

# The Cutting-Edge Secretarial Office Technology Management Competency in Millennial Era

Noraziah Mohd Bashari

Kerian Vocational College, Ministry of Education Malaysia

Email: g-98511771@moe-dl.edu.my

Nornazira Suhairom, Salmalina Salleh, Sharifah Maryam Syed  
Azman

School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi  
Malaysia

Email: salmalina@utm.my, sharifahmaryam@utm.my

Corresponding Author Email: p-nazira@utm.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBS/v13-i5/16100> DOI:10.6007/IJARBS/v13-i5/16100

*Published Date:* 13 May 2023

## Abstract

Secretarial office technology management is crucial for the success of any modern organization. The advancement of technology during the globalization era resulted in the development of new skills in the secretarial profession. This study seeks to identify office technology management skills in secretaries' careers, with the goal of eventually contributing to the development of a competency framework for the secretarial profession. The study employed a qualitative research design. Content analysis was utilized, revealing 68 skills based on previous studies, 35 skills based on educational curriculum, and 36 skills based on job standards. Through thematic analysis of Behavioral Event Interview (BEI) data with eight secretaries from multinational corporations, 41 skills were identified. Both approaches share 38 skills in common, 10 of which were discovered through content analysis and five through interviews. The findings are presented as a Technical Office Technology Management Skills Framework for Secretaries, which includes four major constructs, 52 sub constructs, and 220 elements. It is critical to identify current secretarial technical skills so that secretaries can operate modern office equipment in accordance with changes in modern office automation.

**Keywords:** Office Technology Management, Secretarial Profession, Office Management Education

## Introduction

The position of administration secretary has been around for a very long time, making it both one of the oldest professions and an absolutely essential one. There is a long and illustrious history of the secretary, which began with the secretary as a desk and eventually evolved into

a profession that is best represented by the executive assistant (Lingel and Crawford, 2020). While it is difficult to provide a specific citation for the claim that secretarial work is one of the oldest professions, there is evidence to suggest that the role of scribes and record-keepers dates back to ancient civilizations (Amoor, 2013). For example, in ancient Egypt, scribes were responsible for keeping records and writing correspondence for the pharaohs and other high-ranking officials. In ancient Rome, secretaries were known as notaries and were responsible for drafting legal documents and recording official transactions. Similarly, during the Middle Ages, secretarial work became more specialized, with clerks responsible for copying and translating documents, and chancellors responsible for managing royal correspondence and administering the seal of the king (Otway-Ruthven, 1936; Larsson and Foley, 2023). The history of secretarial work is well-documented (Rearden, 1984), and it is widely accepted that the profession has been around for centuries. However, the exact origins of the profession are difficult to trace, as the role of record-keeping and administrative support has likely existed in some form since the beginning of human civilization (Beesley, 2017; Frader, 2020).

People have many misconceptions and stereotypes about secretaries (Zuin and Findlay, 2014). These misconceptions and stereotypes about secretaries exist for a variety of reasons, including the following

1. Historical gender roles: The role of secretary has historically been associated with women, and as a result, many stereotypes and misconceptions about secretaries are based on outdated gender roles and expectations (Reby, et al., 2022; He, et al., 2019; Bhaskaran and Bhallamudi, 2019).
2. Pop culture depictions: The portrayal of secretaries in movies, television shows, and other forms of media can perpetuate stereotypes and misconceptions about the profession, in terms of popularity as being a secretary (Price, 2017; Munford and Waters, 2013; Buzzanell and D'Enbeau, 2014).
3. Lack of understanding of the role: Many people are not aware of the full range of responsibilities that secretaries have, and as a result, may not fully appreciate the skills and expertise required to perform the job effectively (Wichroski, 1994; Batlan, 2020; Li et al., 2019).
4. Limited visibility: Secretaries often work behind the scenes, and as a result, their contributions may not always be visible or recognized by others in the organization (Rico-Bonilla, 2020; Lewis and Simpson, 2012).

Those who have long held negative stereotypes about secretaries and other administrative professionals may be resistant to changing their perceptions. The above-mentioned factors and others can contribute to the perpetuation of misconceptions and stereotypes about secretaries, which can be detrimental to the profession and to individual administrative professionals. These days, secretaries are much more than just glorified typists: Typing may have been the primary responsibility of secretaries in the past, but administrative professionals in today's businesses are responsible for a much wider variety of activities, such as managing projects, making appointments, and providing customer service. Typically, secretaries do not make decisions. Secretaries are frequently tasked with the management of schedules and the assignment of task priorities, both of which can have a significant impact on the decisions that are made by executives and other members of the team. According to Ajike (2015), secretaries serve as public relations officers, staff assistants, and a repository of employer data. Sani (2015) views secretaries as gatekeepers of information. They serve as the backbone of the organisation and, after the employer, the person who knows the most about the company's private and confidential information. Secretaries are defined by Mohd

Salleh, Musa, and Sulaiman (2017) as office executive assistants or assistant managers who are trained to perform a variety of office tasks.

Having to confront the widespread belief that secretaries do not possess high levels of professional expertise: The work of a secretary requires a variety of skills, including organisation, communication, and the ability to manage one's time effectively. It is now common practise to anticipate modern secretaries to have a strong grasp of technology and the ability to work effectively with a wide range of software applications. The role of a secretary has evolved significantly over the years as a result of technological advancements. The broadening of job scope that comes with new technologies is reflected in the terms "increasing complexity" and "technical innovations" (Velde, 1997; Yunus, 2015). A massive transformation in the secretarial profession is underway, driven by the ever-expanding ICT revolution. The secretarial curriculum, as well as the career path, are undergoing rapid transitions, and the future of the profession is dubious (Ademiluyi and Okwuanaso, 2018). Traditional office technologies have been phased out in favour of modern technologies (Azih, 2016). Academic discourse or reflection on the responses of secretaries to rapidly changing organisational structures is gaining momentum, but there is still a dearth of knowledge regarding the dynamics of the work of this distinct group of employees (Zuin and Findlay, 2014). Work processes and performance evolve in tandem with technological advancement (Imran et al., 2014; Yunus, 2015).

Today, secretarial work continues to play an important role in the workplace, with administrative professionals performing a wide range of tasks such as managing schedules, organizing meetings, and maintaining records. However, with the rise of technology and automation, the role of secretaries has evolved, with many administrative tasks now being performed by software and machines. Nonetheless, the importance of administrative professionals in ensuring smooth and efficient operations in the workplace cannot be understated, and the profession continues to be a vital part of the modern workforce. As a result, it is critical for both employers and employees to ensure that new technologies are mastered in order to increase work productivity. To compete in today's increasingly dynamic market, all firms in the industry require well-trained workers with multiple competencies (Meier, Williams, Humphrey 2013). According to Skorkova (2016), more emphasis is being placed on management competency because management skills play a significant role in a company's success. Secretaries require training on the application of office technology automation on a regular basis to ensure that they are always prepared for the latest office technologies that are constantly evolving (Mohd Salleh et al., 2017). Moronke, Olugbenga, and Adeyanju (2017) advise employers to provide training for secretaries so that they are familiar with the latest automatic machines. Education institutions must also train future secretaries in the use of modern office equipment in a hands-on manner. According to these opinions, research on secretarial skills is important and should be conducted to ensure that they can work effectively with high-tech office automation. The current study aims to identify the technical office management skills for secretarial profession with the following study objectives:

- i. Identifying the technical office management skills related to secretarial profession based on content analysis and interviews with industry representatives
- ii. Comparing the differences of the content analysis and interview findings
- iii. Constructing a framework of technical office management skills for the secretarial profession

## Methodology

The purpose of this study is to develop a framework of technical office management skills for secretaries. This study collects qualitative data through two methods: content analysis and interviews. Figure 1 depicts the five research phases required to achieve the research objectives. The first phase involves the preparation of documents such as articles, theses, education curricula, and job standards. The documents gathered are related to technical secretarial office management skills or management staffs and office managements who practise similar work characteristics. The second phase (analysis phase), which aims to identify the type of technical skills required in the secretarial field, was carried out using two criteria: (1) office management skills in the context of secretarial careers of management staffs and office management, and (2) technical skills involving office technology equipment. The information was gathered through content analysis and interviews.

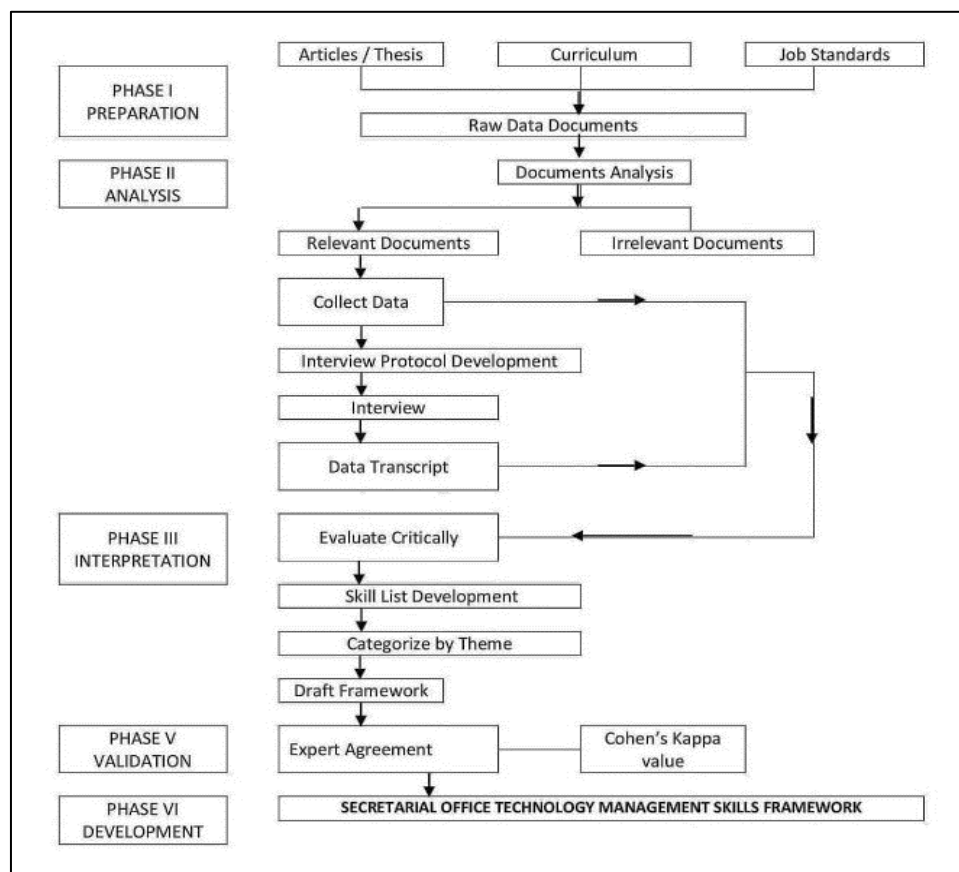


Figure 1: Research Procedure

The third phase analyses the differences in data collected from content analysis and interviews regarding technical office management skills. Following that, the researcher critically observes and evaluates the skills, compiling a list of constructs, sub constructs, and skill elements (framework draft). The fourth phase is the validation of the newly-developed framework, which verifies the framework's constructs and content. Cohen's Kappa coefficient is determined through expert evaluation. The final stage is development where the researcher refines the interim framework draught further in light of the experts' comments.

Tables are used to represent the "Secretarial Technical Office Management Skills Framework."

## Research Findings

### Content Analysis

The content analysis approach was developed by (Krippendorff, 1967). Content analysis refers to observing and exploring research-related content through documents and other sources. Generally, document analysis is the research data collection from content analysis which is the objective description towards printed, telecasted or pictured communication (Jasmi, 2012). There are 72 documents (48 articles, seven theses, 11 educational curriculum and six job standards) related to the research focus were collected. These documents were published locally and internationally between 1983 to 2019. The documents were chosen based on the following criteria; (a) articles and theses related to technical office management skills (b) secretarial and office management education curriculum (c) secretarial job standard and office management. In the analysis phase, 43 irrelevant documents were identified. 23 were articles, 5 were theses, 10 were education curriculum documents and 5 were job standard documents. Table 1 shows the list of relevant documents based on the aims of this research.

Table 1

*Documents Relevant to the Research Aims*

DOCUMENT TYPE: ARTICLES		
CODE	TITLE	YEAR
A1	A competence model for professional practice in the clerical–administrative occupations	Gerber & Velde (1997)
A2	Acquisition of Office Technology and Management Skills for Self-reliance: A Step towards Curbing Unemployment in Nigeria	Udo (2014)
A3	Assessment of Skills Possessed by Secretaries for Effective Electronic Records Management in Polytechnics in North Central, Nigeria	Okolocha et al. (2017)
A4	Challenges and Strategies for Utilizing Information and Communication Technology among Office Technology and Management Educators in Nigerian Polytechnics	Ogheneovo & Anita (2014)
A5	Challenges of Curriculum Development in Office Technology and Management in Tertiary Institutions	Omoniyi & Elemure (2014)
A6	E-Commerce Competencies Acquired by Office Technology and Management Education Students for Proficiency in Modern Business Organizations	Edomwonyi & Michael Emeka (2017)
A7	Entrepreneurial Skill Needs of Secretarial Education Graduates of Colleges of Education for Self-Sustainability in Enugu State, Nigeria	Etonyeaku et al. (2014)
A8	How Secretarial Studies Might Evolve	Russon (1983)

A9	Information and Communication Technology (ICT): A Veritable Tool for Executing Secretarial Tasks	Musa (2016)
A10	Microsoft Access and Microsoft Excel Skills Needed by Office Technology and Management Lecturers for Quality Service Delivery	Azih (2016)
A11	Need For Training and Retraining of Secretarial Support Officers on Modern Office	John (2017)
A12	New Technologies in Teaching and Learning of Office Technology and Management	Omone & Ekpw (2016)
A13	Office Technology and Accounting Skills Possessed by Business Education Students in Colleges of Education for Management Of Small Scale Businesses in Adamawa State	Umoru & Bala (2018)
A14	Re -Engineering the Instructional Standard of Secretarial Studies Programme	Egeonu (2012)
A15	The Efficacies of Secretarial Profession by Ghana Education Service and Higher Education Institutions	Adam (2015)
A16	The Impact of Modern Office Technology on the Secretary's Performance in Some Selected Business Organisations in the Takoradi Metropolis	Oteng & Seidu (2016)
A17	The Impact of National Vocational Qualifications on The Secretarial Curriculum	Waymark (2006)
A18	The Impact of Office Automation on Worker's Productivity at all Organizational Levels at King Abdul-Aziz University Library: A Case Study	Yaghi & M (2014)
A19	The New Office Technology and Its Effects on Secretaries and Managers	Khalid, Swift, & Cullingford (2002)
A20	The Place of Secretarial Education in Tertiary Institutions in Kaduna State, Nigeria, for Future Office 2020	Amoor & Magaji (2015)
A21	The Prospective Secretary in the Modern Business World: A Case Study of Administrative Secretaries in Koforidua Polytechnic	Koranteng, Owusu, Ntiamoah, & Owusu (2016)
A22	The Third Millennium Secretary and Information & Communication Technology: Nigerian Experience	Onifade, (2009)
A23	The Use of Information and Communication Technology (ICT) and Its Effects on Office Technology and Management Practitioner's Performance in Malaysia	Mohd Salleh et al. (2017)
<b>DOCUMENT TYPE: THESIS</b>		

T1	A Cognitive Task Approach on the Influence of Office Automation Software in Secretarial Practice	Musa (2016)
T2	Application Of Information and Communication Technology (ICT) on Office Managers' Performance	Happines (2018)
T3	In-Service Training Needs of Executive Secretaries in Public Establishments in Kaduna State	Samuel (2010)
T4	Harnessing The Power of Technology Through Secretarial Profession	Kaiama (2013)
T5	Information And Communication Technology (ICT)-Based Office Skills Required by Secretaries for Effective Administration of Local Governments in Abia State	Ajike (2015)
<b>DOCUMENT TYPE : EDUCATION CURRICULUM</b>		
K1	Office Technology and Management Curriculum (Nigerian Polytechnics)	2004
K2	Program of Study for Administrative Assistant and Secretarial Science (United States)	2009
K3	<i>Kurikulum Diploma E-Kesetiausahaan Cosmopoint College (Malaysia)</i>	2018
K4	<i>Kurikulum Diploma Kesetiausahaan Eksekutif Kolej Tuanku Abdul Rahman (Malaysia)</i>	2018
K5	Document Production Assessment Skills CFA (London)	2010
K6	<i>Kurikulum Diploma in Office Management International Islamic College (Malaysia)</i>	2018
K7	<i>Kurikulum Diploma Sains Kesetiausahaan Politenik (Malaysia)</i>	2018
K8	Regulations and Syllabuses Chartered Institute of Certified Secretaries and Reporters (Nigeria)	2015
K9	National Vocational Certificate in Office Secretarial Assistant Curriculum and Course Specification (Nigeria)	2007
K10	Syllabus for Secretarial Practice Central Staff Training and Research Institute (India)	2014
<b>DOCUMENT TYPE : JOB STANDARD</b>		
S1	The Administrative Support Competency Framework by Newfoundland and Labrador Public Service (Canada)	2019
S2	Secretary to Dean-Director Job Competencies of Manchester Metropolitan University (United State)	2018

S3	Secretarial Profession Functional Competences Framework Ministry of Defence (United Kingdom)	2016
S4	Occupational outlook handbook of Labour Statistics for Secretaries and Administrative Assistants by U.S. Bureau (United States)	2019
S5	National Occupational Skill Standards (Malaysia)	2012

The content analysis found 42 skills through articles, 26 skills through theses, 35 skills through education curriculum and 36 skills via job standards. However, there were some similar skills identified through the four types of documents. Thus, only 48 technical office management skills were identified through this method. All 48 skills were sorted in four groups depending on their main skills which are Office Management Knowledge (OMK), Office Equipment Operation (OEO), Documentation and Following Up (DFU), and Office Communication Medium (OCM). Table 2 shows the technical office management skills found through content analysis.

Table 2

*Technical Office Management Skills Based on Content Analysis*

SKILLS	ARTICLE	THESIS	CURRICULUM	STANDARD	FINAL NUMBER	SKILLS IDENTIFIED
<b>OMK</b>	8	4	6	6	8	1) Meeting Management 2) Appointment Management 3) Travel Management 4) Event Management 5) Marketing 6) Finance Management 7) Administration Management 8) E Banking
<b>OEO</b>	15	7	9	14	20	1) Computers & Internet 2) Photocopies Machine 3) Scanners 4) Binding Machines 5) Printers 6) Webcams 7) Typewriters 8) Projectors 9) Calculators 10) Stopwatches 11) Head Phones 12) Audio Recorders 13) Shredders 14) Mobile Note Taker 15) E- diary 16) Pager 17) Laminating Machines 18) Cutter Machine 19) Radio 20) TV
<b>DFU</b>	12	19	12	10	13	1) MS Word 2) MS Excel 3) MS Power Point 4) MS Access 5) Data Processing 6) Desktop Publishing 7) Documents Outcome 8) Filing System 9) Record and Access 10) Typing 11) Graphic Software 12) Note taking 13) MS Outlook
<b>OCM</b>	7	6	7	6	7	1) Telephone 2) Mobile Phone 3) Email 4) Fax 5) Intercom 6) Voice / Text Mail 7) Video Conference



**Interviews with Industry Representatives**

A researcher has the opportunity to acquire a more in-depth understanding of a topic through the use of interviews (Jasmi, 2012). The Behavioral Event Interview (BEI) technique developed by Richard Boyatzis in 1981 is used to guide the interviews. The purpose of BEI is to obtain detailed explanation about how a person does their job as well as to yield robust data regarding secretarial competencies. The interviewer asks questions and elicits responses to make it easier for the respondent to come up with a short and direct answer (Spencer & Spencer, 1993). Participants in this interview phase are secretaries/management and administrative staff of multinational electrical and electronic companies in Penang, Malaysia. The interviewees were chosen based on two criteria: tenure of more than a year and current status as secretaries, assistant secretaries, management, or administrative staff. Eight individuals were successfully interviewed. Secretaries or management staff from multinational electrical and electronic companies based in Penang, are the subjects of the interviews. The study location, Penang, occupies a key position in the global economy and is expected to grow at a rapid pace. As an economic corridor and educational hub, it could help close the development gap between nations (Athukorala & Narayanan, 2018). Multinational companies are those that conduct business in two or more countries at the same time. As a result, multinational companies are rapidly developing businesses that use cutting-edge technology and are linked to their parent organization. According to Prahalad and L.DoZ (1981), subsidiaries are dependent on the advanced holding company, and this is where MNCs (Multinational Companies) are integrated. Therefore, employees of local businesses in this area were included in this study because those businesses are the most likely to use cutting-edge technology. Interviews transcripts were analysed to explore and then identify skills related to office technology management. The researcher then used the Atlas ti.8 software to assist in conducting the thematic analysis; determining the theme and code for each skill identified in the interview findings. The skills investigated by researchers are organised into four groups (main constructs) as follows: Office Management Knowledge (OMK), Office Equipment Operation (OEO), Documentation and Follow-up Process (DFU), and Office Communication Medium (OCM). Each of these main constructs contains several sub-constructs of competence, which will be discussed in the sub-topics that follow.

**Construct 1: Office Management Knowledge (OMK)**

Initially, eight (8) sub-constructs of Office Management Knowledge skills competencies were investigated through document analysis. The interview findings revealed two (2) additional sub-constructs of Office Management Knowledge (OMK) skills, namely inventory / stock management and bilingual (English) communication. The following are the sample of interview excerpts;

## a) inventory/stock management

*"...every day we have to check the inventory of what goes in and out..."*

(Respondent 3)

*"...so, I can keep track of the supplies that is coming everyday..."*

(Respondent 6)

*"...I am in charge of the inventory filing and related stuffs..."*

(Respondent 7)

## b) bilingual (English) communication

"...both Malay and English need to be improved because if the student works in government, he may still be able to work effectively because we normally use our "mother tongue" (Malay). When he goes to private companies, however, most documents are written in English, and he sometimes needs to make a report in English. Then English is important..."

(Respondent 3)

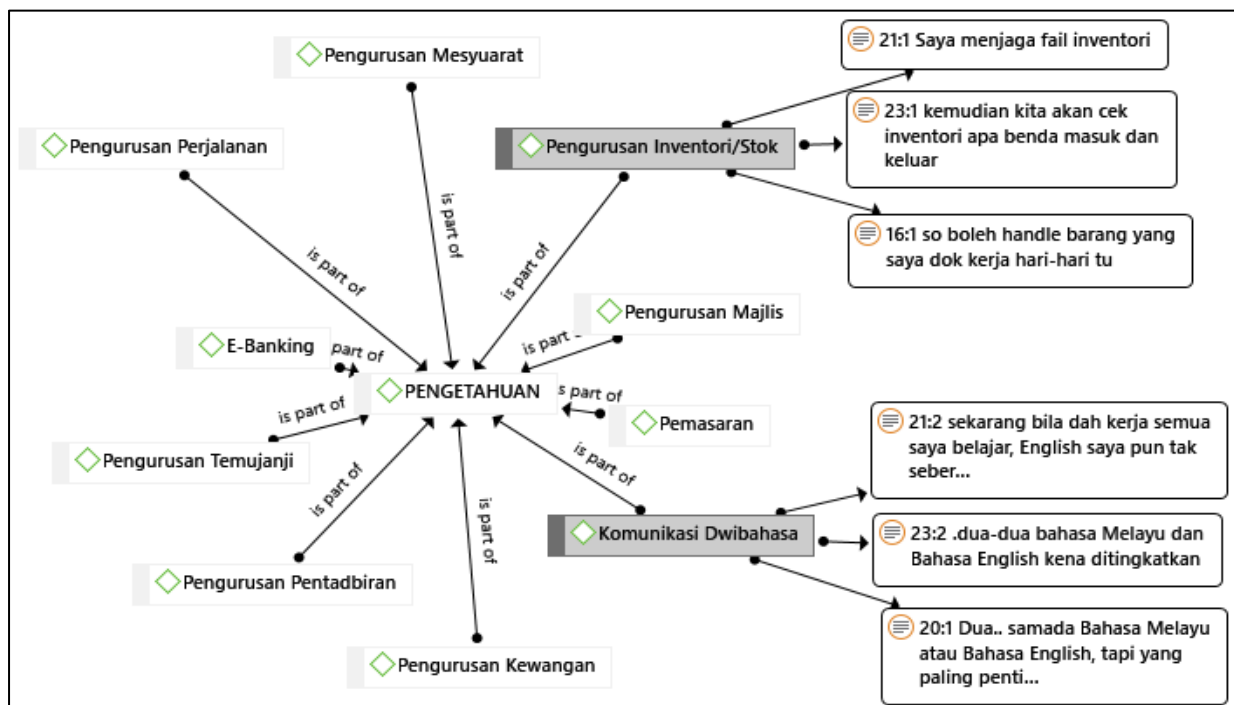
"...both languages... it's either Malay or English, but English is the most important..."

(Respondent 5)

"...now that I'm working, I'm learning how to speak English; previously, I didn't know much English..."

(Respondent 3)

The following are the summary of the interview findings for the Office Management Knowledge construct.



\*Original transcript in Malay language

Figure 2: Atlas.ti Network Analysis for the Office Management Knowledge construct

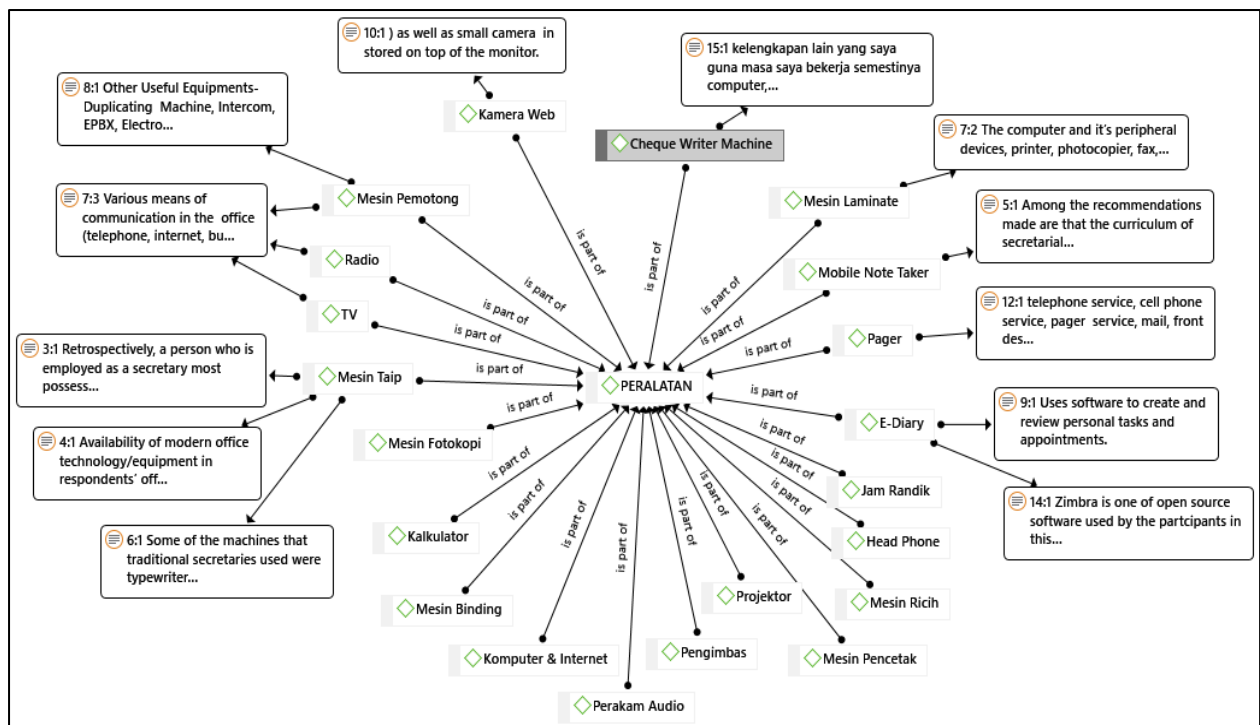
**Construct 2: Office Equipment Operation (OEO)**

Twenty (20) sub constructs for the competency of Office Equipment Operation (OEO) skills were gathered using document analysis. Furthermore, one additional subconstruct, the check writer machine, was discovered through interviews.

"...other tools that I use at work include the check-writing machine...but not all companies have such machines..."

(Respondent 5)

The interview findings for the OEO construct are summarised in Figure 3.



\*Original transcript in Malay language

Figure 3: Atlas.ti Network Analysis for the Office Equipment Operation construct

**Construct 3: Documentation and Follow Up (DFU)**

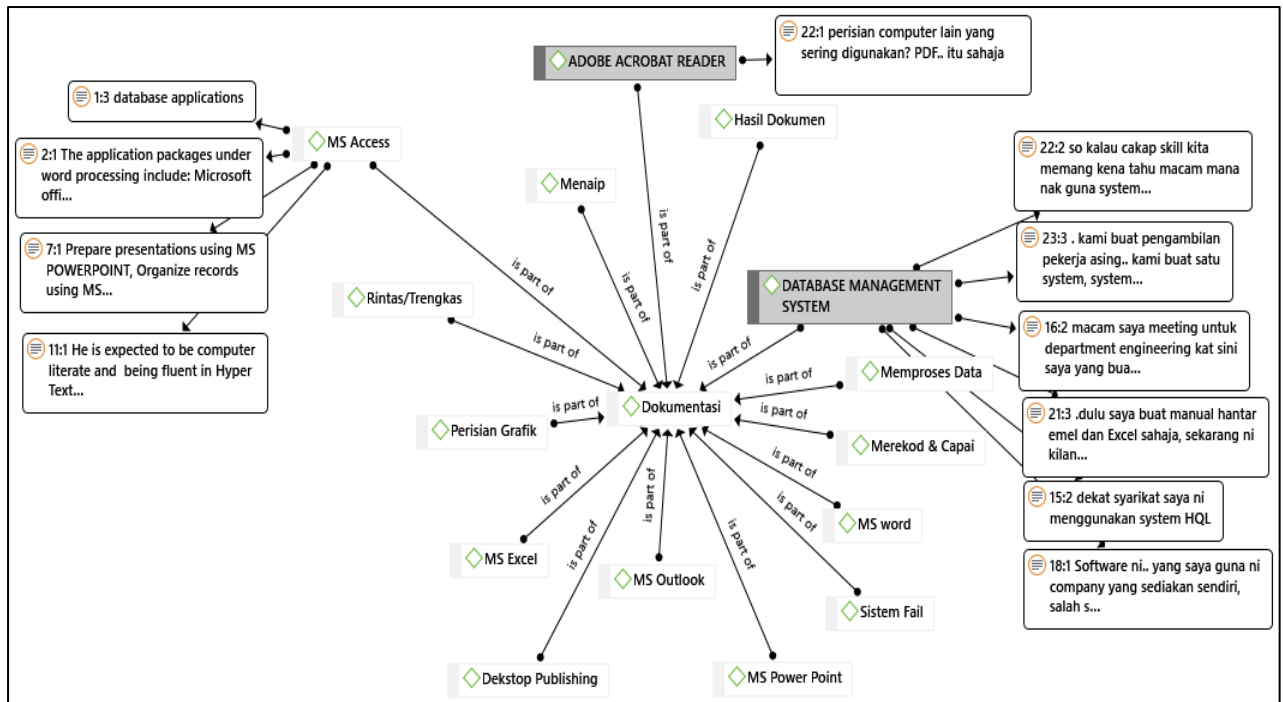
The researcher discovered two additional sub-constructs after interviewing eight study participants regarding the Document and Follow-up Process (DFU) construct, namely Database Management System and Adobe Acrobat Reader software.

"...This software.... the one that I use is provided by the company, one of which is E-Soft..."  
(Respondent 2)

"...My company employs the HQL system..."  
(Respondent 3)

"...we developed a system called SCMS, which is private and useful to the immigration department..."  
(Respondent 4)

In total, fifteen (15) sub constructs have been found through the thematic analysis. The study's findings are summarised such as in Figure 4 based on the transcribed interviews.

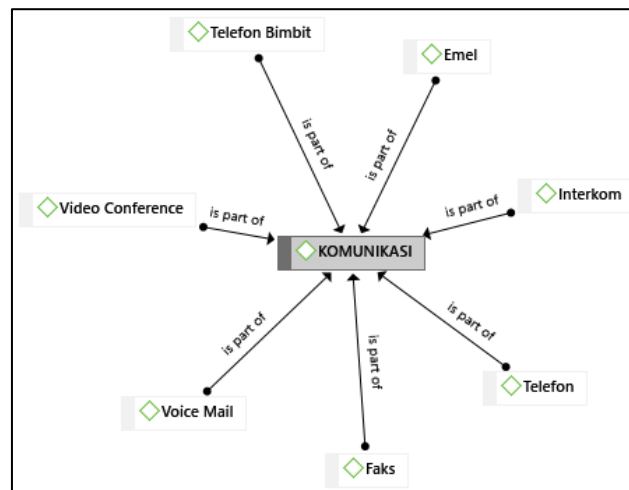


*\*Original transcript in Malay language*

Figure 4: Atlas.ti Network Analysis for the Documentation and Follow-up construct

**Construct 4: Office Communication Medium (OCM)**

The Office Communication Medium (OCM) construct has seven sub-constructs. The number of subconstructs discovered during document analysis is the same as the number discovered during interviews. The network analysis based on interview excerpts is depicted in Figure 5.



*\*Original transcript in Malay language*

Figure 5: Atlas.ti Network Analysis for the Office Communication Medium construct

Figure 6 depicts the results of an analysis of the theme and code of each skill investigated using the interview approach. The four themes that emerged from the analysis are Office Management Knowledge, Office Equipment Operation, Documentation and Follow-Up

Process, and Office Communication Medium. Five of the 41 new codes discovered through the interview process are inventory/stock, bilingual communication, database management system, Adobe Acrobat Reader, and check writer machine. The remainder of the code conforms to the document analysis results.

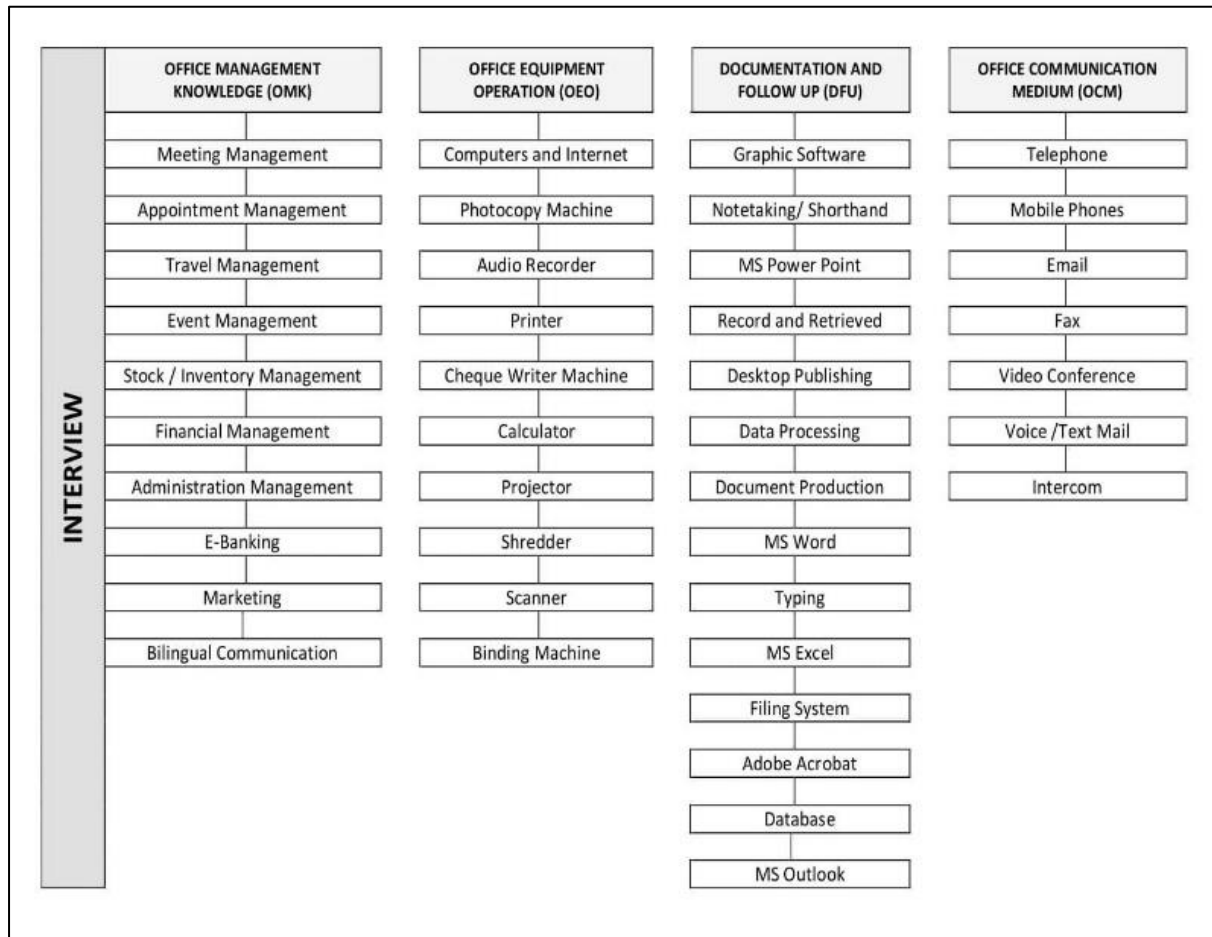


Figure 6: Office Technology Management Skills Based on Interviews

**Differences in Office Technology Management Skills discovered through content analysis and interviews with secretaries from industry**

The distinctions between the types of Office Technology Management skills obtained through content analysis and interviews are evaluated and redefined. The researcher categorizes skills based on their construct and sub construct. Content analysis identified 48 types of Technical Office Technology Management Skills, while interviews with industry secretaries revealed 41 types of Office Technology Management Skills. Both approaches share 38 skills in common. The content analysis alone identified 10 skills, whereas the interview sessions with the secretaries identified five skills (Figure 7). In this phase, 53 distinct types of Technical Office Technology Management Skills were categorised. Approximately 72 percent of the skills obtained through content analysis and interviews were shared skills. Very little difference (28%) exists between the skills identified using the two approaches.

<p><b><u>CONTENT ANALYSIS</u></b></p> <ol style="list-style-type: none"> <li>1) MS Access</li> <li>2) Radio</li> <li>3) TV</li> <li>4) E- diary</li> <li>5) Pager</li> <li>6) Mobile Note Taker</li> <li>7) Webcam</li> <li>8) Laminating Machine</li> <li>9) Cutter Machine</li> <li>10) Typewriter</li> </ol>	<ol style="list-style-type: none"> <li>1) Meeting Management,</li> <li>2) Appointment Management,</li> <li>3) Travel Management,</li> <li>4) Event Management,</li> <li>5) Marketing,</li> <li>6) Financial Management,</li> <li>7) Administration</li> <li>8) E Banking</li> <li>9) Computers &amp; Internet</li> <li>10) Photocopy Machines</li> <li>11) Scanners</li> <li>12) Binding Machines</li> <li>13) Printers</li> <li>14) Projectors</li> <li>15) Calculators</li> <li>16) Stopwatches</li> <li>17) Headphones</li> <li>18) Audio Recorders</li> <li>19) Shredders</li> <li>20) MS Word</li> <li>21) MS Excel</li> <li>22) MS Power Point</li> <li>23) Data Processing</li> <li>24) Desktop Publishing</li> <li>25) Document Production</li> <li>26) Filing</li> <li>27) Record &amp; Retrieved</li> <li>28) Typing</li> <li>29) Graphic Software</li> <li>30) Notetaking/ Shorthand</li> <li>31) MS Outlook</li> <li>32) Telephone</li> <li>33) Mobile Phones</li> <li>34) Email</li> <li>35) Fax</li> <li>36) Intercom</li> <li>37) Voice / Text Mail</li> <li>38) Video Conference</li> </ol>	<p><b><u>INTERVIEW</u></b></p> <ol style="list-style-type: none"> <li>1) Stock / Inventory Management</li> <li>2) Cheque writer machine</li> <li>3) Data Management System</li> <li>4) Adobe Acrobat Reader</li> <li>5) Bilingual Communication</li> </ol>
---	---	--

Figure 7: Technical Office Technology Management Skills Theme and Code Analysis

**List of Technical Office Technology Management Skills Constructs and Sub Constructs**

The results of the content analysis and interviews were evaluated critically in order to identify the constructs and sub-constructs and to explain the skill elements. The constructs and sub-constructs of Technical Office Technology Management Skills are referred to as interim framework. At this stage, the interim framework consists of four (4) constructs, 53 sub-constructs, and 203 elements. Experts validated the interim framework for construct content validity and reliability. The Cohen Kappa Scale is utilized to measure expert consensus (Othman & Kassim, 2018). The result revealed a high level of agreement, 0.94 (Table 3).

Table 3

*Framework Draft Cohen Kappa Value Calculation*

Expert 1	Expert 2	Coefficient Agreement Value	Cohen Kappa Value
$K = \frac{52 - 27}{53 - 27}$ $= \frac{25}{26}$ $= 0.96$	$K = \frac{51 - 27}{53 - 27}$ $= \frac{24}{26}$ $= 0.92$	$\frac{0.96 + 0.92}{2}$	0.94

The procedure for agreement level between experts caused several changes based on comments and remarks by them. Table 4 shows the framework draft's items' distribution after some corrections and improvisation.

Table 4

*Item Distribution of Framework Draft After Improvisation*

CONSTRUCTS	ITEMS				
	SUB CONSTRUCTS		ELEMENTS		
	ORIGINAL	OMITTED	ORIGINAL	ADDED	OMITTED
OTM	10	0	34	10	0
OEO	21	1	58	5	2
DFU	15	0	77	3	0
OC	7	0	34	1	0
	53	1	203	19	2
TOTAL	52		220		

This research successfully developed the "Technical Office Technology Management Skills Framework for Secretaries" which contains four main constructs, 52 sub constructs and 220 elements (Table 5).

Table 5

*Technical Office Technology Management Skills Framework for Secretary*

CONSTRUCT 1: OFFICE MANAGEMENT KNOWLEDGE (OMK)	
SUB CONSTRUCT	ELEMENTS
Meeting Management	<ul style="list-style-type: none"> <li>• Venue</li> <li>• Invitation</li> <li>• Minute Recording</li> <li>• Meeting Agenda</li> <li>• Equipment</li> <li>• Food / Refreshments</li> <li>• Post Meeting Management</li> </ul>
Appointment Management	<ul style="list-style-type: none"> <li>• Date / Time</li> <li>• Individual Details</li> <li>• Organisation Details</li> <li>• Appointment Purpose</li> </ul>
Travel Management	<ul style="list-style-type: none"> <li>• Venue</li> <li>• Transportation</li> <li>• Itinerary</li> </ul>

Event Management	<ul style="list-style-type: none"> <li>• Proposal</li> <li>• Invitation</li> <li>• Venue</li> <li>• Food / Drinks</li> <li>• Expenses Budget</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment</li> <li>• Tentative</li> <li>• Event Management Meeting</li> <li>• Post Mortem Meeting</li> <li>• PDCA Checklist (Plan-Do-Check-Act)</li> </ul>
Marketing	<ul style="list-style-type: none"> <li>• Customer Service</li> <li>• Advertising and Promotion</li> </ul>	<ul style="list-style-type: none"> <li>• Public Relation</li> </ul>
Financial Management	<ul style="list-style-type: none"> <li>• Payments</li> <li>• Expenses Budget</li> </ul>	<ul style="list-style-type: none"> <li>• Accounting System</li> <li>• Financial Statement</li> </ul>
Administration Management	<ul style="list-style-type: none"> <li>• Staff Appointment Affairs</li> <li>• Staff Development Affairs</li> </ul>	<ul style="list-style-type: none"> <li>• Staff Performance Evaluation</li> <li>• Physical Logistics</li> </ul>
E-Banking	<ul style="list-style-type: none"> <li>• Online Transaction</li> </ul>	
Stock / Inventory Management	<ul style="list-style-type: none"> <li>• Receival</li> <li>• Record</li> <li>• Movement</li> <li>• Value Depletion</li> </ul>	<ul style="list-style-type: none"> <li>• Write-Off</li> <li>• Order (Economic Order Quantity)</li> </ul>
Bilingual Communication	<ul style="list-style-type: none"> <li>• Malay Language</li> </ul>	<ul style="list-style-type: none"> <li>• English Language</li> </ul>
<b>CONSTRUCT 2: OFFICE EQUIPMENT OPERATION (OEO)</b>		
<b>SUB CONSTRUCTS</b>	<b>ELEMENTS</b>	
Computers and Internet	<ul style="list-style-type: none"> <li>• Functions of Software and Hardware</li> <li>• Application Software and Safety</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Configuration and Safety</li> <li>• Basic Maintenance</li> </ul>
Photocopy Machine	<ul style="list-style-type: none"> <li>• Making Copies</li> <li>• Making Copies of Various Sizes</li> <li>• Single Page Copy</li> <li>• Double Page Copy</li> </ul>	<ul style="list-style-type: none"> <li>• Sorting Copies</li> <li>• Vertical and Horizontal Copies</li> <li>• Basic Maintenance</li> <li>• 5S Practice</li> </ul>
Scanner	<ul style="list-style-type: none"> <li>• Scanning Documents</li> </ul>	<ul style="list-style-type: none"> <li>• Saving Scanned Documents</li> </ul>
Binding Machine	<ul style="list-style-type: none"> <li>• Binding documents</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> <li>• Safety Practice</li> </ul>
Printer	<ul style="list-style-type: none"> <li>• Multiple Printing Display</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Webcam	<ul style="list-style-type: none"> <li>• Connection Basics</li> </ul>	<ul style="list-style-type: none"> <li>• Software and Hardware Configuration</li> </ul>
Typewriter	<ul style="list-style-type: none"> <li>• Keypad Functions</li> <li>• Touch Typing</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Projector	<ul style="list-style-type: none"> <li>• Connection Basics</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Calculator	<ul style="list-style-type: none"> <li>• Keypad Functions</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Stopwatch	<ul style="list-style-type: none"> <li>• Keypad Functions</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Headphones	<ul style="list-style-type: none"> <li>• Connection Basics</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Audio Recorder	<ul style="list-style-type: none"> <li>• Keypad Function</li> <li>• Save / Store Data</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>



Shredder	<ul style="list-style-type: none"> <li>• Shredding Documents</li> <li>• 5S Practice</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> <li>• Safety Measures</li> </ul>
Mobile Note Taker	<ul style="list-style-type: none"> <li>• Keypad Function</li> <li>• Store / Transfer Data</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
E- Diary	<ul style="list-style-type: none"> <li>• Keypad Function</li> <li>• Store / Transfer Data</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Laminating Machine	<ul style="list-style-type: none"> <li>• Variety of Size</li> <li>• Safety Practice</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
Cutter Machine	<ul style="list-style-type: none"> <li>• Variety of Size</li> <li>• Safety Practice</li> </ul>	<ul style="list-style-type: none"> <li>• 5S Practice</li> <li>• Basic Maintenance</li> </ul>
Radio	<ul style="list-style-type: none"> <li>• Keypad Function</li> <li>• Safety Practice</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Audio Connection</li> </ul>
TV	<ul style="list-style-type: none"> <li>• Keypad Function</li> <li>• Safety Practice</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Audio Visual Connection</li> </ul>
Cheque Writer Machine	<ul style="list-style-type: none"> <li>• Keypad Function</li> <li>• Detail Accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Maintenance</li> </ul>
<b>CONSTRUCT 3: DOCUMENTATION AND FOLLOW UP (DFU)</b>		
<b>SUB CONSTRUCTS</b>	<b>ELEMENTS</b>	
Ms Word	<ul style="list-style-type: none"> <li>• Basics (open, undo/redo, cut/paste)</li> <li>• Formatting</li> <li>• Font / text</li> <li>• Graphics</li> </ul>	<ul style="list-style-type: none"> <li>• Table / chart</li> <li>• Printing</li> <li>• Editing</li> <li>• Saving / naming</li> <li>• Mail Merge</li> </ul>
Ms Excel	<ul style="list-style-type: none"> <li>• Basics (open, undo/redo, cut/paste)</li> <li>• Data entry</li> <li>• Data analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Chart</li> <li>• Use formula</li> <li>• Use autofill</li> <li>• Cell formatting</li> <li>• Printing</li> </ul>
Ms Power Point	<ul style="list-style-type: none"> <li>• Basics (open, undo/redo, cut/paste)</li> <li>• Insert Text &amp; Pictures</li> <li>• Backgrounds</li> <li>• Insert object / multimedia</li> </ul>	<ul style="list-style-type: none"> <li>• Slide transition / animation</li> <li>• Printing</li> <li>• Slide show mode</li> <li>• Saving / naming</li> <li>• Use Master Slide Control</li> </ul>
Ms Access	<ul style="list-style-type: none"> <li>• Create database</li> <li>• Create tables wizard</li> <li>• Filter data</li> <li>• Data manipulation</li> </ul>	<ul style="list-style-type: none"> <li>• Builds queries</li> <li>• Forms and pages</li> <li>• Reports</li> <li>• Build data management system</li> <li>• Database maintenance</li> </ul>
Data Processing	<ul style="list-style-type: none"> <li>• Verify Data Accuracy</li> <li>• Enter coded</li> <li>• Enter statistical</li> <li>• Be Confidential</li> </ul>	<ul style="list-style-type: none"> <li>• Enter financial information</li> <li>• Make Necessary Corrections</li> <li>• Manage Data Flow</li> </ul>
Desktop Publishing	<ul style="list-style-type: none"> <li>• Manipulating blocks of text</li> </ul>	<ul style="list-style-type: none"> <li>• Combining images and text</li> <li>• Attractive layout and design</li> </ul>

	<ul style="list-style-type: none"> <li>• Create visual displays</li> </ul>
Document Production	<ul style="list-style-type: none"> <li>• Writing Technique</li> <li>• Document Display</li> <li>• Writing Format</li> </ul>
Filing System	<ul style="list-style-type: none"> <li>• Opening / Closing File</li> <li>• Classification and Title</li> <li>• Movement of Files</li> <li>• Minute Template</li> <li>• File Design</li> <li>• Filing and Letters</li> <li>• Filing Procedures</li> <li>• Writing-Off Process</li> </ul>
Record and Retrieved	<ul style="list-style-type: none"> <li>• Note taking</li> <li>• Share Document</li> <li>• Retrieved</li> </ul>
Typing	<ul style="list-style-type: none"> <li>• Finger Placement</li> <li>• Touch Typing</li> </ul>
Graphic Software	<ul style="list-style-type: none"> <li>• Graphic Manipulation</li> <li>• Import / Export</li> </ul>
Notetaking/ Shorthand	<ul style="list-style-type: none"> <li>• Fast Noting</li> <li>• Brief Noting</li> <li>• Transcript Noting</li> </ul>
Database Management System	<ul style="list-style-type: none"> <li>• Share Data</li> <li>• Build Data Management System</li> <li>• Enter Data</li> <li>• Be Confidential</li> </ul>
Ms Outlook	<ul style="list-style-type: none"> <li>• Navigating Outlook Tools</li> <li>• Customizing Your View</li> <li>• Setting Tasks and Importance</li> <li>• Use Address Book and Add Contacts</li> <li>• Searching and Sorting Messages</li> </ul>
Adobe Acrobat Reader	<ul style="list-style-type: none"> <li>• Fill</li> <li>• Share</li> <li>• Edit</li> <li>• Save</li> <li>• Sign</li> </ul>
<b>CONSTRUCT 4: OFFICE COMMUNICATION MEDIUM (OCM)</b>	
<b>SUB CONSTRUCTS</b>	<b>ELEMENTS</b>
Telephone	<ul style="list-style-type: none"> <li>• Communication Skills (verbal)</li> <li>• Procedures to Make Calls</li> <li>• Follow Up</li> <li>• Procedures to Answer Calls</li> <li>• Noting Orders / Details</li> </ul>
Mobile Phones	<ul style="list-style-type: none"> <li>• Communication Skills (Verbal)</li> <li>• Procedure to Make Calls</li> <li>• Procedures to answer calls</li> <li>• Noting Orders / Details</li> <li>• Follow Up</li> <li>• Short Messaging Service</li> </ul>
Email	<ul style="list-style-type: none"> <li>• File attachment</li> <li>• Communication Skills (Text / Graphics)</li> <li>• Document Format</li> <li>• Save / Delete</li> <li>• Sharing Document</li> <li>• Follow Up</li> </ul>
Fax	<ul style="list-style-type: none"> <li>• Communication Skills (Text / Graphics)</li> <li>• Document Format</li> <li>• Sending Documents</li> <li>• Follow Up</li> </ul>
Intercom	<ul style="list-style-type: none"> <li>• Follow Up</li> <li>• Communication Skills (Verbal)</li> <li>• Procedures to Make Calls</li> </ul>

	<ul style="list-style-type: none"> <li>• Procedures to Answer Calls</li> <li>• Noting Orders / Details</li> </ul>
Voice Mail	<ul style="list-style-type: none"> <li>• Communication Skills (Verbal)</li> <li>• Noting Orders / Details</li> <li>• Follow Up</li> </ul>
Video Conference	<ul style="list-style-type: none"> <li>• Procedures to Join</li> <li>• Set Up Procedures</li> <li>• Follow up</li> <li>• Latest Video Conferencing Software</li> <li>• Communication Skills (Audio Visual)</li> <li>• Noting Orders / Details</li> </ul>

### Recommendations

The findings of this study suggest that important Office Technology Management Skills are appropriate for secretaries and office staff with similar job responsibilities. A secretary must be proactive in order to keep up with the latest technological advancements. This study proposes an action plan to facilitate those in the secretarial profession excel in administrative tasks by identifying and improving their current job competencies. Secretaries should always stay abreast of the latest developments in office technology management by observing more modern organisations and businesses. Observation of sophisticated and larger businesses will uncover the employment of new office management technology equipment. Secretaries must also maintain regular contact with office equipment providers. To be aware of the most recent management trend, it is prudent to learn about the newest equipment on the market from vendors. In addition, the secretaries should determine how the newest technologies on the market might be implemented within the organisation. This strategy will make it simpler for organisations to select appropriate office equipment based on their demands, objectives, and budgetary resources. Thus, it is possible to anticipate the technical office technology management skills that must be acquired and mastered.

Participating in classes or workshops on office technology management is a wise way to ensure that the necessary technical skills are mastered correctly and efficiently. Therefore, the secretaries could utilise the most up-to-date computer software and office equipment, which would facilitate their everyday tasks and boost their work output. A secretary must additionally participate in business workshops. Mastery is required of the knowledge and skills associated with the most recent business trends that employ a variety of current applications, particularly those that meet the needs of the clientele. This is a dynamic phenomenon that is constantly evolving; therefore, a willingness and readiness to learn new business approaches and abilities must be maintained at all times. Participating in various sorts of business conferences, secretarial associations, and group discussions can help a secretary gain the technical office technology management abilities she should possess. The conversation and exchange of ideas and experiences has a good effect. These engagements are the proper means for preventing secretaries from falling behind in the era of technological globalisation. Employers could also determine the technical office technology management abilities that should be adopted among their own workforce.

### Conclusion

Since secretaries have traditionally been responsible for the day-to-day management and administration of their companies, the position has earned a reputation for being both rewarding and demanding. The functions of secretaries have changed as a result of the rapid development of technology. This altered people's preconceived notions of what a secretary actually does. According to the results of this study, secretaries now need to be proficient in a variety of new technical areas. The purpose of this study, which employed content analysis and interviews (BEI), is to first identify and then analyse the sorts of technical office technology management abilities and, second, to establish the Office Technology Skills Framework for the secretarial profession. Office Management Knowledge, Office Equipment Handling, Documentation and Following Up, and Office Communication Medium were identified as four connected components to office technology management. The developed framework features 52 additional sub-constructs and 220 elements in addition to the four main constructs.

Furthermore, the researcher discovered that three factors influence the technical office management skills that a secretary should possess: the country's economic level, technological advancement in a country, and the need for technological equipment in an organisation. This implies that the type of technical office management skills required is determined by the type of modern automation equipment used and the current trend. Technology equipment that can guarantee a return on investment and equipment that can help an organization's daily work routine is required for a successful office management. The secretarial profession, which is getting more complex, requires individuals who are always ready to take on new challenges. A secretary needs to be adaptable and ready to take on additional responsibilities as well as meet the challenges and adjust to the changes that occur in the workplace. Secretaries should constantly be prepared to take on additional responsibilities and positions in their jobs. The duties of a secretary extend beyond serving as the business owner's personal assistant. They should be completely knowledgeable on all aspects of the organisation, including its history, challenges, administration, and financial management. The next requirement for secretaries is that they be open to further education. The swift progression of technology led to the development and dissemination of a wide variety of cutting-edge office automation tools. Because of this circumstance, a secretary will need to acquire new technical abilities in order to operate contemporary tools and machinery. In conclusion, there will always be shifts in the technology landscape. As a result, the kinds of technical office administration abilities that secretaries should be able to master are always evolving and should be kept up to date as regularly as possible.

### **Acknowledgement**

This work was supported by the Hadiah Latihan Persekutuan (HLP) by the Ministry of Education Malaysia.

### **References**

- Adam, A.-K. (2015). The Efficacies of Secretarial Profession by Ghana Education Service and Higher Education Institutions. *Journal of Education and Practice*, 6(18), 81–113. <http://search.ebscohost.com.proxy-ub.rug.nl/login.aspx?direct=true&db=eric&AN=EJ1079710&site=ehost-live&scope=site>
- Ademiluyi, L. F., & Okwuanaso, S. I. (2018). Influence of National Board for Technical Education Accreditation on the Quality of Administration and Leadership of Polytechnic Office Technology and Management Programmes. *Nigerian Journal of Business*

- Education (NIGJBED)*, 1(2), 387–396.
- Ajike, V. O. (2015). Information And Communication Technology (Ict)-Based Office Skills Required By Secretaries For Effective Administration Of Local Governments In Abia State [University of Nigeria Nsukka]. In *Online*.  
<https://doi.org/10.1080/1366987032000105315>
- Amoor, S. S. (2013). *The Secretarial Education: Yesterday, Today and Tomorrow*.
- Amoor, S. S., & Magaji, Z. B. (2015). The Place of Secretarial Education in Tertiary Institutions in Kaduna State, Nigeria, for Future Office 2020. *Global Journal of Science Frontier Research: E Interdisciplinary*, 15(2).
- Athukorala, P. C., & Narayanan, S. (2018). Economic corridors and regional development: The Malaysian experience. *World Development*, 106, 1–14.  
<https://doi.org/10.1016/j.worlddev.2018.01.009>
- Azih, N. P. D. (2016). Microsoft Access and Microsoft Excel Skills Needed by Office Technology and Management Lecturers for Quality Service Delivery. *International Journal of Business and Social Science*, 7(5), 193–199.
- Bhaskaran, J., & Bhallamudi, I. (2019). Good secretaries, bad truck drivers? occupational gender stereotypes in sentiment analysis. *arXiv preprint arXiv:1906.10256*.
- Batlan, F. (2010). “If you become his second wife, you are a fool”: Shifting paradigms of the roles, perceptions, and working conditions of legal secretaries in large law firms. In *Special issue law firms, legal culture, and legal practice* (Vol. 52, pp. 169-210). Emerald Group Publishing Limited.
- Beesley, I. (2017). *The official history of the Cabinet Secretaries*. Taylor & Francis.
- Buzzanell, P. M., & D’Enbeau, S. (2014). Intimate, ambivalent and erotic mentoring: Popular culture and mentor–mentee relational processes in Mad Men. *Human Relations*, 67(6), 695-714.
- Edomwonyi, J., & Emeka, M. (2017). E-Commerce Competencies Acquired By Office Technology And Management Education Students For Proficiency In Modern. *Journal of Education (BUJE)*, 6(1), 24–35.
- Egeonu, C. U. (2012). Re-Engineering the Instructional Standard of Secretarial Studies Programme. *Journal of Pristine December*, 6(1), 1–7.
- Etonyeaku, E. A. C., Kanu, J. A., Ezeji, H. A., & Chukwuma, J. N. (2014). Entrepreneurial Skill Needs of Secretarial Education Graduates of Colleges of Education for Self Sustainability in Enugu State , Nigeria. *American Journal of Industrial and Business Management*, 4(October), 601–607.
- Frader, L. L. (2020). Gender and labor in world history. *A companion to global gender history*, 27-42.
- Gerber, R., & Velde, C. (1997). A competence model for professional practice in the clerical–administrative occupations. *Journal of Vocational Education and Training*, 49(3), 455–476. <https://doi.org/10.1080/13636829700200020>
- Happines, U. E. (2018). *Application of Information and Communication Technology (ICT) on Office Manager’ Performance*. The Polytechnic, Ibadan.
- He, J. C., Kang, S. K., Tse, K., & Toh, S. M. (2019). Stereotypes at work: Occupational stereotypes predict race and gender segregation in the workforce. *Journal of Vocational Behavior*, 115, 103318.
- Imran, M., Maqbool, N., & Shafique, H. (2014). Impact of Technological Advancement on Employee Performance in Banking Sector. *International Journal of Human Resource Studies*, 4(1), 57. <https://doi.org/10.5296/ijhrs.v4i1.5229>

- Jasmi, K. A. (2012). Metodologi Pengumpulan Data Dalam Penyelidikan Kualitatif. *Kursus Penyelidikan Kualitatif Siri 1*.
- John, O. T. (2017). *Need for Training and Retraining of Secretarial Support Officers on Modern Office* (pp. 1–22).
- Kaiama, M. A. I. (2013). *Harnessing The Power Of Technology Through Secretarial Profession*. Federal Polytechnic Nasarawa.
- Khalid, H., Swift, H., & Cullingford, C. (2002). The New Office Technology and Its Effects on Secretaries and Managers. *Journal of Education and Information Technologies*, 7(3), 257–274.
- Koranteng, O. E., Owusu, M., Ntiamoah, E. B., & Owusu, F. (2016). The Prospective Secretary in the Modern Business World : A Case Study of Administrative Secretaries in Koforidua Polytechnic. *Information and Knowledge Management*, 6(1), 139–146.
- Krippendorff, K. (1967). Content Analysis An Introduction to Its Methodology. In *Physical Review B*. <https://doi.org/10.1103/PhysRevB.31.3460>
- Larsson, M., & Foley, B. (2023). The king’s spice cabinet—Plant remains from Gribshunden, a 15th century royal shipwreck in the Baltic Sea. *Plos one*, 18(1), e0281010.
- Li, D., Chu, Y., Xi, W., & Zhao, X. (2019). Discussion on the Quality and Working Efficiency of University Administrative Secretaries in the New Period.
- Lingel, J., & Crawford, K. (2020). Alexa, tell me about your mother”: The history of the secretary and the end of secrecy. *Catalyst: Feminism, Theory, Technoscience*, 6(1).
- Lucia, A. D., & Lepsinger, R. (1999). The Art and Science of Competency Models. In *Journal of Community Nursing*. Jossey-Bass/Pfeiffer.
- Lyle M. Spencer, J., & Spencer, S. M. (1993). *Competence At Work*. 1988, 391–395.
- Meier, R. L., Williams, M. R., & Humphreys, M. A. (2013). Refocusing Our Efforts: Assessing Non-Technical Competency Gaps. *Journal of Engineering Education*, 89(3), 377–385. <https://doi.org/10.1002/j.2168-9830.2000.tb00539.x>
- Salleh, M. K., Musa, M. Y., & Sulaiman, N. L. (2017). The use of information and communication technology (ICT) and its effects on office technology and management practitioner’s performance in Malaysia. *Man in India*, 97(10), 233–245.
- Moronke, D. M., Olugbenga, B. A., & Adeyanju, A. O. (2017). Influence of office automation on secretarial administrators’ effectiveness in Ogun state-owned universities. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 7(3), 49–52. <https://doi.org/10.9790/7388-0703044952>
- Munford, R., & Waters, M. (2013). *Feminism and popular culture: Investigating the postfeminist mystique*. Bloomsbury Publishing.
- Musa, M. Y. (2016). Information and Communication Technology (ICT) : A Veritable Tool for Executing Secretarial Tasks. *International Journal of Research and Review*, 3(9), 21–29. [http://www.gkpublication.in/IJRR\\_Vol.2\\_Issue6\\_June2015/IJRR0066.pdf](http://www.gkpublication.in/IJRR_Vol.2_Issue6_June2015/IJRR0066.pdf)
- Ogheneovo, & Anita, A. (2014). Challenges and Strategies for Utilizing Information and Communication Technology among Office Technology and Management Educators in Nigerian Polytechnics. *21st Century Academic Forum Conference Proceedings 2014 Conference at Berkeley*, 2(1), 156–167. <https://doi.org/10.18488/journal.61/2015.3.3/61.3.156.167>
- Okolocha, B., Baba, C. C., & Federal, E. I. (2017). Assessment of Skills Possessed by Secretaries for Effective Electronic Records Management in Polytechnics in North-Central, Nigeria. *Global Journal of Management and Business Research: A Administration and Management*, 17(1).

- Omoniye, O. J., & Elemure, B. C. (2014). Challenges of Curriculum Development in Office Technology and Management in Tertiary Institutions. *International Journal of Technology and Inclusive Education*, 1(3), 475–484.
- Onifade, A. (2011). The Third Millennium Secretary And Information & Communication Technology: Nigerian Experience. *International Journal of Management & Information Systems (IJMIS)*, 13(2), 39. <https://doi.org/10.19030/ijmis.v13i2.4945>
- Otway-Ruthven, J. (1936). The King's Secretary in The Fifteenth Century. *Transactions of the Royal Historical Society*, 19, 81-100.
- Oteng, P. A., & Seidu, P. A. (2016). The Impact of Modern Office Technology on the Secretary's Performance in Some Selected Business Organizations in the Takoradi Metropolis. *ADRRJ Journal of Arts And Social Sciences*, 13(12), 1–10.
- Othman, M. S., & Kassim, A. Y. (2018). Kesahan dan Kebolehpercayaan Instrumen Komposisi Pengajaran Guru Pendidikan Islam Sekolah Rendah yang Mengintegrasikan Kemahiran Berfikir Aras Tinggi (KBAT) Menerusi Pengajaran Akidah. *Sains Humanika*, 3(10), 1–8.
- Prahalad, C., Doz, L. Y. (1981). An Approach to Strategic Control in MNCs. *Sloan Management Review*, 22, 5–13.
- Price, L. (2017). *Literary secretaries/secretarial culture*. Routledge.
- Rico-Bonilla, C. O. (2020). Making women visible in the (accounting) history of Colombia. *Accounting History Review*, 30(2), 207-232. Lewis, P., & Simpson, R. (2012). Kanter revisited: Gender, power and (in) visibility. *International Journal of Management Reviews*, 14(2), 141-158.
- Rearden, S. L. (1984). *History of the Office of the Secretary of Defense. Volume 1. The formative years, 1947-1950*. Office Of The Secretary Of Defense Washington Dc Historical Office.
- Reby, D., Banerjee, R., Oakhill, J., & Garnham, A. (2022). The development of explicit occupational gender stereotypes in children: Comparing perceived gender ratios and competence beliefs. *Journal of Vocational Behavior*, 134, 103703.
- Russon, M. (1983). How secretarial studies might evolve. *Vocational Aspect of Education*, 35(90), 31–36. <https://doi.org/10.1080/10408347308001851>
- Samuel, O. A. (2010). *In-Service Training Needs Of Executive Secretaries In Public Establishments In Kaduna State*. University of Nigeria, Nsukka.
- Sani, A. (2015). *Changing Needs of Business Education Students with Specific Reference to Secretarial Studies*. 7(2), 61–69.
- Skorkova, Z. (2016). Competency Models in Public Sector. *Procedia - Social and Behavioral Sciences*, 230(May), 226–234. <https://doi.org/10.1016/j.sbspro.2016.09.029>
- Technology, O., Polytechnic, F., & State, O. (2016). New Technologies in Teaching and Learning of Office Technology and Management. *Nigerian Journal of Business Education (NIGJBED)*, 3(2), 94–103.
- Udo, M. (2014). *Acquisition of Office Technology and Management Skills for Self-reliance : A Step towards Curbing Unemployment in Nigeria*. 3(October), 179–184.
- Umoru, T., & Bala, Y. (2018). Office Technology And Accounting Skills Possessed By Business Education Students In Colleges Of Education For Management Of Small Scale Businesses In Adamawa State. *Nigerian Journal of Business Education (NIGJBED)*, 5(1), 371–384.
- Waymark, M. (2006). *The impact of national vocational qualifications on the secretarial curriculum*. 49(1), 107–120. <https://doi.org/10.1080/13636829700200008>
- Wichroski, M. (1994). The secretary: Invisible labor in the workworld of women. *Human Organization*, 53(1), 33-41.

- Yaghi, K. M. S. B. (2014). The Impact of Office Automation on Worker ' s Productivity at all Organizational Levels at King Abdul-Aziz University Library : A case study. *Journal Klagenfurt Austria*, 21(3), 26–34.
- Yunus, F. A. N. Bin. (2015). *Pembangunan Model Pemindehan Pembelajaran Sistem Latihan Kemahiran Malaysia Berasaskan National Occupational Skill Standard (NOSS)*.
- Zuin, D. C., & Findlay, P. (2014). Reflections on secretarial work and issues for further studies: A conceptual contribution. *Revista de Gestão e Secretariado*, 5(3), 28-48.