet and Electronic Mailing System as the area which was given priority in Secretarial training to equip secretaries with skills necessary to adapt to evolving roles and meet future office demand. The high adoption rate highlights the essential role of email management and internet proficiency in modern secretarial responsibilities. Additionally, *Office Suite Software* proficiency emerged as another key digital training priority with a (78.95%) response rate, followed by *Cybersecurity awareness and Data Protection*, *Data analytics and Management* and *Communication platforms* at comparable levels

received (47.37%) of responses. (31.58%) Respondents noted Digital Calendars and Scheduling software competency, while Cloud Computing, Data management, and Project management and collaboration platforms were cited by 26.32% of responses. Notably, only 5.26% of respondents indicated that they had introduced an AI and Machine Learning Program, suggesting a limited current integration of these advanced technologies into secretarial training frameworks.

Moreover, when asked about “the type of training they wish to undertake to match skills with on-going office technological changes?” Professional Secretaries responses did not diverge further from the HRs response in Figure 8 on ‘Digital training programs introduced to match advanced office technological changes’, where majority of Professional secretaries indicated internet and mail systems as a priority training area, they wish to undertake to facilitate their integration into the rapidly evolving landscape of modern office technology, as illustrated in Figure 9.

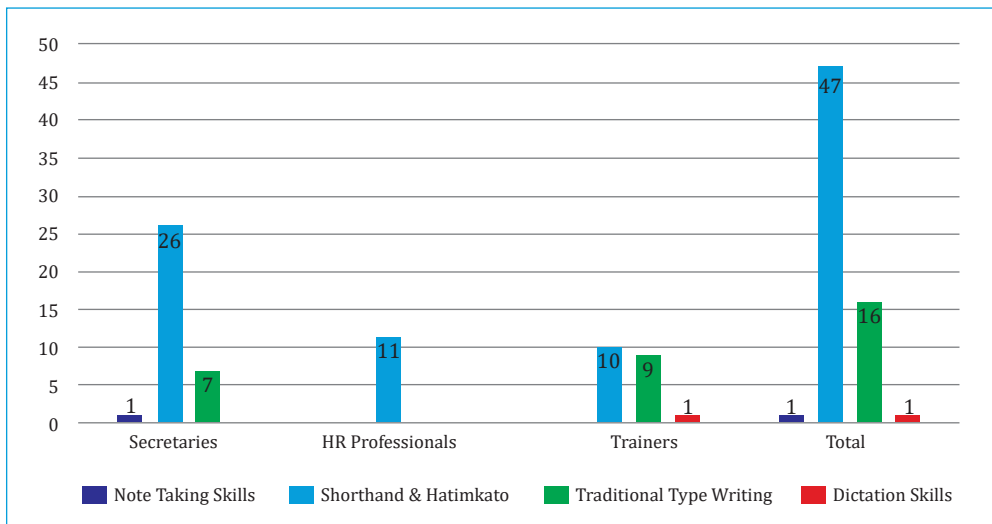


Figure 9: Desired Training Areas for Secretaries to Adapt to Office Technology Changes

Data presented in Figure 9 indicate that the majority of secretaries wish to sharpen their skills in Internet and Electronic Mailing Systems, as evidenced by an 85.5% response rate. Office suite software (MS Office, WPS Office, and Google Workspace) is another area where secretaries wish to enhance their skills, as indicated by an 81.8% response rate. This is closely followed by an interest in cybersecurity awareness and data protection, with a 67.3% response rate. Additionally, Cloud computing and database management had a 65.5% response rate. In comparison, Digital calendars, scheduling software, project management, and collaboration platforms were noted with a 58.2% response rate, respectively. The least area where secretaries would wish to sharpen their digital competence for future endeavours was AI and Machine Learning, with just 30.9% below the average response rate. Despite the lower response rate, the emerging recognition of AI in their professional roles signals the respondents’ readiness to transform to future emerging roles. AI-

driven tools in administrative functions can enhance efficiency and accuracy in the office. This indicates a forward-looking approach to prompt secretaries to ensure adaptability in an evolving digital landscape. Responding to the interview question on the new training programs that might be provided to help to cope with advanced office technology, one of the respondents replied,

“I wish to get all possible training available that will help to adapt to the upcoming technological changes...including training programs like collaboration and communication software, cybersecurity, virtual meetings, AI and machine Learning programs” (RESPONDENT 10)

These responses signify respondents’ knowledge of the future of a prospective secretary and the needs in the modern workforce as they pinpoint core programs that will reshape and digitise the future of contemporary office work. This is supported by Baum and Mohr (2020), who argued that changes in technology lead to changes in working requirements, consequently demanding suitably skilled personnel.

4.5.2 Skills Becoming Obsolete for Secretaries

Among the questions posed in the questionnaire, participants were required to express freely the current skills they believe will become obsolete for secretaries in the future. Out of the total participants (112, including Professional Secretaries, HR professionals and Trainers), 55 respondents provided answers related explicitly to the secretarial skills that are becoming obsolete. Their responses were analysed and categorised, with the results presented in the figure below.

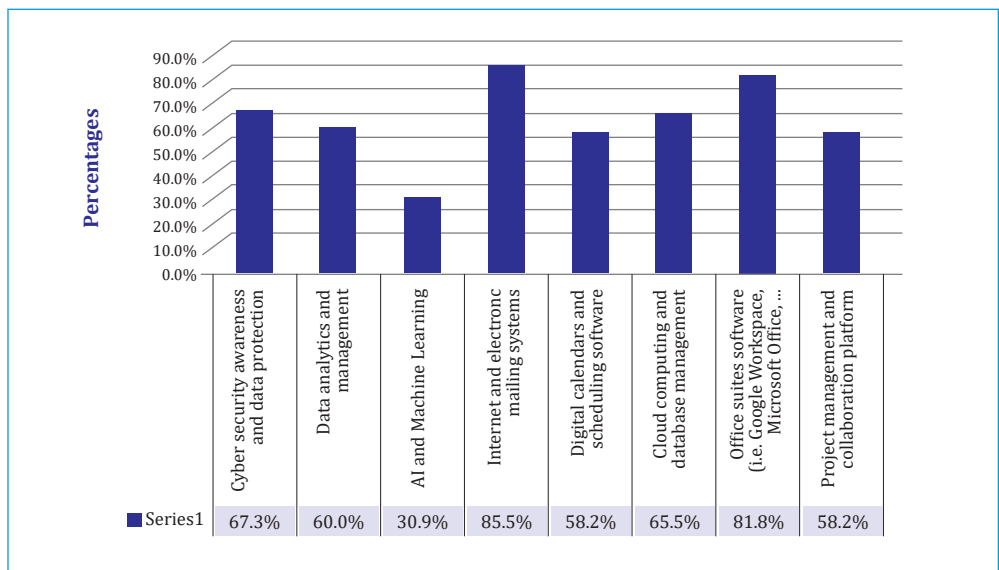


Figure 10: Skills Obsolescence Among Professional Secretaries in Tanzania

Research findings in Figure 10 focus on the obsolescence of some secretarial skills due to the impact of advanced office technology. Shorthand and Hatim Kato were the most frequently cited skills, with a total of 47 respondents mentioning them as obsolete. This category shows the highest agreement across all groups, where 26 Secretaries, 11 HR professionals, and 10 Trainers marked it as obsolete, signifying a rapid decline of this skill in capturing spoken information. Traditional typing skills were cited by 16 respondents, including seven secretaries and nine trainers, indicating a significant shift from manual typewriters to computers and advanced word processing software. These perceptions are unsurprising as most modern offices adopt computers and keyboards that offer greater efficiency, editing capabilities and integration with digital tools. Note-taking skills were identified by two respondents, while dictation skills were pointed out by one respondent. Overall, Shorthand & Hatim Kato stand out as the skills most likely to be phased out, followed by Traditional type writing, while note-taking and dictation are perceived to be less threatened, though could still be impacted. The perspectives of secretaries, HR professionals, and Trainers align in identifying these shifts, highlighting broader transformation in the secretarial profession driven by technological changes. This indicates that future training and skill development for secretaries in Tanzania should focus on digital competencies, likely proficiency in office software, data management, use of AI and other emerging technologies to ensure relevance in an evolving office environment.

In the discussion conducted with students undertaking a secretarial course, they raised concerns about the applicability of some skills, such as shorthand and traditional typing skills. One respondent was quoted.

“My sister encouraged me to take this course, insisting it needs many computer skills, contrary to what I see right now, we are stuck with the use of outdated typing machines in learning, which are not found in offices where we are going to conduct our field studies... Moreover, we are not using computer keyboards in learning, and our typing speed in front of computer keyboards has a slight difference from the people who are not studying typing skills” (RESPONDENT 11)

On the other hand, the trainer responding to the interviewer on the secretarial skills that will become obsolete, the reply was;

Some secretarial skills, such as shorthand and typing, should be re-evaluated carefully because they have limited application in the world of technological advancement, where people can use audio recorders and voice-to-text technology. So, in my opinion, training institutions should consider alternative skills that are better aligned with modern note-taking practices. (RESPONDENT 12)

Another response from the Professional Secretary highlighted Hatim Kato and Shorthand as skills that are becoming obsolete, as quoted;

Having been here for almost ten years as a personal secretary, I have learned various skills in college, but I have never applied them in my daily work. For instance, I have never used shorthand or typewriting in my routine.
(RESPONDENT 13)

4.5.3 Emerging Roles and Responsibilities

Data presented in Table 7 present survey data from Professional secretaries, HR professionals, and Trainers on emerging roles in an office environment that advancements will influence in technology. Supporting Virtual meetings and remote work roles was not a responsibility of Professional Secretaries; thus, the information presented in the table was from HR professionals and Trainers only. Data were evaluated by mean score (MS) analysis. Range from 4.5-5.0 MS denoted **'Strong Agree'**, 3.5-4.4 MS indicated **'Agree'**, 2.5-3.4 MS means **'Neutral'**, 1.5-2.4 MS represented **'Disagree'**, and 1-1.4 MS signified **'Strong Disagree'**, with the interpretation column indicating agreement levels.

Table 7: Emerging Roles and Responsibilities Due to Advancement in Office Technology

S/N	Future Roles	Respondents	Mean	SD	Interpretation
1.	Managing collaboration and communication software	106	4.28	.881	Agreed
2.	Managing databases and cloud computing	100	3.91	1.164	Agreed
3.	Managing and safeguarding biometric data	98	3.77	1.147	Agreed
4.	Project management	101	3.58	1.283	Agreed
5.	Supporting virtual meetings and remote work	51	4.10	1.063	Agreed

Managing collaboration and communication software is the most agreed role with MS of 4.28 and 0.881 SD, indicating strong consensus among respondents. This signifies that software tools like Slack, MS Teams or Zoom are recognised to enhance this emerging role. The high agreement also reflects the growing reliance on digital communication tools in modern offices.

Another role with strong MS (4.10) is *Supporting Virtual Meeting and Remote Work*, indicating the SD of 1.063 shows moderate deviation from the mean or moderate variability of agreement from respondents. This also reflects the growing importance of tools like Zoom or MS Teams with the rise of remote work. Respondents also agreed on *Managing Database and Cloud Computing* (e.g., Google Cloud or SQL databases) as an emerging role with an MS of 3.91 and an SD of 1.164; the higher SD indicates

more variability of responses or agreement among respondents on this role. This could reflect different levels of familiarity with this technology across respondents.

Furthermore, managing and safeguarding Biometric Data has an MS of 3.77 with an SD of 1.147, indicating respondents' strong agreement on the importance of managing and safeguarding biometric data, such as Fingerprints and Facial Recognition. The positive response to this role indicates that the management of biometric technology in offices aligns with future modern office trends, where prospective secretaries will handle privacy issues and security concerns. *Project Management* has the lowest MS of 3.58 among all future secretarial roles, and the highest SD of 1.283 signifies the significant variability of opinion on whether this ought to be a new role, probably because many offices already have Project Managers. Asked about how the Secretarial workforce is prepared for the expected technological changes in offices, the participant replied;

"As a country, we are not prepared enough to cope with the global changing roles and advancement of office technology... We are continuing to equip our people with traditional skills and subjecting them to the use of old tools, which hinders office efficiency" (RESPONDENT 14)

On whether AI tools and Automation reduce or replace the responsibilities of secretaries, the respondent insinuated.

"No, the importance of the secretary will remain for years to come, but we have to accept that some of the roles will be diminished, and others will emerge. Therefore, our secretarial workforce should acquire new skills to adapt to the new emerging roles" (RESPONDENT 15)

In relating the findings presented and discussed above to the Theory of Technological Determinism, it becomes evident that this theory has been highly relevant in guiding and interpreting the study. The theoretical perspective effectively explains how technological advancement has driven changes in the secretarial profession; shaping the skills, roles, and training needs of professional secretaries in response to the evolving digital work environment. It provides an appropriate theoretical foundation for understanding the profound transformation occurring within the secretarial profession in Tanzania's public sector. The theory explains the digital shift in secretarial work from manual to automated processes, which was clearly reflected in the findings.

As the results show, professional secretaries now predominantly rely on computer-based technologies such as word processing, spreadsheet, and internet communication tools in their daily operations. The universal use of word processors (98.2%) and email systems (96.4%) illustrates this transition from traditional clerical methods to digital systems. This finding resonates with Jones (2021), who argued that technological advancement has redefined workplace functions and rendered many manual office tasks obsolete.

The study also revealed the decline of traditional skills due to redundancy created by technological innovation. Skills such as *Hati Mkato* and shorthand, once essential to the profession, have become rarely applied, a reflection of changing technological demands. The participants' testimonies and quantitative results demonstrate that as offices integrate advanced technologies, these traditional skills lose practical relevance. This pattern aligns with Musty (2023), who emphasised that the integration of office automation and digital communication systems has significantly reduced reliance on manual operations, thereby increasing efficiency and productivity. The findings further affirm that technology does not merely assist secretarial work, it restructures it, determining which competencies remain valuable.

In addition, the study findings confirm the emergence of new roles and training demands shaped by the digital environment. As indicated in Figures 7–9 and Table 7, the adoption of advanced office technologies has generated a need for professional secretaries to acquire skills in areas such as cloud computing, data management, project coordination, cybersecurity, and virtual meeting facilitation. These evolving requirements illustrate the deterministic notion that new technologies generate new professional roles and skill expectations. The study's findings are consistent with Johnson and Carter (2023), who highlighted that continuous digital training enhances productivity and adaptability in technologically evolving workplaces. Similarly, Lee and Martinez (2024) and Smith and Brown (2023) asserted that office automation and artificial intelligence are shifting secretarial roles from clerical support to strategic coordination and systems management an evolution mirrored in this research.

Moreover, as the study revealed, technological progress has exerted strong pressure on training institutions and curricula to evolve. Despite some positive reforms, many programs have not fully incorporated modern topics such as artificial intelligence, cloud-based collaboration, or data protection. This reflects what Baum and Mohr (2020) described as the inevitable lag between technological innovation and the adaptation of professional training systems. In the context of this study, such lag demonstrates that while technology leads professional change, educational systems must constantly readjust to keep secretarial training relevant.

Thus, the study empirically supports the deterministic argument that technology is the primary agent of transformation, compelling professional secretaries, educators, and organisations to adapt their practices, curricula, and roles to align with the accelerating pace of technological advancement. The profession's evolution, from manual, paper-based routines to digital, data-driven systems substantiates the assertion of technological determinism that technological change precedes and dictates social and occupational transformation. Consequently, this theoretical lens effectively explains not only the current realities of the secretarial profession but also its projected future trajectory in an increasingly digitalised world.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Chapter Overview

This Chapter presents a summary of the research findings, draws evidence-based conclusions, and provides actionable recommendations. The study aims to evaluate the impact of advanced office technology on the roles and skills of professional secretaries in Tanzania. The summary integrates the results in relation to specific objectives, which include examination of the current state of the roles and skills among professional secretaries, the impact of advanced office technology on the roles and skills of professional secretaries, and the competencies required to adapt to technological advancements. Furthermore, the conclusions highlight the implications of the study findings. At the same time, recommendations are offered to inform key stakeholders on the way forward to address emerging roles driven by automation and to align with rapid digital transformations observed in global office environments.

5.2 Summary of Findings

The findings of this study provide a deep understanding of the evolving roles and responsibilities of professional secretaries in Tanzania as an outcome of the rapid growth of digital transformation in office settings. Although there is a global shift towards the use of advanced office technologies, the research reveals a significant gap in the adoption of advanced office technology in many public offices in Tanzania, reflecting a persistent reliance on traditional secretarial practices. The current roles and responsibilities of Professional Secretaries in Tanzania reveal that most secretaries focus on administrative functions, which tend to overemphasise traditional skills at the expense of the digital competencies increasingly required in modern office environments. This reliance on outdated practices creates a significant gap between the current skill sets of Professional secretaries and the technological expectations of modern offices, posing challenges for operational efficiency and adaptability in an era of automation and digital innovation.

The study further depicts the most prominent roles and responsibilities dominating daily secretarial work in Tanzania. Identifying the typing of letters, information, and documents is a key task, with 98.8% of respondents affirming its significance in their duties. This task underlines the importance of documentation and communication in secretarial work. Integration of digital tools in this task offers a greater opportunity for increasing efficiency. Closely followed responsibility is the task of looking for necessary files and documents, which is identified as a key responsibility; this reflects the ongoing need for digitalising information retrieval in

administrative workflows. The study also shows that receiving customers coming to the office is another notable responsibility of a professional secretary, highlighting the organisation's emphasis on client relations and support for office operations. Generally, these findings highlight the persistence of traditional secretarial roles, but the lack of integration of advanced office technologies limits Professional secretaries' potential in Tanzania to adapt to emerging demands. The need for technological integration is obvious to align both secretarial capabilities and the evolving requirements of the changing office environments.

In terms of skills and current state of training provided to Professional secretaries in Tanzania, the study reports that there is growing concern regarding the lack of access to training of the current secretarial workforce. The study findings reveal a noticeable deficiency in organisational efforts to equip professional secretaries with technology-oriented training; instead, the emphasis has primarily focused on the development of non-digital skills. This trend is alarming, especially in a world where innovations in office technologies are evolving rapidly. There is an immediate need to fill this void; otherwise, offices will continue to employ and possess a workforce unprepared to adapt to the future technological advancements.

The adoption rate of *Office suite software skills* indicates the unanimous recognition among respondents that this topic has been introduced to match the office technological advancements. The adoption rate of training in Office Suite software skills signifies a significant shift towards advanced office technology. However, it also reflects a type of digital training that focuses on a single secretarial role, potentially limiting broader skill development.

The effects of advanced office in the modern work setting have been widely accepted by respondents in this study. These effects include: better communication and resource sharing, which enables secretaries to collaborate across office boundaries, improved efficiency and cost-effectiveness as a result of automation. Moreover, there is increasing productivity and better workflow management, which is achieved by providing tools for task prioritisation, progress tracking, and real-time updates. Additionally, it enhances decision-making processes and the ability to take on more difficult and strategic tasks such as project management and research, while reducing the burden of Manual work.

Finally, the emerging roles and essential skills of the prospective secretary are highlighted in the study. results show that managing collaboration and communication software is the most likely role to emerge. Furthermore, there was strong agreement among participants on the significance of supporting virtual meetings. Respondents also identified managing databases and cloud computing as emerging roles. Additionally, managing and safeguarding biometric data received positive responses, suggesting that future modern office trends will require prospective secretaries to handle office privacy and security.

5.3 Conclusion

The Influence of advanced office technology on the roles and skills of secretarial professionalism cannot be ignored under the present situation. Looking at the future of the secretarial profession under prevailing circumstances, the role has to evolve to match the emerging demand of the global technology-driven workplace.

The educational institutions that prepare future secretaries play a pivotal role in creating the professional secretary who will not become the organisation's liability by fostering technological proficiency and adaptability. This will not only increase the value of the profession but also increase the demand for the profession in the labour market.

Organisations should also prioritise investments in training and infrastructure that enhance communication and clerical efficiency, while addressing ethical concerns surrounding biometric data and data management. From a broader perspective, the shift from traditional duties toward more technology-driven responsibilities requires a proactive approach to skill development. There must be a policy in place to ensure the phased implementation plans, beginning with foundational digital skills training, followed by tailored advanced modules to handle specific technological tools. The prospective secretary role should extend beyond merely preparing meetings to include the ability to serve as a company secretary, ensuring they can handle sensitive meetings and maintain confidentiality.

The role of government as the primary stakeholder can also not be ignored in supporting this profession to flourish by investing in technology that automates routine tasks, thereby increasing office efficiency and reducing operational costs. By aligning training, policy and technology, the secretarial profession can thrive in an advanced technology landscape.

5.4 Recommendation

The first part of the recommendations presented in this section emphasises what stakeholders should do to adopt and leverage rapidly evolving office technologies, as well as influence prospective secretaries to adapt to new skills and roles emerging from growing office technology. Second, providing highlights for future study, indicating issues that should be investigated in relation to the adoption of advanced office technology and the changing landscape of secretarial professionalism.

5.4.1 Recommendations on what should be done to enable the adaptation of advanced office technology in Tanzania

- Formulation of policies and regulations that will promote the integration of advanced office technology in the contemporary office environment, which will support continuous staff training. Also, there should be progressive training programs spanning no more than three years that will assist the Professional secretaries in effectively adapting to and leveraging emerging office technology.

- Establishment of Proficiency Certification Programs that will focus on office technology applications and software. Professional secretaries should be encouraged to engage in these programs to enhance their technical abilities.
- Redefining prospective secretarial roles and skills requirements. Government through the President’s Office, Public Service Management and Good Governance (PO-PSMGG), in collaboration with key stakeholders such as the Tanzania Personal Secretaries Association (TAPSEA), Secretarial Training Institutions, and Employers, should revisit and redefine future secretaries’ roles, responsibilities, and skill sets to ensure alignment with the ongoing technological advancements. This is necessary because some secretarial functions will become obsolete, while new roles are emerging from technologies such as AI and automation.
- Provision of adequate funding: The government should provide enough funding to enable the swift adoption of advanced office technologies, including procuring user-friendly tools that will be supplied to public offices. Additionally, financial support should be provided to learning institutions in order to have learning facilities that accommodate emerging office technologies such as AI, VR, AR, and automation. This investment will enhance training institutions to produce competent prospective secretaries.
- Curriculum modernisation, learning institutions in collaboration with relevant stakeholders, should review and update their curricula to include core content that equips prospective secretaries to adapt to the evolving demands of advanced office technology. The Curriculum should exclude traditional skills such as Hatimkato and Shorthand that are no longer relevant in contemporary office settings, replacing them with alternative skills like automated note-taking tools and transcribing software.
- Modernising typing skills, learning institutions should prioritise teaching typing skills using computerised typewriters, phasing out old-fashioned manual typewriters, which are neither relevant nor applicable to the current and future working environment of prospective secretaries, where computers are the primary tools.
- Developing a secretarial learning model, learning institutions should establish a learning model that reflects the real-world working environment to help students gain practical understanding and hands-on experience with modern office technologies, preparing them for the arising demand of future roles.
- Introduction of Secretarial ethics and professionalism, learning institutions should incorporate training in secretarial ethics and professionalism, tailored to guide secretarial practice that will align with technological advancements and extend beyond traditional ethics, related to paper work and conventional roles, addressing contemporary challenges such as data privacy, ethical use of AI, digital communication and adaptability to emerging roles.

5.4.2 Recommendations on Areas for Further Studies

- The influence of government and institutional policies on the integration of advanced office technologies for secretaries in Tanzania. Aims to assess the existing policies and regulations that facilitate the integration and adoption of advanced office technologies among secretaries
- The roles of AI and Office automation in Office management; this study shall target to investigate how AI and automation play a crucial role in reshaping the roles and skills of prospective secretaries and administrative assistants.

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APPENDICES

APPENDIX I: Questionnaire for Secretaries

This questionnaire has been designed to solicit information for purely research purposes. This is to enable the researcher from Tanzania Public Service College (TPSC) to collect necessary information from this institution to complete the study on: THE IMPACT OF ADVANCED OFFICE TECHNOLOGY ON THE ROLES AND SKILLS OF PROFESSIONAL SECRETARIES IN TANZANIA. The primary purpose of this study is to understand how advanced office technology has influenced the roles and skills of professional secretaries and to provide helpful insight into the future landscape of prospective secretarial work in Tanzania.

NB: All information given will be treated with the utmost confidentiality.
Thank you.

Name of the Institution.....

Position

Department

Section A: Basic personal data (please put a tick in the appropriate field)

- How long have you been working in this position?
 - 1-5 years. ()
 - 6-10 years. ()
 - 11-15 years. ()
 - 16-20 years. ()
 - 20 + ()

Part B: Current state of the roles and digital skills among professional secretaries.

It is better to start with the roles and the skills in asking questions. Also, it is more explorative to start with free questions instead of alternatives.

2. Mention the skills that are currently applicable in your profession (kindly tick the applicable one)

Current secretarial skills	Response (√)
Typing Skills	
Communication Skills	
Phone skills	
Note-taking skills	
Hati Mkato & Shorthand Skills	
Word Processing Software (Eg. Ms word, Google Documents)	
Spreadsheet Software (Eg. Ms excel, Google spreadsheet)	
Presentation Software (Eg. Ms PowerPoint, Google Slides)	
Publisher (Eg. Ms Publisher, Adobe)	
Internet and Email	

3. How frequently are you applying the following skills in your daily work? (Please tick (√) the applicable one)

Current secretarial skills	Never	Rarely	Often	Sometimes	Always
Typing Skills					
Communication Skills					
Phone skills					
Note-taking skills					
Hati Mkato & Shorthand Skills					
Word Processing Software (Eg. Ms word, Google Documents)					
Spreadsheet Software (Eg. Ms excel, Google spreadsheet)					
Presentation Software (Eg. Ms PowerPoint, Google Slides)					
Publisher (Eg. Ms Publisher, Adobe)					
Internet and Email					

4. Have you undergone any training to improve your skills in the past three years? (kindly tick √ the chosen response)

YES

NO

5. If YES (in 4 above) State if it was digital or non-digital skills training

.....

6. Mention the roles and responsibilities that you are currently performing (kindly tick the applicable one)

Current secretarial roles and responsibilities	Response (√)
Typing letters, information, and documents	
Receiving Customers	
Keeping information and records of events, meeting dates, and trips	
Looking for the necessary files and documents	
Receive and distribute required files and documents	
Collect, maintain, and return the files and documents.	
Prepare office requirements	
Make preparations for meetings	
Monitoring implementation of the instructions given by the supervisor	

Part C: Impact of advanced office technology on the roles and skills of professional secretaries.

7. What advanced office technologies are currently used in your organisation (kindly tick the applicable one)

Advanced office technologies	Response (√)
Virtual meetings	
File sharing and collaboration platform	
Communication tools and system	
Instant Messaging	
Biometric Security Systems	
Artificial Intelligence.	
Internet facilities and infrastructures	
Cloud Computing	
Wearable technology	

8. Are there any other office technologies that you use regularly but are not listed above? If Yes, specify _____
9. How introduction of office technology impacted your role as a professional secretary

Keys: 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 3 = Agree, 4 = Strongly agree

Impact of Advanced Office Technology	1	2	3	4	5
Advanced office technology contributed to better communication and resource-sharing					
Improved efficiency and cost-effectiveness as a result of automation, remote working, minimize errors, and fast access to stored information					
The use of modern office technologies has raised productivity and better workflow management					
Advanced office technology enhances better decision making processes					
Ability to take on more difficult and strategic tasks such as project management and research					
Advanced office technology reduces the burden of manual works					

Part D: Key skills that prospective secretaries in Tanzania will need to strive in an increasingly technology-driven environment

10. What kind of training do you wish to undertake to match your skills with on-going office technological changes? (Kindly tick applicable one)

Suggested training	Response
Cyber security awareness and data protection	
Data analytics and management	
AI and Machine Learning	
Internet and electronic mailing systems	
Digital calendars and scheduling software	
Cloud computing and database management	
Office suites software (i.e Google Workspace, Ms Office, Ms Teams, WPS Office)	
Project management and collaboration platform	

11. Any other kind of training which is not mentioned in **10** above

12. Mention current skills which you think will no longer be needed by secretaries in Tanzania due to advanced office technology.

13. Emerging roles that prospective secretaries in Tanzania could perform as a result of advanced office technology

Keys: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 3 = Agree, 4 = Strongly agree

Future Roles	1	2	3	4	5
Project management					
Managing database and cloud computing					
Managing and safeguarding biometric data					
Managing collaboration and communication software					

14. Any other role that is not mentioned in **13** above _____

APPENDIX II: Questionnaire for Human Resource Professionals

This questionnaire has been designed to solicit information for purely research purposes. This is to enable the researcher from Tanzania Public Service College (TPSC) to collect necessary information from this institution to complete the study on; THE IMPACT OF ADVANCED OFFICE TECHNOLOGY ON THE ROLES AND SKILLS OF PROFESSIONAL SECRETARIES IN TANZANIA. The main purpose of this study is to understand how advanced office technology has influenced the roles and skills of professional secretaries and to provide useful insight into the future landscape of prospective secretarial work in Tanzania

NB: All information given will be treated with utmost confidentiality.
Thank you.

Name of the Institution.....

Position.....

Section A: Basic personal data (please put a tick in the appropriate field)

1. How long have you been working in this position?
 - a) 1-5 years. ()
 - b) 6-10 years. ()
 - c) 11-15 years. ()
 - d) 16-20 years. ()
 - e) 20 + ()
2. Which sector does your organisation belong to
 - a) Private sector ()
 - b) Government sector ()
3. How many secretaries does your organisation currently have? _____

Part B: Current state of the roles and digital skills among professional secretaries.

4. a) What specific skills do you currently look when hiring secretaries due to advanced technology

Current secretarial skills	Response (√)
Digital literacy (office software, cloud systems, internet)	
Data management skills	
Problem-solving	
Typing Skills	
Communication Skills	
Phone skills	
Note-taking skills	
Hati Mkato & Shorthand Skills	

b) Are there other specific skills you currently look for when hiring secretaries due to advanced technology that are not listed above?

If Yes, specify _____

5. Mention the roles and responsibilities that are currently performed by professional secretaries in your organisation (kindly tick the applicable one)

Current secretarial roles and responsibilities	Response (√)
Typing letters, information, and documents	
Receiving Customers	
Keeping information and records of events, meeting dates, and trips	
Looking for the necessary files and documents	
Receive and distribute required files and documents	
Collect, maintain, and return the files and documents.	
Prepare office requirements	
Make preparations for meetings	
Monitoring implementation of the instructions given by the supervisor	

Part C: Impact of advanced office technology on the roles and skills of professional secretaries.

6. a) What advanced office technologies are currently used by secretaries in your organisation (kindly tick the applicable one)

Advanced office technologies	Response (√)
Virtual meetings	
File sharing and collaboration platform	
Communication tools and system	
Instant Messaging	
Biometric Security Systems	
Artificial Intelligence.	
Internet facilities and infrastructures	
Cloud Computing	
Wearable technology	

b) Are there any other office technologies that are regularly used by secretaries in your organisation but are not listed above?

If Yes, specify _____

7. How has the introduction of these office technologies impacted the roles of professional secretaries in your organisation?

Keys: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 3 = Agree, 4 = Strongly agree

Impact of Advanced Office Technology	1	2	3	4	5
Advanced office technology contributed to better communication and resource sharing					
Improved efficiency and cost-effectiveness as results of automation, remote working, minimize errors, and fast access to stored information					
The use of modern office technologies has raised productivity and better workflow management					
Advanced office technology enhances better decision-making processes					
Requirement for continuous learning and adaptation to new technologies					
Ability to take on more difficult and strategic tasks such as project management and research					
Advanced office technology reduces the burden of manual works					
No significant impact					

Part D: Key skills that prospective secretaries in Tanzania will need to strive for in an increasingly technology-driven environment

8. Have you introduced any new training programs to help secretaries adapt to new office technological changes? (Kindly tick \sqrt the chosen response)

YES

NO

9. If YES in 10 above, what kind of training programs has been introduced? (Kindly tick applicable one)

Suggested training	Response
Cyber security awareness and data protection	
Data analytics and management	
AI and Machine Learning	
Internet and electronic mailing systems	
Digital calendars and scheduling software	
Cloud computing and database management	
Communication platforms (e.g Zoom meeting)	
Office suite software (i.e Google Workspace, Ms Office, Ms Teams, WPS Office)	
Project management and collaboration platform	

10. Any other kind of training which is not mentioned in 11 above

11. Mention current skills that you think will no longer be needed by secretaries in Tanzania due to advanced office technology.

12. a) Emerging roles that prospective secretaries in Tanzania could perform as a result of advanced office technology

Keys: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 3 = Agree, 4 = Strongly agree

Future Roles	1	2	3	4	5
Managing collaboration and communication software					
Managing database and cloud computing					
Managing and safeguarding biometric data					
Project management					
Supporting virtual meetings and remote work					

Any other role that is not mentioned in 12(a) above _____

APPENDIX III: Questionnaire for Trainers

This questionnaire has been designed to solicit information for purely research purposes. This is to enable the researcher from Tanzania Public Service College (TPSC) to collect necessary information from this institution to complete the study on: THE IMPACT OF ADVANCED OFFICE TECHNOLOGY ON THE ROLES AND SKILLS OF PROFESSIONAL SECRETARIES IN TANZANIA. The main purpose of this study is to understand how advanced office technology has influenced the roles and skills of professional secretaries and to provide useful insight into the future landscape of prospective secretarial work in Tanzania

NB: All information given will be treated with utmost confidentiality.
Thank you.

Name of the Institution.....

Position.....

Section A: Basic personal data (please put a tick in the appropriate field)

1. How long have you been involved in training secretaries?
 - a) 1-5 years.
 - b) 6-10 years.
 - c) 11-15 years.
 - d) 16-20 years.
 - e) 20 +
2. Which type of institution do you work for
 - c) Vocational Training Institute
 - d) University or College
 - e) Corporate Training Program

Part B: Current state of the roles and digital skills among professional secretaries.

3. a) What are the main training areas which you are focusing on in your secretarial training program? (Tick the applicable one)

Training areas	Response (√)
Office administration and management	
Typing and document preparation	
Communication and interpersonal skills	
Office software (e.g Ms Office, Google Workspace)	
Shorthand and Hatimkato	
IT and digital literacy	

b) Any other training areas offered but are not listed in 3(A) above

4. Has your secretarial training curriculum been updated in the last five years to include advanced office technology? (Kindly tick √ the chosen response)

YES

NO

5. If **YES** in 5, which new topics or skills have been introduced in your curriculum to match the advancements in office technology? (kindly tick the applicable one)

Topic or Skills	Response
Cyber security awareness and data protection	
Data analytics and management	
AI and Machine Learning	
Basic IT troubleshooting	
Digital calendars and scheduling software	
Cloud computing and database management	
Use of communication platforms (e.g Zoom meeting)	
Office suite software (i.e Google Workspace, Ms Office, Ms Teams, WPS Office)	
Project management and collaboration platform	

Others? Specify

6. a) What methods do you use to teach secretaries about office technology (kindly tick the applicable one)

Teaching method	Response (√)
Lecturers	
Group project using collaboration tools	
Practical sessions with office software	
Online learning platforms and tutorials	

b) Any other teaching method used but not listed in 6 (a) above

7. What additional support will be needed to improve secretarial training about advanced office technology?

Part C: Impact of advanced office technology on the roles and skills of professional secretaries.

8. How has the introduction of advanced office technology (eg. Word processing, spreadsheets, presentation software, communication tools) impact the overall role of professional secretaries?

Keys: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 3 = Agree, 4 = Strongly agree

Impact of Advanced office technology	1	2	3	4	5
Advanced office technology contributed to better communication and resource -sharing					
Improved efficiency and cost-effectiveness as a results of automation, remote working, minimize errors, and fast access to stored information					
The use of modern office technologies has raised productivity and better workflow management					
Advanced office technology enhances better decision-making processes					
Requirement for continuous learning and adaptation to new technologies					
Ability to take on more difficult and strategic tasksa such as project management and research					
Advanced office technology reduces the burden of manual works					
No significant impact					

9. Which specific technological advancements have the most significant impact on the day-to-day tasks of professional secretaries (tick applicable one)

Advanced office technologies	Response (√)
Virtual meetings	
File sharing and collaboration platform	
Communication tools and system	
Instant Messaging	
Biometric Security Systems	
Artificial Intelligence.	
Internet facilities and infrastructures	
Cloud Computing	
Wearable technology	

Part D: Key skills that prospective secretaries in Tanzania will need to strive for in an increasingly technology-driven environment

10. a) What future trends in office technology do you think will have a great impact on the skills needed by professional secretaries in Tanzania? (Kindly tick applicable one)

Future trends in office technology	Response
Cyber security awareness and data protection	
Data analytics and management	
Virtual and Augmented reality for remote work	
AI and Machine Learning	
Cloud computing and database management	
Project management and collaboration platform	

- b) Any other kind of future trends in office technology which is not mentioned in 10 (a) above

11. Mention current skills that you think will no longer be needed by secretaries in Tanzania due to advanced office technology.

12. a) Emerging roles that prospective secretaries in Tanzania could perform as a results of advanced office technology

Keys: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 3 = Agree, 4 = Strongly agree

Future Roles	1	2	3	4	5
Managing collaboration and communication software					
Managing database and cloud computing					
Managing and safeguarding biometric data					
Project management					
Supporting virtual meetings and remote work					

- b) Any other role that is not mentioned in 12(a) above
-

APPENDIX IV: Interview Guide for Professional Secretaries

1. Which skills are mostly applicable in office activities in this organisation?
2. How does the advanced office technology help you to perform office activities in your organisation?
3. Which office technologies do you use to manage daily operation tasks and administrative tasks?
4. Which challenges do you face trying to adopt the different changes in technology that occur regularly?
5. What new skills you have to learn to adapt to advanced office technology?
6. How has the introduction of advanced office technology changed your role as the secretary?
7. With the rise of AI and Automation do you think certain secretarial duties will be replaced by machines in the future? If Yes which duties.
8. In your opinion how do you see your changing roles in the next five years due to technological advancement?
9. Do you think you will need to develop new skills to keep up with future technological changes? If Yes which skills?
10. Do you have any recommendation on how you can be further supported to adapt to the rapid pace of office technological changes?

APPENDIX V: Interview Guide for Human Resource Professionals

1. What are the current roles and responsibilities performed by professional secretaries in your organisation?
2. How has the introduction of advanced office technology changed the roles of professional secretaries in your organisation?
3. Considering the influence of advanced office technology, what specific skills a professional secretary is required to possess to be hired by your organisation?
4. In your opinion, has the advanced technology made the roles of secretaries more or less critical to organisational operations?
5. Has the introduction of advanced office technology impacted the recruitment process for secretaries? How?
6. Do you provide specific training to secretaries in your organisation to support them adapt to the changes in office technologies? If YES what kind of training?
7. What role do you think human resource departments should play to ensure that secretaries remain relevant and equipped to handle the future changes in office technology?
8. Is there any recommendation to provide to ensure secretaries in Tanzania continue to add value given the ongoing advancements of office technologies?

APPENDIX VI: Interview Guide for Trainers

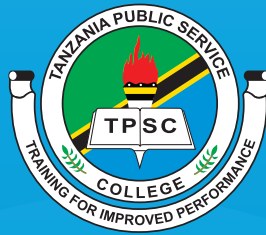
1. In your experience as a trainer, what essential skills do you currently teach professional secretaries?
2. How do you assess whether your trainees are well equipped to adapt to the demands of the secretary profession in Tanzania considering the fast-growing office technologies?
3. How do you prepare your secretarial learning curriculums to meet the needs of advanced office technologies?
4. How has the curriculum or learning content of your training programs changed due to the introduction of advanced office technology?
5. Does your curriculum or learning contents consist of new office technologies to be taught to professional secretaries? If yes, what are those?
6. What specific technological skills do you focus on when training professional secretaries to ensure they are familiar with modern office tasks?
7. How prepared do you think the current secretarial workforce in Tanzania is for the technological changes expected shortly?
8. With AI tools and Automation being integrated into offices, do you think secretarial tasks will be reduced or replaced by these technologies? How secretaries should adapt to these?
9. Do you have any recommendations on how secretarial roles in Tanzania can be further supported to adapt to the rapid pace of office technological changes?

APPENDIX VII: Focused Group Discussion Guide

1. Mention the types of advanced office technologies that you are familiar with.
2. What are the most useful skills or knowledge areas you have gained on the course of undertaking your secretarial studies?
3. How Do you think your current course reflect the skills needed for a modern secretary?
4. How has your secretarial course program incorporated advanced office technologies?
5. What new roles and skills do you anticipate due to the advanced office technologies?
6. What specific skills have you learned that are related to these technologies?
7. Are there any technologies you feel should be included in your secretarial training program but currently are not?
8. With the rise of AI and Automation do you think certain secretarial duties will be replaced by machines in the future? If Yes which duties.
9. In your opinion how do you see your changing roles in the next five years due to technological advancement?
10. Do you have any recommendation on how you can be further supported to adapt to the rapid pace of office technological changes?

APPENDIX VIII: Institutions Involved in the Study

NO.	INSTITUTION	REGION
1.	RAS	Dar es Salaam
2.	TPSC-DSM Campus	Dar es Salaam
3.	Mzumbe University	Morogoro
4.	SUA	Morogoro
5.	TAWA	Morogoro
6.	RAS	Dodoma
7.	Dodoma City Council	Dodoma
8.	Ministry of Works	Dodoma
9.	PO-RALG	Dodoma
10.	TARURA	Dodoma
11.	EWURA	Dodoma
12.	NHC	Dodoma
13.	RAS	Mwanza
14.	Mwanza City Council (Nyamagana)	Mwanza
15.	Ilemela Municipal Council	Mwanza
16.	RAS	Tabora
17.	Tabora Municipal Council	Tabora
18.	TPSC-Tabora Campus	Tabora
19.	NM-AIST	Arusha
20.	AUWASA	Arusha
21.	TANAPA	Arusha
22.	RAS	Kilimanjaro
23.	Moshi DC	Kilimanjaro
24.	MoCU	Kilimanjaro
25.	Moshi RVTSC	Kilimanjaro
26.	TANROADS	Kilimanjaro
27.	RAS	Mtwara
28.	Mtwara Mikindani Municipal	Mtwara
29.	Mtwara RVTSC	Mtwara
30.	TPSC- Mtwara Campus	Mtwara



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